2020

Notice of Annual Meeting of Stockholders

Proxy Statement &
Annual Report on Form 10-K

Valero®

Notice of 2020 Annual Meeting of Stockholders

The 2020 annual meeting of stockholders of Valero Energy Corporation is scheduled to be held as follows:

MEETING DATE & TIME:	MEETING PLACE:	RECORD DATE:
Thursday, April 30, 2020 10 a.m., Central Time	Valero Energy Corporation One Valero Way San Antonio, Texas 78249	March 4, 2020

The purpose of the annual meeting is to consider and vote on the following:

Voting Matters	Board Recommendation	Proxy Statement Disclosure
1. Elect directors;	**FOR** each director nominee	p. 13
2. Ratify KPMG LLP as independent auditor;	**FOR**	p. 69
3. Advisory vote to approve 2019 executive compensation;	**FOR**	p. 72
4. Approve the 2020 Omnibus Stock Incentive Plan; and	**FOR**	p. 73
5. Other matters, if any, properly brought before the meeting.		

Valero Energy Corporation
One Valero Way
San Antonio, Texas 78249
March 19, 2020

By order of the Board of Directors,

J. Stephen Gilbert
Secretary

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2020 ANNUAL MEETING OF STOCKHOLDERS

Our Board is soliciting proxies to be voted at the Annual Meeting of Stockholders on April 30, 2020 (the "Annual Meeting"). The accompanying notice describes the time, place, and purposes of the Annual Meeting. Action may be taken at the Annual Meeting or on any date to which the meeting may be adjourned. Unless otherwise indicated the terms "Valero," "we," "our," and "us" in this proxy statement refer to Valero Energy Corporation, to one or more of our consolidated subsidiaries, or to all of them taken as a whole. "Board" means our board of directors.

We are mailing our *Notice of Internet Availability of Proxy Materials* ("Notice") to stockholders on or about March 19, 2020. On this date, you will be able to access our proxy materials on the website referenced in the Notice.

RECORD DATE, SHARES OUTSTANDING, QUORUM

Holders of record of our common stock, $0.01 par value ("Common Stock"), at the close of business on March 4, 2020 (the "record date") are entitled to vote on the matters presented at the Annual Meeting. On the record date, 408,545,828 shares of Common Stock were issued and outstanding and entitled to one vote per share. Stockholders representing a majority of voting power, present in person or represented by properly executed proxy, will constitute a quorum.

VOTING IN PERSON, REVOCABILITY OF PROXIES

If you attend the Annual Meeting and want to vote in person, we will give you a ballot at the meeting.

If your shares are registered in your name, you are considered the stockholder "of record" and you have the right to vote the shares at the meeting.

If, however, your shares are held in the name of your broker or other nominee, you are considered the beneficial owner of shares held in "street name." As a beneficial owner, if you wish to vote at the meeting, you will need to bring to the meeting a legal proxy from the stockholder of record (e.g., your broker) authorizing you to vote the shares.

You may revoke your proxy at any time before it is voted at the Annual Meeting by (i) submitting a written revocation to Valero, (ii) returning a subsequently dated proxy to Valero, or (iii) attending the Annual Meeting, request that your proxy be revoked, and vote in person at the Annual Meeting. If instructions to the contrary are not provided, shares will be voted as indicated on the proxy card.

REQUIRED VOTES

For Proposal 1, as required by Valero's bylaws, each director is to be elected by a majority of votes cast with respect to that director's election.

Proposals 2, 3 and 4 require approval by the affirmative vote of a majority of the voting power of the shares present in person or by proxy at the Annual Meeting and entitled to vote.

EFFECT OF ABSTENTIONS

Shares voted to abstain are treated as "present" for purposes of determining a quorum. In the election of directors (Proposal 1), pursuant to our bylaws, shares voted to abstain are not deemed "votes cast," and are accordingly disregarded. When approval for a proposal requires (i) the affirmative vote of a majority of the voting power of the shares present in person or by proxy and entitled to vote (Proposals 2, 3 and 4), or (ii) the affirmative vote of a majority of the voting power of the issued and outstanding Common Stock, then shares voted to "abstain" have the effect of a negative vote (a vote "against").

BROKER NON-VOTES

Brokers holding shares must vote according to the specific instructions they receive from the beneficial owners of the stock. If your broker does not receive specific voting instructions from you, in some cases the broker may vote the shares in the broker's discretion.

The New York Stock Exchange (the "NYSE") precludes brokers from voting on certain proposals without specific instructions from the beneficial owner. This results in a "broker non-vote" on the proposal. A broker non-vote (i) is treated as "present" for purposes of determining a quorum, (ii) has the effect of a negative vote when a majority of the voting power of the issued and outstanding shares is required for approval of a particular proposal, and (iii) has no effect when a majority of the voting power of the shares present in person or by proxy and entitled to vote or a plurality or majority of the votes cast is required for approval.

Proposal 2 is deemed to be a routine matter under NYSE rules. A broker or other nominee generally may vote uninstructed shares on routine matters, and therefore no broker non-votes are expected to occur for Proposal 2. Proposals 1, 3 and 4 are considered non-routine under applicable rules. Because a broker or other nominee cannot vote without instructions on non-routine matters, we expect an undetermined number of broker non-votes to occur on these proposals.

SOLICITATION OF PROXIES

Valero pays the cost for soliciting proxies and the Annual Meeting. In addition to solicitation by mail, proxies may be solicited by personal interview, telephone, and similar means by directors, officers, or employees of Valero, none of whom will be specially compensated for such activities. Valero also intends to request that brokers, banks, and other nominees solicit proxies from their principals and will pay such brokers, banks, and other nominees certain expenses incurred by them for such activities. Valero retained Georgeson LLC, a proxy soliciting firm, to assist in the solicitation of proxies for a fee of $17,500, plus reimbursement of certain out-of-pocket expenses.

For participants in our qualified 401(k) plan ("Thrift Plan"), the proxy card will represent (in addition to any shares held individually of record by the participant) the number of shares allocated to the participant's account in the Thrift Plan. For shares held by the Thrift Plan, the proxy card will constitute an instruction to the trustee of the plan on how to vote those shares. Shares for which instructions are not received may be voted by the trustee per the terms of the plan.

INFORMATION REGARDING THE BOARD OF DIRECTORS

Valero's business is managed under the oversight of our Board. Our Board conducts its business through meetings of its members and its committees. During 2019, our Board held six meetings and the standing Board committees held 15 meetings.

None of our Board members attended less than 75 percent of the meetings of the Board and committees of which he or she was a member. All Board members are expected to attend the Annual Meeting, and all of our Board members attended the 2019 annual meeting.

Independent Directors

Independent Directors. Our Corporate Governance Guidelines require a majority of the Board to be independent. The Board presently has 10 non-management directors and one member from management, Joseph W. Gorder (our Chief Executive Officer). As a member of management, Mr. Gorder is not an independent director under NYSE listing standards. The Board determined that all of our non-management directors who served on the Board at any time in 2019 and who currently serve on the Board meet the Board's independence requirements. Those independent directors are:

H. Paulett Eberhart	Donald L. Nickles	Stephen M. Waters
Kimberly S. Greene	Philip J. Pfeiffer	Randall J. Weisenburger
Deborah P. Majoras	Robert A. Profusek	Rayford Wilkins, Jr.
Eric D. Mullins		

Independent Committees. The Board's Audit Committee, Compensation Committee, and Nominating/Governance and Public Policy Committee are composed entirely of directors who meet the independence requirements of the NYSE. Each member of the Audit Committee also meets the additional independence standards for Audit Committee members required by the SEC.

Independence Standards and Determination. The Board determines independence on the basis of the standards specified by the NYSE, the standards listed in our *Corporate Governance Guidelines*, and other facts and circumstances the Board may consider relevant. In general, our *Corporate Governance Guidelines* require that an independent director must have no material relationship with Valero. A relationship is not material under the guidelines if it:

- is not a relationship that would preclude a determination of independence under Section 303A.02(b) of the NYSE Listed Company Manual;
- consists of charitable contributions by Valero to an organization in which a director is an executive officer that do not exceed the greater of $1 million or two percent of the organization's gross revenue in any of the last three years;
- consists of charitable contributions to any organization with which a director, or any member of a director's immediate family, is affiliated as an officer, director, or trustee pursuant to a matching gift program of Valero and made on terms applicable to employees and directors, or is in amounts that do not exceed $1 million per year; and
- is not a relationship required to be disclosed by Valero under Item 404 of Regulation S-K (regarding related person transactions).

Under the NYSE's listing standards, a director is not deemed independent unless the Board affirmatively determines that the director has no material relationship with Valero. The Board has reviewed pertinent information concerning the background, employment, and affiliations (including commercial, banking, consulting, legal, accounting, charitable, and familial relationships) of our directors, and the Board has determined that each of our non-management directors and each member of the Audit, Compensation, and Nominating/Governance and Public Policy Committees has no material relationship with Valero, and is therefore independent.

Committees of the Board

Our Board has three standing committees:

1. Audit Committee,
2. Compensation Committee, and
3. Nominating/Governance and Public Policy Committee.

The committees' charters are available on our website at:

www.valero.com ▸ Investors ▸ Corporate Governance ▸ Governance Documents ▸ Charters.

AUDIT COMMITTEE

The Audit Committee assists the Board in oversight of the integrity of Valero's financial statements and public financial information, Valero's compliance with legal and regulatory requirements, the qualifications and independence of Valero's independent auditor, and the performance of Valero's internal audit function and independent auditors.

The Audit Committee is directly responsible for the appointment, compensation determination, retention, and oversight of the independent auditors retained to audit Valero's financial statements. The committee is responsible for the audit fee negotiations and fee approval associated with Valero's retention of the independent auditing firm.

The committee annually reviews and evaluates the qualifications, performance, and independence of Valero's independent auditing firm, and reviews and evaluates the lead partner of the independent auditor team. In conjunction with the mandated rotation of the audit firm's lead engagement partner, the committee is involved in the selection of the audit firm's new lead engagement partner.

The committee has oversight responsibility regarding management's annual assessment of, and report on, Valero's internal control over financial reporting.

The committee also oversees Valero's initiatives and strategies respecting cybersecurity and information technology risks.

The Audit Committee met five times in 2019. We make additional disclosures about the Audit Committee in this proxy statement under the caption "Risk Oversight" and in connection with "Proposal No. 2—Ratify Appointment of KPMG LLP as Independent Auditors."

Members of the Audit Committee are:

- Randall J. Weisenburger (Chair),
- H. Paulett Eberhart, and
- Stephen M. Waters.

Notes:

Audit Committee Financial Experts. The Board has determined that each of the following directors is an "audit committee financial expert" (as defined by the SEC) and that each is "independent" under applicable regulations/standards: (1) Mr. Weisenburger, (2) Ms. Eberhart, and (3) Mr. Waters. For more information regarding their experience, see "Proposal No. 1—Election of Directors—Nominees."

COMPENSATION COMMITTEE

The Compensation Committee reviews and reports to the Board on matters related to compensation programs, policies, and strategies. The committee has direct responsibility to approve corporate goals and objectives relevant to CEO compensation, evaluate the CEO's performance in light of those goals and objectives, and together with the other independent directors, determine and approve the CEO's overall compensation. The committee also reviews and approves the corporate goals and objectives relevant to the compensation of other senior executives of Valero.

The committee conducts periodic reviews of director compensation and makes recommendations to the full Board regarding the independent directors' compensation.

The committee reviews Valero's employee compensation policies and programs, adopts and reviews Valero's equity compensation plans, oversees the administration of Valero's compensation plans, and approves amendments to and interpretations of Valero's compensation plans.

As disclosed further below under the caption "CEO Succession Planning," the committee reviews and makes regular reports to the Board regarding management succession planning for the CEO and other senior executives. The committee also exercises oversight over Valero's initiatives and strategies in the areas of diversity, inclusion, and human capital.

The Compensation Committee's duties are further described in "Compensation Discussion and Analysis" below and in the committee's charter.

The Compensation Committee met seven times in 2019. The Compensation Committee has, for administrative convenience, delegated authority to our Chief Executive Officer to make non-material amendments to Valero's benefit plans and to make limited grants of equity awards to new hires who are not executive officers.

Members of the Compensation Committee are:

- Rayford Wilkins, Jr. (Chair),
- Philip J. Pfeiffer, and
- Robert A. Profusek.

Notes:

The *Compensation Committee Report* for fiscal year 2019 appears in this proxy statement immediately preceding "Compensation Discussion and Analysis."

Compensation Committee Interlocks and Insider Participation: There are no compensation committee interlocks. None of the members of the Compensation Committee has served as an officer or employee of Valero or had any relationship requiring disclosure by Valero under Item 404 of the SEC's Regulation S-K, which addresses related-person transactions.

NOMINATING/GOVERNANCE AND PUBLIC POLICY COMMITTEE

The Nominating/Governance and Public Policy Committee assists the Board in its oversight responsibilities with respect to corporate governance, Board membership, climate and environmental matters, public policy trends, and corporate responsibility and reputation. The committee met three times in 2019. The committee's specific purposes are to:

- identify individuals qualified to become Board members, consistent with criteria approved by the Board;
- recommend to the Board director nominees to stand for election at the annual meetings of stockholders;
- develop and recommend a set of corporate governance principles applicable to Valero;
- assist the Board in identifying, evaluating, and monitoring public policy trends and social and political issues that could impact Valero's business activities and performance;
- assist the Board in oversight of Valero's health, safety, and environmental matters as well as climate-related risks and opportunities;
- consider and make recommendations for our strategies relating to corporate responsibility, political contributions, and reputation management; and
- oversee and lead the Board's and the committees' annual self-evaluation of performance.

Following the committee's assessment of the pertinent qualifications, skills, independence, and experience of Eric D. Mullins as a potential director, the committee recommended to the full Board the election of Mr. Mullins as a director, and he was elected to the Board on Jan. 23, 2020.

Members of the committee are:

- Deborah P. Majoras (Chair),
- Kimberly S. Greene
- Eric D. Mullins *
- Donald L. Nickles.

* Mr. Mullins joined the committee in 2020.

Notes:

The committee recommended to the Board the directors listed in this proxy statement in Proposal No. 1 as nominees for election as directors at the Annual Meeting.

The committee also considered and recommended the appointment of a Lead Director to preside at meetings of the independent directors without management, and recommended assignments for the Board's committees. The full Board approved the recommendations of the committee and adopted resolutions approving the slate of director nominees to stand for election at the Annual Meeting, the appointment of a Lead Director, and Board committee assignments.

Selection of Director Nominees

The Nominating/Governance and Public Policy Committee solicits recommendations for Board candidates from a number of sources, including our directors, our officers, and third-party research. In addition, the Committee will consider candidates submitted by stockholders when submitted in accordance with the procedures described in this proxy statement under the caption "Miscellaneous—Stockholder Communications, Nominations, and Proposals."

The Committee will consider all candidates identified through the processes described above and will evaluate each of them on the same basis. The level of consideration the Committee will extend to a stockholder's candidate will be commensurate with the quality and quantity of information about the candidate that the nominating stockholder makes available to the Committee.

Proxy Access. Our amended and restated bylaws permit a stockholder, or a group of up to 20 stockholders, that has owned at least three percent of our outstanding Common Stock for at least three years to nominate and include in our proxy statement candidates for our Board, subject to certain requirements. Each stockholder, or group of stockholders, may nominate candidates for director, up to a limit of the greater of two or 20 percent of the number of directors on the Board. Any nominee must meet the qualification standards listed in our bylaws. The procedures for nominating a candidate pursuant to our proxy access provisions are described in this proxy statement under the caption "Miscellaneous—Stockholder Communications, Nominations, and Proposals."

EVALUATION OF DIRECTOR CANDIDATES

Our *Corporate Governance Guidelines* vest the Nominating/Governance and Public Policy Committee with responsibility for reviewing the composition of the Board as well as the qualifications of the individual members of the Board and its various committees. This review includes consideration of the directors' independence, character, judgment, integrity, diversity, age, skills (including financial literacy) and experience in the context of the overall needs of the Board. The Committee's assessments include consideration of:

- applicable independence standards;
- skills and experience necessary for service on the Board's committees; and
- skills and expertise to serve the needs of the Board as a whole.

Each candidate must meet certain minimum qualifications, including:

- strong ethical principles and integrity;
- independence of thought and judgment;
- the ability to dedicate sufficient time, energy, and attention to the performance of duties, taking into consideration the candidate's service on other public company boards; and
- skills and expertise complementary to those of the existing Board members; in this regard, the Board will consider its need for operational, managerial, financial, governmental affairs, energy, sustainability, technology, human resources, or other expertise.

The Committee also considers:

- diversity concepts such as race, gender, national origin, age, and geography;
- the ability of a prospective candidate to work with the interpersonal dynamics of the Board and contribute to the Board's collaborative culture.

Based on this initial evaluation, the Committee will determine whether to interview a proposed candidate and, if warranted, will recommend that one or more of its members, other members of the Board, and/or senior officers, as appropriate, interview the candidate. Following this process, the Committee ultimately determines its list of nominees and recommends the list to the full Board for consideration and approval.

Diversity. Although the Board does not establish specific goals with respect to diversity, the Board's overall diversity is a significant consideration in the director nomination process. For this year's election, the Board has nominated 11 individuals who bring valuable diversity to the Board in terms of gender, ethnicity, industries represented, experience, age, and tenure. The nominees range in age from 53 to 73. Five of this year's nominees (50% of our independent directors) represent diversity of ethnicity or gender. Three of the nominees have served on the Board for less than five years.

Refreshment. We do not set term limits for our directors. As stated in Article I of our *Corporate Governance Guidelines*, the Board believes that directors who have served on the Board for an extended period of time are able to provide valuable insight into the operations and future of Valero based on their experience with and understanding of Valero's history, policy, and objectives. As an alternative to term limits, the Board believes that its evaluation and nomination processes serve as an appropriate check on each Board member's continued effectiveness.

Retirement Policy. Our directors are subject to a retirement policy (set forth in Article I of our *Corporate Governance Guidelines*). Under that policy, a director may serve on our Board until he or she reaches the age of 75. A director who turns 75 may serve the remainder of his or her term of office, which shall be deemed to end at the next annual meeting of stockholders at which directors are elected.

Director Continuing Education

We encourage our directors to attend director education programs as appropriate to stay abreast of developments in corporate governance and board best practices. Valero's *Corporate Governance Guidelines* state that Valero will pay for our directors' attendance at continuing education seminars, conferences, or workshops to foster education in matters pertaining to corporate governance or directors' responsibilities generally, and that Valero will pay for a director's membership in an organization such as the National Association of Corporate Directors in order to provide ongoing resources for board development.

Board Evaluation Process

Our *Corporate Governance Guidelines* and the charters of each of the Board's committees require the Board and the committees to conduct an annual performance evaluation. The Nominating/Governance and Public Policy Committee oversees the Board and committee self-evaluation process.

At the end of each year, the directors complete detailed surveys designed to evaluate the performance of the Board and each of its standing committees. The surveys seek feedback on, among other things, Board and committee composition, the frequency and content of Board and committee meetings, the quality of management's presentations to the Board and the committees, the adequacy of the committees' charters, and the performance of the Board and the committees in light of the responsibilities of each as established in the *Corporate Governance Guidelines* and the committees' charters. Summary reports of the evaluation results are compiled and provided to each director. The summary reports are discussed at Board and/or committee meetings in executive session, led by the Chair of the Nominating/Governance and Public Policy Committee, the Lead Director, and/or the Chairman of the Board, all of whom ensure that the Board or senior management, as appropriate, follow up on any identified areas for improvement.

In addition to the annual self-evaluation process, the Chair of the Nominating/Governance and Public Policy Committee, the Lead Director, and/or the Chairman of the Board will meet from time to time with each director individually, either in-person or via teleconference, in order to obtain feedback on the performance of the Board, a committee, or an individual director. The Board believes that all of these evaluation tools provide effective measures and forums for discussing the Board's effectiveness and potential areas for improvement.

Leadership Structure of the Board

Our bylaws state that the Chairman of the Board has the power to preside at all meetings of the Board. Joseph W. Gorder, our Chief Executive Officer, serves as the Chairman of the Board. Although the Board believes that the combination of the Chairman and Chief Executive Officer roles is appropriate in current circumstances, Valero's *Corporate Governance Guidelines* do not establish this approach as a policy, and in fact, the Chairman and Chief Executive Officer roles were separate from 2005–2007 and from May–December 2014.

The Chief Executive Officer is appointed by the Board to manage Valero's daily affairs and operations. We believe that Mr. Gorder's extensive industry experience and direct involvement in Valero's operations make him best suited to serve as Chairman in order to:

- lead the Board in productive, strategic planning;
- determine necessary and appropriate agenda items for meetings of the Board with input from the Lead Director and independent Board committee Chairs; and
- determine and manage the amount of time and information devoted to discussion of agenda items and other matters that may come before the Board.

Oversight by Independent Directors. Our Board structure includes strong oversight by independent directors. Mr. Gorder is the only member from our management (past or present) who serves on the Board; all of our other directors are independent. Each of the Board's committees is chaired by an independent director, all committee members are independent, and our Board has named an independent Lead Director whose duties are described in the following section.

Lead Director and Meetings of Non-Management Directors

Our independent directors appoint a Lead Director whose responsibilities include leading the meetings of our non-management directors outside the presence of management. Following the recommendation of the Nominating/Governance and Public Policy Committee, the Board's independent directors selected Robert A. Profusek to serve as Lead Director during 2020. Our Board regularly meets in executive session outside the presence of management, generally at each Board and committee meeting.

The Lead Director, working with the committee Chairs, sets agendas and leads the discussion of regular meetings of the Board outside the presence of management, provides feedback regarding these meetings to the Chairman, and otherwise serves as liaison between the independent directors and the Chairman. The Lead Director regularly communicates with the Chairman between meetings of the Board to discuss policy issues, strategies, governance, and other matters that arise throughout the year. The Chairs of the Board's committees also communicate regularly with the Lead Director to discuss policy issues facing Valero and the Board and to recommend agenda items for consideration at future Board meetings. The Board believes that this approach appropriately and effectively complements Valero's combined Chief Executive Officer/Chairman structure.

Our *Corporate Governance Guidelines* enumerate the duties and responsibilities of the Lead Director, which include:

(a) serving as a liaison between the Chairman and the independent directors,
(b) consulting with the Chairman on agendas for board meetings,
(c) reviewing and approving information sent to the Board as and when appropriate,
(d) the authority to call meetings of the independent directors,
(e) setting agendas and leading the discussion of regular executive session meetings of the Board outside the presence of management and providing feedback regarding these meetings to the Chairman, and
(f) receiving, reviewing, and acting upon communications from stockholders or other interested parties when those interests should be addressed by a person independent of management.

CEO Succession Planning

The full Board continually works with the Compensation Committee to evaluate potential successors to the office of Chief Executive Officer. Our CEO makes available at all times his recommendations and evaluations of potential successors. The Board regularly discusses CEO succession planning in executive sessions led by the Lead Director, both in the presence of the CEO and in sessions with only the independent directors. The Board's deliberations also include succession planning for instances of unforeseen emergencies or the temporary disability of the CEO, as well as other senior managers. The Compensation Committee oversees all of Valero's management succession planning programs, including leadership development, and regularly reports to and engages with the Board on the topic.

Risk Oversight

The Board considers oversight of Valero's risk management to be a responsibility of the full Board. The Board's role in risk oversight includes receiving reports from its committees, members of senior management, and third-parties on areas of material risk to Valero, and/or to the success of a particular project or endeavor under consideration.

The full Board regularly receives from management, and discusses at board meetings, updates on operational, financial, market, legal, regulatory, strategic, political, reputational, environmental, cybersecurity, policy, and climate-related risks facing Valero. From time to time, the Board also requests reports on areas of special or current relevance. For example, the full Board has recently completed reviews with management of (i) Valero's cybersecurity initiatives, (ii) Valero's assessment of climate-related risks and opportunities, (iii) Valero's policies and procedures concerning issues of workplace diversity, sexual harassment, discrimination, and workplace safety, (iv) the status of Valero's pension and retirement plans, and (v) Valero's risk management programs, including property, casualty, business interruption, and marine cargo insurance programs.

The Board also discusses significant risks at the Board's annual strategic planning meeting. In addition to receiving and discussing reports from management in strategic planning sessions, the Board is also able to interact with third-party experts who are invited to make presentations to the Board on risks facing Valero and its businesses.

The oversight of risk is shared between the full Board and its committees. The full Board (or appropriate Board committee) regularly receives reports from management to enable the Board (or committee) to assess Valero's risk identification, risk management, and risk mitigation strategies. When a report is vetted at the committee level, the Chair of that committee thereafter reports on the matter to the full Board. This enables the Board and its committees to coordinate the Board's risk oversight role. The Board also believes that risk management is an integral part of Valero's annual strategic planning process, which addresses, among other things, the risks and opportunities facing Valero in the long term.

One of the Audit Committee's responsibilities is to discuss with management Valero's major financial risk exposures and the steps Valero has taken to monitor and control those exposures, including our risk assessment and risk management policies. The Audit Committee also has oversight responsibility regarding management's annual assessment of, and report on, Valero's internal control over financial reporting. In addition, Valero's Chief Information Officer reports regularly to the Audit Committee regarding Valero's initiatives and strategies respecting cybersecurity and information technology risks.

Our Nominating/Governance and Public Policy Committee reviews our policies and performance in areas of employee and contractor health and safety, environmental compliance, governmental affairs, reputation management, climate-related risks and opportunities, political contributions, and policy matters generally. Valero's President & COO (Mr. Riggs) and EVP & General Counsel (Mr. Fraser) attend all meetings of the Committee. In addition, members from senior management report regularly to the Committee regarding Valero's health, safety and environmental risks, strategies, and assessments. The Committee also assists the Board in oversight of Valero's disclosure of climate-related risks and opportunities (as described further in "Climate Change Disclosure" below).

Our Compensation Committee assesses the risk of our compensation programs. Our compensation consultant regularly attends meetings of the Committee to provide updates on compensation related risks and trends. See also, "Risk Assessment of Compensation Programs" elsewhere in this proxy statement.

STOCKHOLDER ENGAGEMENT

Engagement Process

Ongoing engagement with our stockholders is important to us. We communicate with our stockholders through a variety of means, including direct interface, investor presentations, our website, and publications we issue. As part of our engagement program, our senior management team reaches out to our stockholders for dialogue concerning their priorities – which may include our strategy, company culture, environmental initiatives, financial performance, capital allocation, executive compensation, climate-related risks and opportunities, and/or corporate governance. We value our stockholders' views and their input is important.

Our ESG, Compliance, Investor Relations, and Legal teams are dedicated to leading our engagement efforts and collaborating with Valero's management teams and subject matter experts (SMEs) in order to provide appropriate resources for engagement with our stockholders. The chairs of our Compensation Committee and Nominating/Governance and Public Policy Committee have also participated in our engagements with stockholders.

Our engagements with stockholders have been constructive and have provided management and the Board with insights on issues and initiatives that are important to our stockholders and other stakeholders. We initiate formal outreach efforts in the months prior to our annual meeting of stockholders. Through that process, we contact stockholders and invite them to engage in discussions with our management team and SMEs on a variety of topics, including the stockholders' priorities and interests, our proxy statement disclosures, stockholder proposals, company strategy, and ESG matters. Following our annual meeting, our engagement efforts continue so that we may follow up on matters brought to our attention and/or discuss new issues of interest. Procedures for communicating with us are stated in "Stockholder Communications, Nominations, and Proposals" elsewhere in this proxy statement.

The following graphic depicts the ongoing elements of our engagement process.

As part of our engagement process in 2019, we contacted our 60 largest stockholders – representing over 60% of our outstanding common shares – offering to discuss our proxy statement disclosures and proposals as well as a wide range of matters of interest to our stockholders (e.g., climate-related risks and opportunities). We also respond routinely to individual stockholders and other stakeholders who inquire about our business.

Input from our stockholders helps us formulate an appropriate action plan for addressing certain issues. The publication of our climate report *(Climate-Related Risks and Opportunities)* was strongly influenced by our previous engagements with stockholders and stakeholders. In 2019, after receiving input from our stockholders, our *Stewardship and Responsibility Report* was revamped to provide information and data that meet our stockholders' priorities and needs. Also in 2019, we made changes to elements of our compensation program as a result of our engagement with stockholders. Those changes are described in "Compensation Discussion and Analysis – Dialogue with Stockholders."

CLIMATE CHANGE DISCLOSURE

In 2017 the Financial Stability Board's Task Force on Climate-related Financial Disclosure (TCFD) issued its recommendations on reporting climate-related financial information. In September 2018, Valero published its climate report—under Board oversight led by the Nominating/Governance and Public Policy Committee—that is aligned with the main principles outlined in the recommendations of the TCFD. The report is published on our website at www.valero.com > About Valero > Corporate Responsibility > Climate-Related Risks and Opportunities.

Per the Board's Nominating/Governance and Public Policy Committee charter, the committee reviews and discusses with management, at least annually, Valero's strategy and performance in assessing and responding to climate-related risks and opportunities.

Valero's Climate-Related Risks and Opportunities report is not a part of this proxy statement. The report 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, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this proxy statement and irrespective of any general incorporation language therein.

CORPORATE RESPONSIBILITY

In our *Stewardship and Responsibility Report,* we make disclosures on a variety of environmental, social, and governance (ESG) topics of interest to our stakeholders. The report covers the following areas of interest:

- Valero's vision and guiding principles;
- ESG data and initiatives;
- safety and reliability;
- environmental matters, including data on criteria emissions, flaring, energy conservation, GHG emissions, cogeneration, waste water management, our wind farm, renewable diesel, ethanol, EPA's Efficient Producer Program, recycling processes, and wetlands tree planting;
- community engagement and support;
- employees and human capital, including diversity and inclusion;
- governance;
- the social benefit of Valero's products; and
- summary of recent awards.

The report is published on our website at www.valero.com > About Valero > Corporate Responsibility > Stewardship and Responsibility Report.

Valero's Stewardship and Responsibility Report is not a part of this proxy statement. The report 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, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this proxy statement and irrespective of any general incorporation language therein.

PROPOSAL NO. 1 — ELECTION OF DIRECTORS

(ITEM 1 ON THE PROXY CARD)

We do not have a classified board. Each of our directors stands for election every year at the annual meeting of stockholders. If elected at the 2020 Annual Meeting, all of the nominees listed below will serve as director for a one-year term expiring at the 2021 annual meeting of stockholders. The persons named on the proxy card intend to vote for the election of each of these nominees unless you direct otherwise on your proxy card.

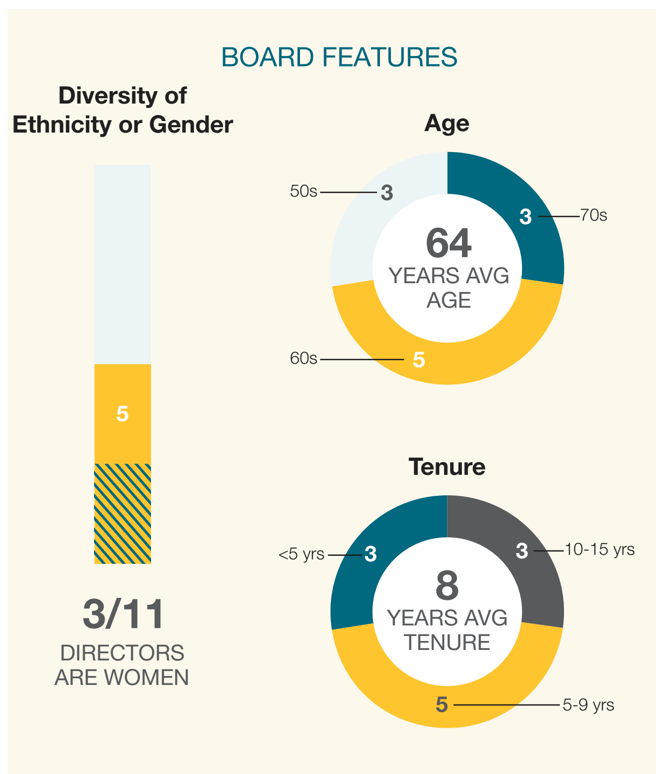
The Board recommends a vote "FOR" all nominees.

Majority Voting. Under our bylaws, each director is to be elected by the vote of the majority of the votes cast at the Annual Meeting. For this purpose, a "majority of the votes cast" means that the number of shares voted "for" a director's election exceeds 50 percent of the number of votes cast with respect to that director's election. Votes "cast" exclude abstentions. If any nominee is unavailable as a candidate at the time of the Annual Meeting, either the number of directors constituting the full Board will be reduced to eliminate the resulting vacancy, or the persons named as proxies will use their best judgment in voting for any available nominee.

Information Concerning Nominees and Directors

Each of the following is a nominee for election as a director at the Annual Meeting. There is no family relationship among any of the executive officers or nominees for director. There is no arrangement or understanding between any director or any other person pursuant to which the director was or is to be selected a director or nominee.

Directors	Director Since	Age as of 12/31/2019
Joseph W. Gorder, *Chairman of the Board and Chief Executive Officer*	2014	62
H. Paulett Eberhart	2016	66
Kimberly S. Greene	2016	53
Deborah P. Majoras	2012	56
Eric D. Mullins	2020	57
Donald L. Nickles	2005	71
Philip J. Pfeiffer	2012	72
Robert A. Profusek	2005	69
Stephen M. Waters	2008	73
Randall J. Weisenburger	2011	61
Rayford Wilkins, Jr.	2011	68



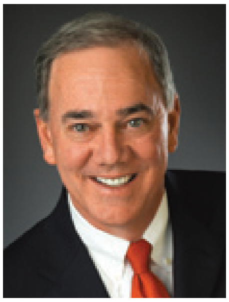
Summary of Board Skills and Attributes

Our directors have an effective mix of backgrounds, knowledge, and skills. The table below provides a summary of certain collective competencies and attributes of the Board nominees. The lack of an indicator for a particular item does not mean that the director does not possess that skill or experience. We look to each director to be knowledgeable in all of these areas. Rather, the indicator represents that the item is a core competency that the director brings to the Board.

	Gorder	Eberhart	Greene	Majoras	Mullins	Nickles	Pfeiffer	Profusek	Waters	Weisenburger	Wilkins
skills and experience											
CEO/LEADERSHIP EXPERIENCE contributes to the Board's understanding of operations and strategy and demonstrates leadership ability	●	●	●	●	●	●	●	●	●	●	●
FINANCE/ACCOUNTING EXPERIENCE is valuable in evaluating Valero's financial statements, capital structure, and financial strategy	●	●	●		●			●	●	●	●
GLOBAL EXPERIENCE provides the company with valuable business knowledge and perspective on our international operations and global commodity trade	●	●		●		●		●	●	●	●
GOVERNMENT/LEGAL/ REGULATORY EXPERIENCE contributes to the Board's ability to guide Valero through government regulations, complex legal matters, and public policy issues	●	●	●	●		●	●	●			●
RISK MANAGEMENT EXPERIENCE contributes to the identification, assessment, and prioritization of risks facing Valero	●	●	●	●	●	●	●	●	●	●	●
attributes											
DIVERSITY/GENDER represents diversity of race, ethnicity, and/or gender		●	●	●	●						●
INDEPENDENT represents directors who are independent under NYSE and SEC standards		●	●	●	●	●	●	●	●	●	●

Our directors have a wide range of additional skills and experience not mentioned above, which they bring to their role as directors to Valero's benefit, including experience in the energy industry, and the technology/cybersecurity, consumer goods, human capital, corporate governance, and nonprofit leadership areas. Our directors' skills and experience are further described in the directors' biographies on the following pages.

Nominees



Age: 62

Director Since: 2014

Chairman

JOSEPH W. GORDER

Featured experience, qualifications, and attributes:

- **Global energy business leadership** at Valero Energy Corporation as Chairman of the Board and Chief Executive Officer (since 2014), and President (from 2012 to Jan. 2020).
- **Refining and marketing operations** experience as Valero's President and Chief Operating Officer beginning in 2012. Prior to that, Mr. Gorder was Executive Vice President and Chief Commercial Officer (beginning in 2011), and led Valero's European operations from its London office. Before that, he held several leadership positions with Valero and Ultramar Diamond Shamrock Corporation (UDS) with responsibilities including marketing & supply and corporate development.

Other public company boards (current): none

Prior public company boards (in last five years): Anadarko Petroleum Corporation (NYSE: APC), Valero Energy Partners LP (NYSE: VLP)

Age: 66

Director Since: 2016

Committee: Audit

Independent

H. PAULETT EBERHART

Featured experience, qualifications, and attributes:

- **Business leadership** as Board Chair and CEO of HMS Ventures (since 2014), a privately held business involved with technology services and the acquisition and management of real estate. From 2011 through March 2014, she served as President and CEO of CDI Corp. (NYSE: CDI), a provider of engineering and information technology outsourcing and professional staffing services. She served as a consultant to CDI from April 2014 through December 2014. Ms. Eberhart also served as Board Chair and CEO of HMS Ventures from January 2009 until January 2011.
- **Information technology, management, accounting, and finance** expertise at Invensys Process Systems, Inc. (Invensys), a process automation company (President and CEO from 2007 to 2009), and Electronic Data Systems Corporation (EDS) (1978 to 2004), an information technology and business process outsourcing company. She was President of Americas of EDS (2003 to March 2004), and served as President of Solutions Consulting at EDS (2002 to 2003). Ms. Eberhart is a Certified Public Accountant.
- **Public company governance** expertise through her service as Lead Director for another public company.

Other public company boards (current): LPL Financial Holdings Inc. (NASDAQ: LPLA)

Prior public company boards (in last five years): Anadarko Petroleum Corporation (NYSE: APC), CDI Corp. (NYSE: CDI), Cameron International Corporation (NYSE: CAM), Ciber, Inc. (NYSE: CBR), Advanced Micro Devices, Inc. (NASDAQ: AMD).

Age: 53

Director Since: 2016

Committee:
Nom/Gov & Public Policy

Independent

KIMBERLY S. GREENE

Featured experience, qualifications, and attributes:

- **Energy business leadership** at Southern Company Gas as Board Chair, Chief Executive Officer and President (since June 2018). She served as Executive Vice President and Chief Operating Officer of the Southern Company (NYSE: SO) from 2014 to May 2018. Prior to that, she was President and CEO of Southern Company Services, Inc. Ms. Greene began her career at Southern Company in 1991 and held positions of increasing responsibility in the areas of engineering, strategy, finance, and wholesale marketing, including Senior Vice President and Treasurer of Southern Company Services, Inc. from 2004 to 2007. She rejoined Southern Company in 2013.
- **Finance expertise and regulatory business management** experience as Executive Vice President and Chief Generation Officer of Tennessee Valley Authority (TVA). While at TVA (2007 to 2013), she served as Chief Financial Officer, Executive Vice President of financial services and Chief Risk Officer, as well as Group President for strategy and external relations.
- **Organizational leadership** experience through service on the boards of the American Gas Association, The Alliance Theater (Atlanta), Metro Atlanta Chamber of Commerce, and Morehouse School of Medicine.

Other public company boards (current): none

Prior public company boards (in last five years): none

Age: 56

Director Since: 2012

Committee:
Nom/Gov & Public Policy (Chair)

Independent

DEBORAH P. MAJORAS

Featured experience, qualifications, and attributes:

- **Public company leadership and governance** experience as Chief Legal Officer and Secretary of The Procter & Gamble Company (P&G) (NYSE: PG) since 2010. She joined P&G in 2008 as Senior Vice President and General Counsel.
- **Government, regulatory, and legal** experience as Chair of the U.S. Federal Trade Commission from 2004 until 2008. From 2001 to 2004, Ms. Majoras was Deputy Assistant Attorney General in the U.S. Department of Justice, Antitrust Division. Ms. Majoras joined the law firm of Jones Day in 1991, and became a partner in 1999.
- **Organizational leadership** experience through service on the boards of the United States Golf Association, The Christ Hospital Health Network, Legal Aid Society of Greater Cincinnati, and Westminster College.

Other public company boards (current): none

Prior public company boards (in last five years): none

Age: 57

Director Since: 2020

Committee:
Nom/Gov & Public Policy

Independent

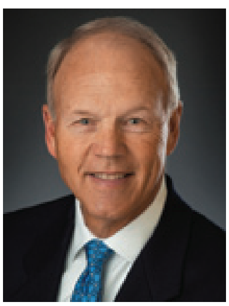
ERIC D. MULLINS

Featured experience, qualifications, and attributes:

- **Energy business leadership** as the Managing Director and Co-Chief Executive Officer of Lime Rock Resources, a company that he co-founded in 2005, which acquires, operates, and improves lower-risk oil and natural gas properties. Mr. Mullins oversees all strategic, financial, and operational aspects of the Lime Rock Resources funds. From May 2011 through October 2015, he also served as the Co-Chief Executive Officer and Chairman of the Board of Directors of LRE GP, LLC, the general partner of LRR Energy, L.P., an oil and natural gas company.
- **Management, accounting, and finance** expertise as a Managing Director in the Investment Banking Division of Goldman Sachs where he led numerous financing, structuring, and strategic advisory transactions in the division's Natural Resources Group. He has served as Chair of the Audit Committee for Anadarko Petroleum Corporation and as a member of the Audit Committee for PG&E Corporation.
- **Organizational leadership** through service on the board of trustees of the Baylor College of Medicine.

Other public company boards (current): PG&E Corporation (NYSE: PCG)

Prior public company boards (in last five years): Anadarko Petroleum Corporation (NYSE: APC)



Age: 71

Director Since: 2005

Committee:
Nom/Gov & Public Policy

Independent

DONALD L. NICKLES

Featured experience, qualifications, and attributes:

- **Government affairs** leadership and experience as U.S. Senator from Oklahoma for 24 years (retired 2005). He also served in the Oklahoma State Senate for two years. During his tenure as U.S. Senator, he was Assistant Republican Leader for six years, Chairman of the Republican Senatorial Committee, and Chairman of the Republican Policy Committee. He served as Chairman of the Budget Committee and as a member of the Finance and Energy and Natural Resources Committees.
- **Business leadership** as current Chairman and Chief Executive Officer of The Nickles Group, a Washington-based consulting and business venture firm formed in 2005.
- **Organizational leadership** through service on the advisory board of the Oklahoma Medical Research Foundation and the board of directors of Central Union Mission (Washington, DC).

Other public company boards (current): Board of Trustees of Washington Mutual Investors Fund (AWSHX)

Prior public company boards (in last five years): none

PHILIP J. PFEIFFER

Age: 72

Director Since: 2012

Committee:
Compensation

Independent

Featured experience, qualifications, and attributes:

- **Business leadership, legal and human capital** expertise in the San Antonio office of Norton Rose Fulbright LLP, where he was Partner-in-Charge for 25 years and led the office's labor and employment practice (he presently serves Of Counsel). Through his service with the firm for almost 50 years, Mr. Pfeiffer assisted employers in traditional management–union matters, complex civil rights matters, employment discrimination cases, affirmative action compliance, employment torts, alternative dispute resolution, employment contracts, and ERISA litigation.
- **Organizational leadership** through board service and affiliations with Southwest Research Institute, United Way of San Antonio and Bexar County, San Antonio Medical Foundation, The Children's Hospital of San Antonio Foundation, Alamo Area Council of Boy Scouts, and the Cancer Therapy and Research Center.

Other public company boards (current): none

Prior public company boards (in last five years): none

ROBERT A. PROFUSEK

Age: 69

Director Since: 2005
Lead Director

Committee:
Compensation

Independent

Featured experience, qualifications, and attributes:

- **Business leadership and capital markets** expertise as a partner of the Jones Day law firm where Mr. Profusek chairs the firm's global mergers and acquisitions practice. His law practice focuses on mergers, acquisitions, takeovers, restructurings, and corporate governance matters.
- **Public company governance** experience and expertise through service as Valero's Lead Director and the Lead Director of two other public companies. He is a frequent speaker regarding corporate takeovers and corporate governance, has authored or co-authored numerous articles, has testified before Congress and the SEC about takeover and compensation-related matters, and is a frequent guest commentator on CNBC, CNN, and Bloomberg TV.
- **Organizational leadership** through service on the board of directors of the Legal Aid Society of New York City.

Other public company boards (current): Kodiak Sciences Inc. (NASDAQ: KOD), CTS Corporation (NYSE: CTS)

Prior public company boards (in last five years): none

STEPHEN M. WATERS

Age: 73

Director Since: 2008

Committee:
Audit

Independent

Featured experience, qualifications, and attributes:

- **Financial business leadership** as the managing partner of Compass Partners Capital since 2018, the managing partner of Compass Partners Advisers LLP and its predecessor partnerships (since 1996), Managing Partner of Compass Partners Capital (since 2018), and Chief Executive of Compass Partners European Equity Fund from 2005 to 2013.
- **Finance and global** experience from his service in several capacities at Morgan Stanley, including Co-Head of the Mergers and Acquisitions department from 1990 to 1992, Co-Chief Executive Officer of Morgan Stanley Europe from 1992 to 1996, and as a member of its worldwide Firm Operating Committee from 1992 to 1996. From 1974 to 1988, he was with Lehman Brothers, co-founding the Mergers and Acquisitions department in 1977, becoming a partner in 1980, and serving as Co-Head of the Mergers and Acquisitions department from 1985 to 1988.
- **Organizational leadership** through service on the board of trustees of the United States Naval Institute Foundation.

Other public company boards (current): Boston Private Financial Holdings, Inc. (NASDAQ: BPFH)

Prior public company boards (in last five years): none

RANDALL J. WEISENBURGER

Age: 61

Director Since: 2011

Committee:
Audit (Chair)

Independent

Featured experience, qualifications, and attributes:

- **Global business leadership and capital markets and finance** expertise as the managing member of Mile 26 Capital, LLC, an investment fund based in Greenwich, Connecticut (since 2014), and service as Executive Vice President and Chief Financial Officer of Omnicom Group Inc. (NYSE: OMC) from 1998 through 2014. Prior to joining Omnicom, he was a founding member of Wasserstein Perella and a former member of First Boston Corporation. At Wasserstein Perella, Mr. Weisenburger specialized in private equity investing and leveraged acquisitions, and in 1993, he became President and CEO of the firm's private equity subsidiary.
- **Organizational leadership** through service on the board of directors of Acosta Sales and Marketing, and Corsair Components, Inc.; and the Board of Overseers of the Wharton School of Business at the University of Pennsylvania.

Other public company boards (current): Carnival Corporation and Carnival plc (NYSE: CCL)

Prior public company boards (in last five years): none

RAYFORD WILKINS, JR.

Age: 68

Director Since: 2011

Committee:
Compensation (Chair)

Independent

Featured experience, qualifications, and attributes:

- **Global business leadership and technology and finance** expertise as CEO of Diversified Businesses of AT&T Inc. (NYSE: T), where he was responsible for international investments, AT&T Interactive, AT&T Advertising Solutions, customer information services, and the consumer wireless initiative in India. He retired from AT&T at the end of March 2012. Mr. Wilkins held several other leadership positions at AT&T and its predecessor companies, including Group President and CEO of SBC Enterprise Business Services and President and CEO of SBC Pacific Bell.
- **Organizational leadership** through service on the Advisory Council of the McCombs School of Business at the University of Texas at Austin.

Other public company boards (current): Morgan Stanley (NYSE: MS), Caterpillar Inc. (NYSE: CAT)

Prior public company boards (in last five years): none

For information regarding the nominees' Common Stock holdings, compensation, and other arrangements, see "Information Regarding the Board of Directors," "Beneficial Ownership of Valero Securities," "Compensation Discussion and Analysis," and "Compensation of Directors" elsewhere in this proxy statement.

IDENTIFICATION OF EXECUTIVE OFFICERS

The following table lists Valero's executive officers (for purposes of Rule 3b-7 under the Securities Exchange Act of 1934), described below using their current titles. As used in this proxy statement, our "named executive officers" are the five persons listed in the Summary Compensation Table. There is no arrangement or understanding between any executive officer listed below or any other person under which the executive officer was or is to be selected as an officer.

	Officer Since	Age as of 12/31/2019
Joseph W. Gorder, *Chief Executive Officer and Chairman of the Board*	2003	62
R. Lane Riggs, *President and Chief Operating Officer*	2011	54
Jason W. Fraser, *Executive Vice President and General Counsel*	2015	51
Gary K. Simmons, *Executive Vice President and Chief Commercial Officer*	2011	55
Donna M. Titzman, *Executive Vice President and Chief Financial Officer*	2001	56

Mr. Gorder. Mr. Gorder's biographical information appears above under the caption "Information Concerning Nominees and Directors—Nominees."

Mr. Riggs was elected President and Chief Operating Officer on Jan. 23, 2020. He previously served as Executive Vice President and Chief Operating Officer (since Jan. 1, 2018), and prior to that as Executive Vice President–Refining Operations and Engineering (since 2014), and Senior Vice President–Refining Operations (since 2011). He has held several leadership positions with Valero overseeing refining operations, crude and feedstock supply, and planning and economics. Mr. Riggs also served on the board of directors of Valero Energy Partners GP LLC (the general partner of Valero Energy Partners LP (NYSE: VLP)) from 2014 to 2019.

Mr. Fraser was elected Executive Vice President and General Counsel effective Jan. 1, 2019. Prior to that, he served as Senior Vice President overseeing Valero's Public Policy & Strategic Planning, Governmental Affairs, Investor Relations, and External Communications functions (from May 2018). From Nov. 2016 to May 2018, Mr. Fraser served as Vice President-Public Policy & Strategic Planning, and from May 2015 to Nov. 2016, he served in London as Vice President-Europe, overseeing Valero's European commercial businesses. Prior to his service in London, he served in Valero's San Antonio headquarters as Senior Vice President & Deputy General Counsel of Valero Services, Inc. (2013 to 2015). Prior to that, he held various leadership roles with Valero, including Senior Vice President-Specialty Products of Valero Marketing and Supply Company.

Mr. Simmons was elected Executive Vice President and Chief Commercial Officer on Jan. 23, 2020. He previously served as Senior Vice President–Supply, International Operations and Systems Optimization (since May 2014), and prior to that as Vice President–Crude and Feedstock Supply and Trading (2012 to 2014), and Vice President–Supply Chain Optimization (2011 to 2012). Mr. Simmons has held many leadership positions with Valero including Vice President and General Manager of Valero's Ardmore and St. Charles refineries.

Ms. Titzman has served as Executive Vice President and Chief Financial Officer since May 3, 2018. From 2013 to May 2018, she served as Senior Vice President and Treasurer having responsibility for banking, cash management, customer credit, investment management, and risk management. She has also served as Chief Financial Officer and director of Valero Energy Partners GP LLC (the general partner of Valero Energy Partners LP (NYSE: VLP)) from 2013 to 2019. She has held various leadership positions with Valero before being elected Treasurer in 1998, and Vice President and Treasurer in 2001. Ms. Titzman is a Certified Public Accountant.

BENEFICIAL OWNERSHIP OF VALERO SECURITIES

SECURITY OWNERSHIP OF MANAGEMENT AND DIRECTORS

This table lists the beneficial ownership of our Common Stock as of Feb. 1, 2020, by all directors and nominees, the executive officers named in the Summary Compensation Table, and the directors and executive officers of Valero as a group. No executive officer, director, or nominee for director owns any class of equity securities of Valero other than Common Stock. None of the shares listed below are pledged as security. The address for each person is One Valero Way, San Antonio, Texas 78249.

Name of Beneficial Owner	Shares Held (1)	Shares Under Options (2)	Total Shares	Percent of Class
H. Paulett Eberhart	4,571	—	4,571	*
Jason W. Fraser	47,734	—	47,734	*
Joseph W. Gorder	449,811	139,897	589,708	*
Kimberly S. Greene	5,720	—	5,720	*
Deborah P. Majoras	19,548	—	19,548	*
Eric D. Mullins	—	—	—	*
Donald L. Nickles	26,033	—	26,033	*
Philip J. Pfeiffer	20,914	—	20,914	*
Robert A. Profusek	37,864	—	37,864	*
R. Lane Riggs	182,752	2,667	185,419	*
Gary K. Simmons	128,982	1,750	130,732	*
Donna M. Titzman	204,076	16,623	220,699	*
Stephen M. Waters	9,521	—	9,521	*
Randall J. Weisenburger	55,274	—	55,274	*
Rayford Wilkins, Jr.	32,198	—	32,198	*
Directors and current executive officers as a group (15 persons)	1,224,998	160,937	1,385,935	*

* Indicates that the percentage of beneficial ownership does not exceed 1% of the class.

(1) Includes shares allocated under the Thrift Plan and shares of restricted stock. The balance shown for Mr. Waters includes 500 shares held in a trust for which Mr. Waters is a beneficiary.

(2) Represents shares of Common Stock that may be acquired under outstanding stock options currently exercisable and that are exercisable within 60 days from Feb. 1, 2020.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS

This table describes each person or group of affiliated persons known to be a beneficial owner of more than five percent of our Common Stock as of Dec. 31, 2019. The information is based on reports filed by such persons with the SEC.

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership	Percent of Class
The Vanguard Group 100 Vanguard Blvd Malvern PA 19355	34,751,539 (1)	8.5%
BlackRock, Inc. 55 East 52nd Street New York NY 10055	33,601,040 (2)	8.2%
State Street Corporation State Street Financial Center One Lincoln Street Boston MA 02111	21,576,641 (3)	5.3%

(1) The Vanguard Group filed with the SEC a Schedule 13G on Feb. 12, 2020, reporting that it or certain of its affiliates beneficially owned in the aggregate 34,751,539 shares, for which it had sole voting power for 612,849 shares, shared voting power for 124,287 shares, sole dispositive power for 34,052,213 shares, and shared dispositive power for 699,326 shares.

(2) BlackRock, Inc. filed with the SEC an amended Schedule 13G on Feb. 10, 2020, reporting that it or certain of its affiliates beneficially owned in the aggregate 33,601,040 shares, for which it had sole voting power for 28,768,134 shares and sole dispositive power for 33,601,040 shares.

(3) State Street Corporation filed with the SEC a Schedule 13G on Feb. 14, 2020, reporting that it or certain of its affiliates beneficially owned in the aggregate 21,576,641 shares, for which it had shared voting power for 19,266,984 shares, and shared dispositive power for 21,557,904 shares.

RISK ASSESSMENT OF COMPENSATION PROGRAMS

Our incentive compensation programs are designed to effectively balance risk and reward. When assessing risk, we consider both cash compensation payable under our annual incentive bonus plan as well as long-term incentives that are awarded under our stock incentive plan. We also consider the mix of award opportunities (i.e., short- versus long-term), performance targets and metrics, the target-setting process, and the administration and governance associated with our plans. We do not believe that our compensation policies and practices are reasonably likely to have an adverse effect on Valero. Features of our compensation programs that we believe mitigate excessive risk taking include:

- the mix between fixed and variable, annual and long-term, and cash and equity compensation, designed to encourage strategies and actions that are in Valero's long-term best interests;
- determination of incentive awards based on a variety of indicators of performance, thus diversifying the risk associated with a single indicator of performance;
- incorporation of relative total stockholder return into our incentive program, calibrating pay and performance relationships to companies facing the same or similar market forces as Valero;
- multi-year vesting periods for equity incentive awards, which encourage focus on sustained growth and earnings;
- maximum payout ceilings under our annual bonus program and performance share awards;
- restricted stock awards that help contain volatility of incentive awards and further align executives' interests with long-term stockholder value creation; and
- our compensation-related policies, including our executive compensation "clawback" policy and stock ownership guidelines (discussed under the caption "Compensation Discussion and Analysis—Compensation Related Policies").

COMPENSATION DISCUSSION AND ANALYSIS

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The following Compensation Committee Report 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, as amended, or the Securities Exchange Act of 1934, as amended, whether made before or after the date of this proxy statement and irrespective of any general incorporation language therein.

COMPENSATION COMMITTEE REPORT

The Compensation Committee has reviewed and discussed the following Compensation Discussion and Analysis with management. Based on the foregoing review and discussions and such other matters the Compensation Committee deemed relevant and appropriate, the Committee recommended to the Board that the Compensation Discussion and Analysis be included in this proxy statement.

Members of the Compensation Committee:
Rayford Wilkins, Jr., Chair
Philip J. Pfeiffer
Robert A. Profusek

Compensation Discussion and Analysis—Overview

Company Overview

Valero strives to be the premier manufacturer, distributor and marketer of transportation fuels and petrochemical products with a focus on creating value for its stockholders while serving the needs of its more than 10,000 employees and neighboring communities. Sustained profitability within the fuels manufacturing and marketing business in which operating margins are primarily influenced by volatile commodity prices, requires a sound business strategy, organizational discipline, and a committed workforce. Valero's management and employees are driven by our guiding principles in safety, environmental stewardship, community engagement, employee programs and governance.

Valero's (i) continued significant investments in the expansion of renewable fuels production capacity, (ii) focus on safe, reliable and environmentally responsible operations, and (iii) status as an employer of choice, support Valero's intention to be the best-in-class producer of essential fuels and products that are foundational to modern life.

Valero has three reporting segments – refining, ethanol and renewable diesel. The refining segment includes refining operations and associated marketing activities and logistics assets. Valero is the largest global independent petroleum refiner and owns refineries located in the United States, Canada and the United Kingdom. The ethanol segment includes ethanol operations and associated marketing activities and logistics assets, with plants throughout the U.S. Midwest. Valero is the world's second-largest corn ethanol producer and sells this low-carbon fuel both domestically and internationally. Valero's renewable diesel segment includes the operations of Diamond Green Diesel, a joint venture with Darling Ingredients Inc., producing low-carbon renewable diesel fuel at a plant in Louisiana. Diamond Green Diesel is the world's second-largest renewable diesel producer.

VALERO'S STRATEGY FOR VALUE CREATION

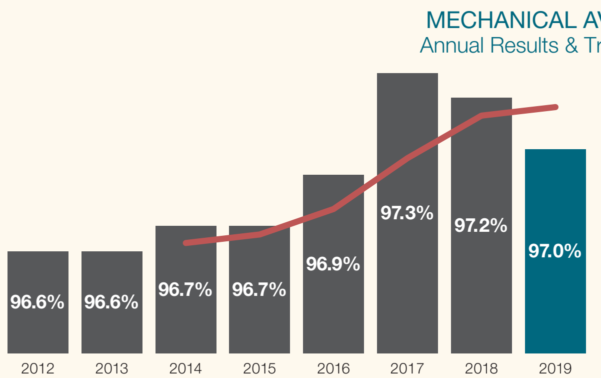
- Maintain manufacturing excellence through safe, reliable, environmentally responsible operations.
- Utilize a disciplined capital allocation that delivers distinctive financial results and peer-leading returns to stockholders.
- Grow earnings through market expansion, margin improvement and operating cost control.

Company Performance

While Valero faced a challenging margin environment through much of the year, Valero's 2019 achievements and operational performance demonstrated sustained excellence in several key areas.

OPERATIONAL AND SAFETY PERFORMANCE DRIVES PROFITABILITY

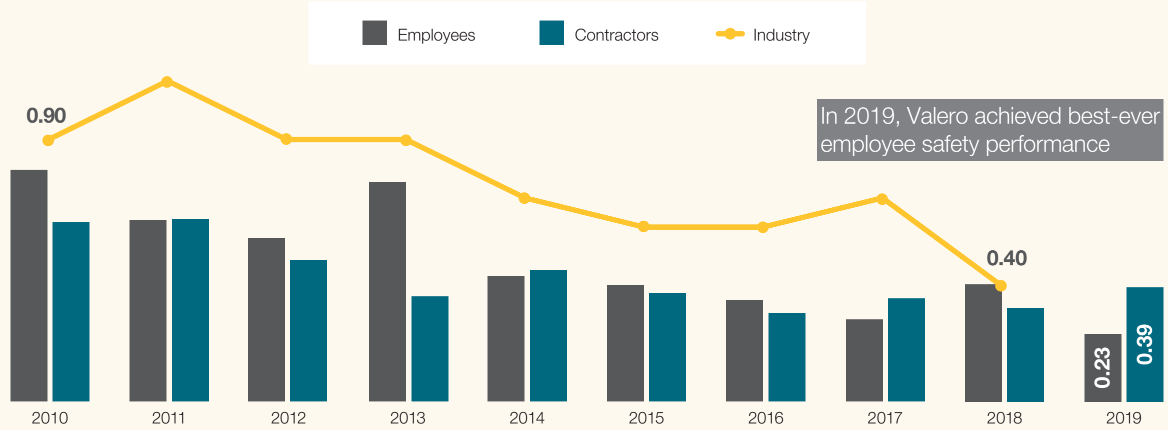
Operating safely and reliably is Valero's highest priority and is critically important to maximizing profitability. Ongoing improvement and excellent performance in key operational and safety measures have enabled Valero to improve its earnings capabilities and realize industry-leading returns. Safe and reliable operations are also important for minimizing environmental impact. In 2019, we delivered the best year in company history in terms of employee safety performance and the lowest number of environmental scorecard events, demonstrating our strong commitment to safety, reliability and environmental stewardship. Valero remains focused on being the safest and most reliable operator in our industry with environmentally responsible operations. The following charts demonstrate Valero's multi-year improvement in performance resulting from strategic investments and a disciplined focus on operational improvement, maintenance and safety programs.



Valero's 97.0% mechanical availability for 2019 represents highly reliable refinery operations. Excellent performance in this metric reflects our ability to avoid unplanned downtime, minimize environmental events, and successfully execute planned and unplanned refinery maintenance.

PERSONNEL SAFETY

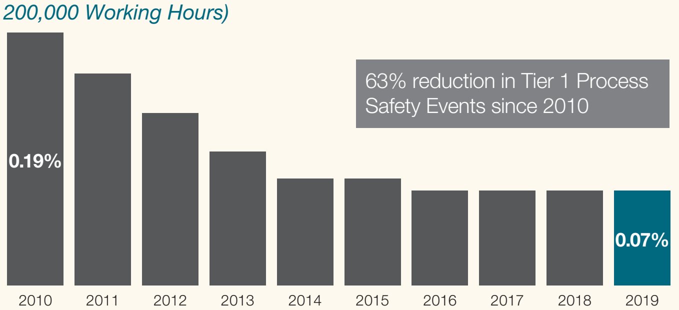
Total Recordable Incident Rate (TRIR)



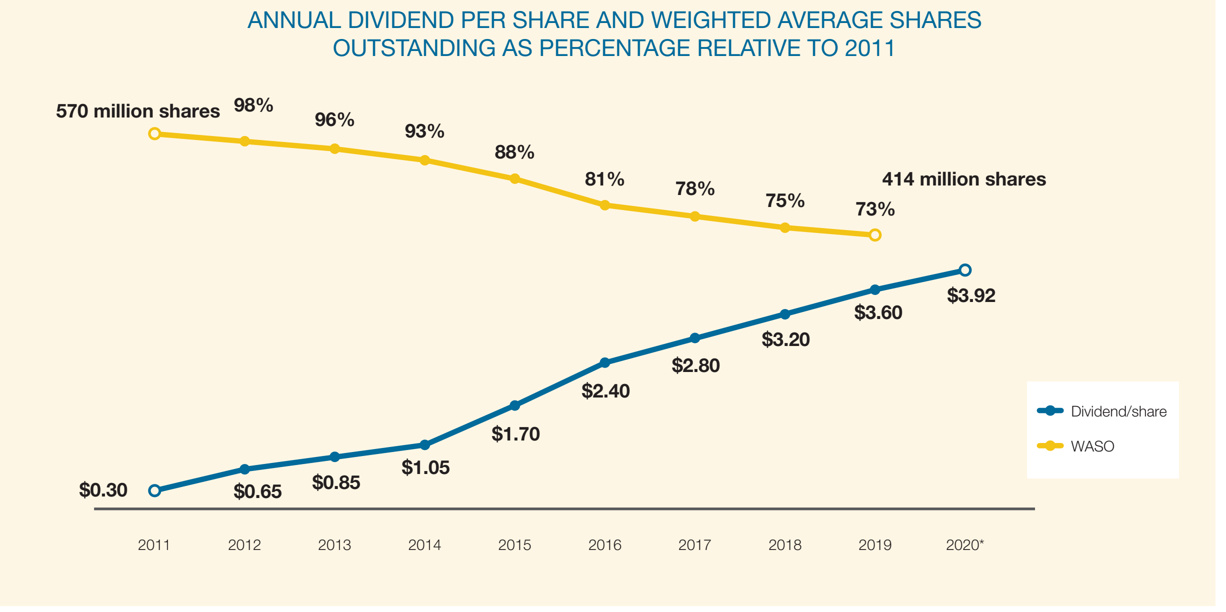
TIER 1 PROCESS SAFETY

(Process Safety Event Rate, Three-year Rolling Averages of Process Safety Events per 200,000 Working Hours)

Valero once again achieved excellent results in process safety (0.05 for full-year 2019), which has been imperative for environmentally responsible and safe operations. A Tier 1 Process Safety Event represents an unplanned release of materials (hazardous or non-hazardous) that may result in a safety and/or environmental incident.

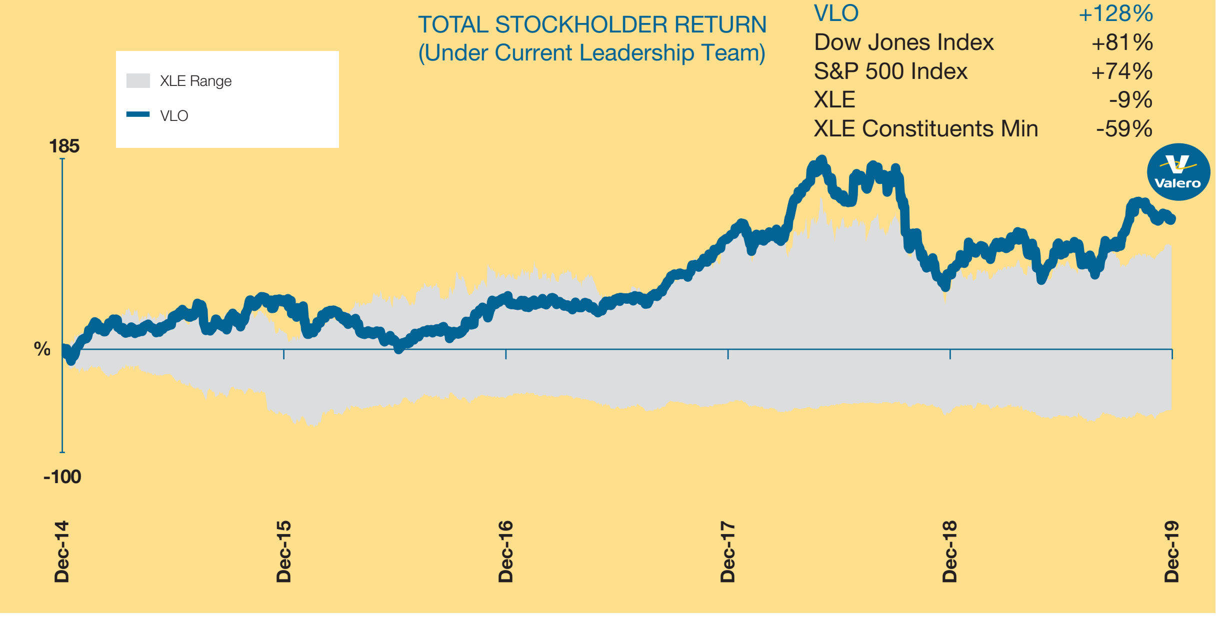


Valero seeks to be the leader among its peers in stockholder returns and makes operational and capital allocation decisions in support of this objective. Through targeted share buybacks and sustainable dividend growth, Valero has prioritized the delivery of cash returns to stockholders.



* 2020 dividends per share annualized based on most recent quarterly dividend.

As a result of Valero's performance and capital allocation decisions implemented under the current leadership team, Valero's Total Stockholder Return[1] (TSR) has outperformed the Dow Jones Index, S&P 500 Index, and all companies within the XLE[2] energy index constituency since 2014.



Footnotes:

(1) TSR from Dec 31, 2014, through Dec 31, 2019. TSR includes stock price appreciation and dividends paid.
(2) XLE includes refining peers PSX, MPC and 28 other energy companies.

Company Performance Highlights—2019

FINANCIAL ACHIEVEMENTS

- Achieved $2.4 billion in net income attributable to Valero Energy Corporation stockholders
- Returned $2.3 billion to stockholders through dividends and share repurchases
- Increased quarterly dividend by 12.5% (from $0.80 to $0.90 per share)
- Maintained our investment-grade credit ratings
- Maintained one of the lowest debt to capitalization ratios within peer group

OPERATIONAL ACHIEVEMENTS

- Achieved excellent refinery Mechanical Availability results (97.0%) allowing us to maximize margin capture
- Achieved best-ever performance in three of our critical safety and environmental metrics
- Continued cost-savings efforts to increase our cumulative savings since initiation of the program in 2007 to $2.04 billion

STRATEGIC & OTHER ACHIEVEMENTS

- Completed and started an alkylation unit at our Houston refinery for increased margin capture
- Completed the Central Texas Pipelines and Terminals project which reduces secondary costs and extends our supply chain from the Gulf coast
- Recognized by S&P Global Platts with the “Award of Excellence - Refining”
- Recognized by Institutional Investor magazine for “Best CEO” and “Best Investor Relations Department” in our industry for the fourth year in a row
- Simplified corporate structure through the buy-in of Valero Energy Partners LP (VLP)
- Published inaugural Stewardship and Responsibility Report, which describes our Environmental, Social and Governance (ESG) strategies and accomplishments

Alignment of Executive Pay to Company Performance

Valero’s executive pay program is designed to reward executives for superior company performance. The program design emphasizes variable incentive pay (delivered through annual and long-term incentives) such that an executive’s ultimate realizable pay is significantly dependent upon the achievement of both absolute and relative performance measures.

For purposes of describing the executive compensation programs as administered in 2019, this Compensation Discussion and Analysis references the officer positions held during 2019 for R. Lane Riggs (who served as EVP and Chief Operating Officer) and Gary K. Simmons (who served as SVP Supply, International Operations and Systems Optimization). Mr. Riggs and Mr. Simmons were each elected to new roles on Jan. 23, 2020 as more fully described under the caption, “Identification of Executive Officers.”

VALERO’S COMPENSATION PHILOSOPHY

- ☑ Tightly link company performance and executive pay
- ☑ Align the interests of executives and stockholders
- ☑ Manage risk and adopt best practices in executive pay
- ☑ Balance compensation over short- and long-term
- ☑ Facilitate retention of top executive talent

ELEMENTS OF EXECUTIVE COMPENSATION—SUMMARY

The primary elements of our 2019 executive compensation program are summarized in the table below.

Element	Form	Key Characteristics
Base Salary	Cash	• Takes into consideration scope and complexity of the role, peer market data, experience of the incumbent, and individual performance • Aligned with competitive practices in order to support recruitment and retention of top talent
Annual Bonus Plan	Performance-Based Cash	• Variable component of annual pay focused on achievement of short-term annual financial, operational and strategic objectives that are critical drivers for safe and reliable operations, returns to stockholders, and the disciplined use of capital
Long-term Incentive Program	Performance Shares (50%)	• Measures relative Total Shareholder Return (TSR) against ten-company Performance Peer group across a three-year period • Incentivizes stockholder returns • Value delivered is driven by performance relative to relevant peers in industry
	Restricted Stock (50%)	• Vests 1/3 per year over three years • Value delivered is driven by absolute performance of company stock • Aids in retention of critical talent

Fixed Variable

Target Total Pay

Valero's Compensation Committee administers executive compensation such that each executive's Target Total Pay is within a reasonable range of the most recently-available role-specific market data provided by the Committee's independent executive compensation consultant. Target Total Pay represents in aggregate the three primary elements of our executive compensation program as listed and summarized in the prior table (Salary, Annual Incentive Bonus, and Long-term Incentives). Each element is administered independently with reference to competitive market data and with consideration of other factors as discussed further in Compensation Discussion and Analysis under the heading, "Benchmarking Competitive Pay Levels." Target Total Pay for 2019 for our named executive officers is listed in the table below.

		Salary ($)	Target Annual Incentive Bonus ($) (1)	Target Long-term Incentives (Stock Awards) ($) (2)	Target Total Pay ($)
Gorder	CEO	1,745,000	2,792,000	10,990,000	15,527,000
Titzman	CFO	725,000	580,000	2,500,000	3,805,000
Riggs	COO	840,000	840,000	3,360,000 (3)	5,040,000
Fraser	General Counsel	600,000	480,000	2,250,000	3,330,000
Simmons	SVP	650,000	422,500	1,500,000	2,572,500

Footnotes:

(1) Represents Salary multiplied by the executive's target bonus percentage as described below under the heading, "Annual Incentive Bonus."
(2) Represents Salary multiplied by the executive's target long-term incentive percentage as described below under the heading, "Long Term Incentive Awards."
(3) Excludes a $1 million restricted stock award associated with the Long-Term Incentive Agreement with Mr. Riggs as described below under the heading, "Long Term Incentive Awards."

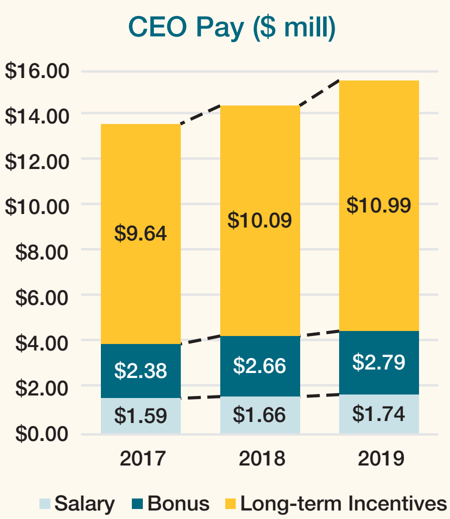
The total compensation for each executive as disclosed in the Summary Compensation Table in this proxy differs from the Target Total Pay as listed in the preceding table primarily due to the following factors.

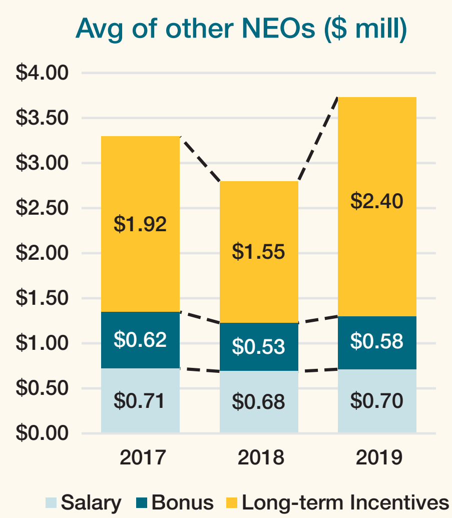
- The Target Total Pay excludes values associated with certain retirement benefits that are included in the Summary Compensation Table and which can increase or decrease significantly year-to-year due to actuarial assumptions and other factors (see the "Change in Pension Value and Non-qualified Deferred Compensation Earnings" column of the Summary Compensation Table and related footnotes). Also excluded are the "Other Compensation" perquisites and benefits disclosed in the Summary Compensation Table.
- The values disclosed in the Summary Compensation Table for long-term incentives are calculated in accordance with SEC disclosure requirements and can differ substantially from the values calculated for Target Total Pay, which are used for administering compensation decisions. Most notably, the disclosed values for performance shares in the Summary Compensation Table represent three different tranches from three unique awards (granted in 2017, 2018, and 2019) which include adjustments for predicted performance (see footnote (2) of the Summary Compensation Table for further details), whereas the value of performance shares in Target Total Pay represents the full 2019 award grant which was administered based on the average closing stock price for the 15 trading days ending the day before the grant. For example, in 2019 the value disclosed for performance shares within the long-term incentive column of the Summary Compensation Table for Mr. Gorder was $3.1 million higher than the comparable Target Total Pay value as administered by the Compensation Committee ($8.58 million versus $5.49 million). Refer to the "Grants of Plan-based Awards" tables and associated footnotes in this proxy statement for more detailed information regarding the 2019 long-term incentive grants.

Other factors contributing to differences between the disclosed values in the Summary Compensation Table and the values shown within Target Total Pay include the actual annual bonus amount paid versus the target annual bonus value (as discussed further below under the caption, "Annual Incentive Bonus") and, for restricted stock grants, the difference between the stock price associated with the grant date fair value of the award (as required for the Summary Compensation Table disclosure) and the stock price used to determine the number of restricted shares granted in order to achieve the target value (average closing stock price for 15 days prior to grant as described previously).

EXECUTIVE PAY IN SUMMARY

The following charts summarize year over year changes to Target Total Pay* from 2017 through 2019 for our CEO and our four other Named Executive Officers (shown in average).



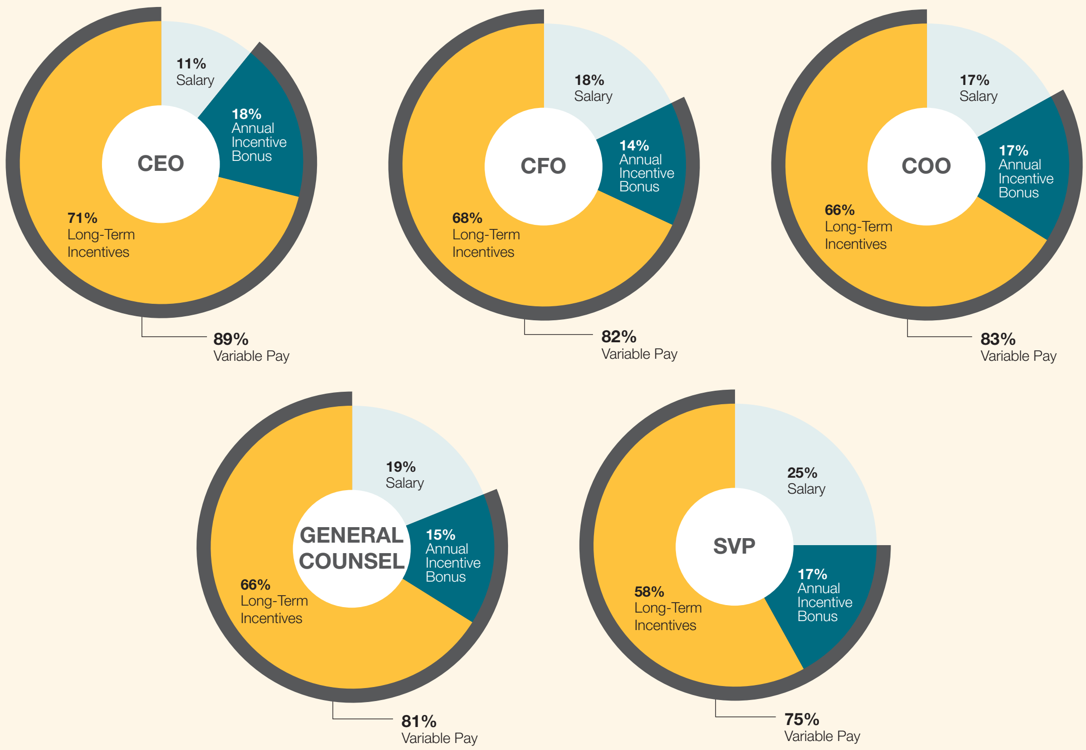


* Base salary plus target bonus plus target long-term incentives value.

Target Total Pay increased from 2018 to 2019 for the CEO and the four other Named Executive Officers (NEOs). The decrease in average NEO pay in 2018 was due to a CFO transition.

2019 TARGET PAY MIX FOR EXECUTIVES

Variable pay tied to company performance represents the majority of total target pay for our executives as shown for the various executive levels below.



PAY FOR PERFORMANCE ALIGNMENT RELATIVE TO PEERS

The table below shows relative performance and pay versus peers over the three- and five-year periods ending 2018 (results through 2019 cannot be determined until 2019 executive pay for all comparator companies is disclosed in 2020 proxy statements). Valero's pay results are generally aligned with TSR performance results.

		Valero's Percentile Ranking vs. Peers[1]	
Timeframe	**Role**	**Relative Performance vs. Peers**	**Relative Pay[2] vs. Peers**
3 Years	CEO	55th percentile	64th percentile
	Top-5 Executives	55th percentile	45th percentile
5 Years	CEO	100th percentile	73rd percentile
	Top-5 Executives	100th percentile	82nd percentile

Footnotes:

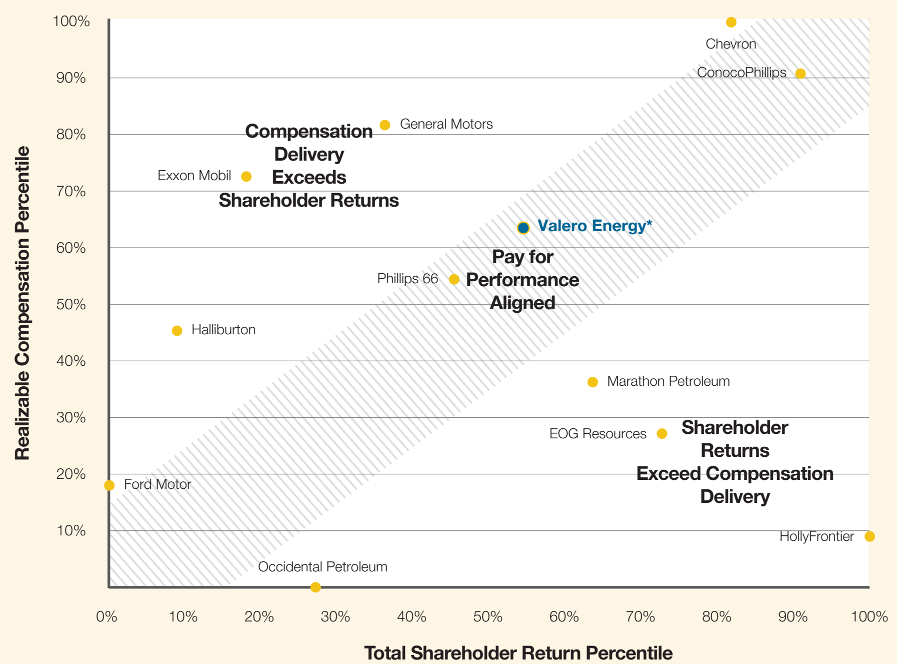
(1) Current Compensation Comparator Group of 12 peers as approved by the Compensation Committee in October 2019 and as described in the *"Benchmarking Data"* section of this document. Peer company Dow, Inc. is excluded from the analysis as 3-year and 5-year pay data is not available. Pay comparisons are drawn against the "Top-5" group of executives at Valero and the peers, inclusive of the CEO, the CFO, and the three highest-paid other executive officers.

Footnotes (cont.):

(2) Represents "realizable" pay as reported in company annual proxy statements and includes: salaries; annual bonuses earned; long-term incentive awards that have vested or been exercised; the increase/decrease in long-term incentive awards that are still outstanding; and one-off payments like severance to outgoing executives and sign-on awards for incoming executives.

The chart below illustrates the CEO three-year relationship between relative pay and relative performance versus the peers through 2018 (referenced in the preceding table).

3-YEAR CUMULATIVE REALIZABLE COMPENSATION PERCENTILE VS. CUMULATIVE TOTAL SHAREHOLDER RETURN PERCENTILE (1/1/16 – 12/31/18)



* Three-year pay history reflects Mr. Gorder's realizable pay during this period.

Compensation Discussion and Analysis—Detail

Adoption of Compensation Governance Best Practices

We use executive pay arrangements that are commonly recognized as best practices. Our executive pay program includes these leading practices.

PAY FOR PERFORMANCE

- Incentive compensation (annual bonus and long-term incentives) represents the majority (ranging from 75 percent to 89 percent) of the targeted direct compensation of our named executive officers.
- We target 50 percent of the long-term incentive value granted to our named executive officers to be awarded in the form of performance shares tied to relative TSR performance.

STOCKHOLDER ALIGNMENT

- We use multiple performance metrics to motivate achievements that complement one another and that contribute to the long-term creation of stockholder value.
- Our executive officers and directors are subject to meaningful stock ownership guidelines.
- We engage in stockholder outreach to solicit the input of stockholders to our pay programs (including participation by the chair of our Compensation Committee).

PROGRAM DESIGN

- Incentives are balanced between absolute performance goals (rewarding the achievement of pre-established goals) and relative measures (linking the incentives to surpassing the performance of our peers).
- We have maximum payout ceilings on both our annual bonus opportunities and our performance shares.
- Our executive pay programs include design features that mitigate against the risk of inappropriate behaviors.

PAY BENCHMARKING

- Valero's revenues and market capitalization are within a reasonable range of the median revenues and market capitalization of the peer group of companies within our industry against which we benchmark our executives' pay, reflecting that we make pay comparisons in a size-appropriate fashion.
- We benchmark against the median pay levels of the peer group for each of base pay, annual bonus, long-term incentives, and total target pay.

AVOID PROBLEMATIC PAY PRACTICES

- We have eliminated all change-in-control gross-ups for potential parachute excise taxes and maintain a policy against the implementation of change-in-control arrangements that contain gross-ups.
- We have a policy stipulating that grants of performance shares contain "double trigger" terms and conditions for vesting in a change-of-control context such that performance shares will vest on a partial, pro rata basis following termination of employment (rather than vesting automatically in full upon the change of control).
- Our long-term incentive program mandates that stock options cannot be re-priced without stockholder approval.
- Our executive officers and directors are prohibited from pledging shares of Common Stock as collateral or security for indebtedness, and may not purchase, sell, or write calls, puts, or other options or derivative instruments that are designed to hedge or offset any decrease in the market value of our Common Stock.
- We have a "clawback" policy requiring the return of incentive payments in certain restatement situations.

STRONG GOVERNANCE

- Our Compensation Committee is composed entirely of directors who meet the independence requirements of the SEC and NYSE as well as pertinent tax requirements for preserving the deductibility of executive pay.
- Our Compensation Committee retains the services of an independent executive compensation consultant that provides services directly to the Committee.
- We conduct an annual say-on-pay vote as recommended by our stockholders.
- We have a declassified board of directors; all of our directors stand for re-election each year.
- Our Board has approved a limitation on the amount of equity compensation that may be paid to our non-employee directors in any year.
- We have ten independent directors who serve on three fully independent committees.
- Five of the ten independent directors represent diversity of ethnicity or gender (including three women).
- Our Bylaws grant proxy access to our stockholders.
- Our Bylaws permit stockholders to call special meetings of stockholders.

Dialogue With Stockholders

Valero's strong corporate governance principles, implemented under the guidance of the Board, are a major driving force in encouraging constructive dialogue with stockholders and other stakeholders. Valero's senior management team reaches out to stockholders for dialogue concerning our compensation programs and other matters of concern to our stockholders. Our stockholder outreach efforts have been constructive and have provided management with insight on executive compensation issues and other matters that are important to our stockholders.

We carefully consider the results of the most recent stockholder advisory vote on executive compensation (say-on-pay). As part of our dialogue with stockholders, we determine how the stockholders have voted on our say-on-pay proposals, and we discuss any issues of concern. Certain members of our board of directors, including the chairs of our Compensation Committee and Nominating/Governance and Public Policy Committee have participated in this outreach.

Our engagements with stockholders have provided management with the opportunity to review our executive compensation practices and explain the principles on which they were designed. Input from our stockholders through these engagements was considered by the Compensation Committee when establishing Valero's 2020 executive compensation programs, which will include the following changes.

- Within the 2020 Annual Incentive Bonus program, the Strategic segment includes an expanded array of strategic initiatives and projects, which will be assessed annually. Included are financial, operational, organizational and ESG-related initiatives, which contribute to the overall success of the company during the year and support the company's long-term strategy. The change is more fully described under the caption, "Annual Incentive Bonus."
- The 2020 Performance Shares component of the Long-term Incentives program has been expanded to include a returns-based performance measure (Return on Invested Capital) in addition to continued utilization of a relative TSR performance measure. The change is more fully described under the caption, "Long-term Incentive Awards."

Our engagement process is described further in this proxy statement in the "Stockholder Engagement" section.

Administration of Executive Compensation Programs

Our executive compensation programs are administered by our Board's Compensation Committee. The Committee is composed of three independent directors from our Board. They do not participate in our executive compensation programs. Policies adopted by the Committee are implemented by our compensation and benefits staff. In 2019, the Committee retained Exequity LLP as an independent compensation consultant for executive and director compensation matters. The nature and scope of the consultant's services are described below under the caption, "Compensation Consultant Disclosures."

BENCHMARKING DATA

The Compensation Committee uses peer group compensation data to assess benchmarks of base salary, annual incentive compensation, and long-term incentive compensation. The Committee uses the Compensation Comparator Group (further described below) to benchmark compensation for our named executive officers. This reference is sometimes referred to in this proxy statement as "compensation survey data" or "competitive survey data."

Compensation Comparator Group

The *Compensation Comparator Group* (applicable to 2019 salary and bonus decisions) comprises the following companies that engage in U.S. domestic oil and gas operations:

BP p.l.c.	*Marathon Oil Corporation*
Chevron Corporation	*Marathon Petroleum Corporation*
Exxon Mobil Corporation	*Murphy Oil Corporation*
Hess Corporation	*Phillips 66*
HollyFrontier Corporation	*Royal Dutch Shell plc*

The *Compensation Comparator Group* is relevant to our business because we compete with the member companies for talent at every level from entry-level employees to senior executives. We believe that our pay comparisons are size-appropriate because the median revenues and market capitalization of the *Compensation Comparator Group* are both within a reasonable range of Valero's revenues and market capitalization for the period covered in the pay study. Both were below Valero's revenues and market capitalization. Our understanding of this group's compensation programs and levels is vitally important in order to remain competitive in the market for employee talent.

Given Valero's size and complexity, our employees at all levels would be qualified candidates for similar jobs at any of the companies included in this group. The *Compensation Comparator Group* was approved by the Compensation Committee in October 2018 when 2019 executive pay levels were initially considered and established according to the annual pay review process as described further under the caption, "Process and Timing of Compensation Decisions."

In October 2019, the Compensation Committee considered and approved changes to the Compensation Comparator Group, which was utilized in establishing 2019 LTI targets and awards as described further under the caption, "Long-term Incentive Awards." The Compensation Committee established the new group after considering (i) companies with geographic proximity to Valero; (ii) companies within an appropriate and comparable size based on revenues and market capitalization, (iii) companies generally employing typical U.S.-based approaches to executive pay; and (iv) companies outside of the oil and gas industry that have similar organizational complexity, operational scope, and that perform similarly to Valero.

Changes to the Compensation Comparator Group include the elimination of BP p.l.c., Royal Dutch Shell plc, Hess Corporation, Marathon Oil Corporation, and Murphy Oil Corporation; the addition of ConocoPhillips, EOG Resources, Inc., Halliburton Company, Occidental Petroleum Corporation, Dow Inc., Ford Motor Company, and General Motors Company. Marathon Petroleum Corporation, Phillips 66, Chevron Corporation, Exxon Mobil Corporation, and HollyFrontier Corporation were retained as peer companies.

Our compensation and benefits staff, under supervision of the Compensation Committee, develops recommendations for base salary, bonuses, and other compensation arrangements using the compensation survey data with assistance from Exequity. Our use of the data is consistent with our philosophy of providing executive compensation and benefits that are competitive with companies that we compete with for executive talent. In addition, the competitive compensation survey data and analyses assist the Compensation Committee in assessing our pay levels and targets relative to companies in the *Compensation Comparator Group*. See "Elements of Executive Compensation—Benchmarking Competitive Pay Levels."

Performance Peer Group

We also use a peer group for purposes of determining the relative performance of Valero's total stockholder return (TSR). We use this relative TSR metric in our performance shares incentive program. The 2019 performance peer group was selected based on the members' engagement in U.S. domestic refining and marketing operations or due to the members' strong stock price correlation to Valero.

Our use of different peer groups for compensation and performance is based on our belief that when measuring business performance, companies with a similar business model should be included. But we also recognize that comparing the performance of Valero's generally non-integrated operations with those of upstream and integrated oil companies can result in anomalies due to the mismatch in how similar industry-specific events can impact companies with these varying business models. In addition, there are relatively few companies in our business against which clear comparisons can be drawn, rendering a peer group composition more challenging than in most industries.

In October 2019, the Compensation Committee established a peer group for TSR measurement applicable to the 2019 awards of performance shares (which have TSR measurement periods ending in 2020, 2021, and 2022). Removed from the peer group for the 2019 awards were BP p.l.c. and Royal Dutch Shell plc, while ConocoPhillips, EOG Resources, Inc., and Occidental Petroleum Corporation were added. Also added was the Energy Select Sector SPDR Fund (XLE) index, which includes 30 energy companies and serves as a proxy for stock price performance of the energy sector and includes companies with which we compete for capital. The change in the index price across the designated performance periods will be measured as TSR. The Compensation Committee believes that the revised performance peer group represents an improved group of companies for making head-to-head performance comparisons in a competitive operating environment that is primarily characterized by US-based downstream refining operations. Valero is included in this peer group when results are calculated. In addition to Valero, the performance peer group for the 2019 awards is composed of the following 10 members.

ConocoPhillips
CVR Energy Inc.
Delek US Holdings
EOG Resources, Inc.
HollyFrontier Corporation
Marathon Petroleum Corporation
Occidental Petroleum Corporation
PBF Energy Inc.
Phillips 66
Energy Select Sector SPDR Fund (XLE)

PROCESS AND TIMING OF COMPENSATION DECISIONS

The Compensation Committee has reviewed and approved all compensation targets and payments for the named executive officers each year in conjunction with Valero's annual strategic planning meeting (October or November). The Chief Executive Officer evaluates the performance of the other executive officers and develops individual recommendations based upon the competitive survey data. The Chief Executive Officer and the Committee may make adjustments to the recommended compensation based upon an assessment of an individual's performance and contributions to Valero. The compensation for the Chief Executive Officer is reviewed by the Compensation Committee and recommended to the Board's independent directors for approval. This assessment is based on the competitive survey data and other factors described in this Compensation Discussion and Analysis, and adjustments may be made based upon the independent directors' evaluation of the Chief Executive Officer's performance and contributions.

We evaluate the total compensation opportunity offered to each executive officer at least once annually. The Compensation Committee establishes the target levels of annual incentive and long-term incentive compensation for the current fiscal year based upon its review of competitive market data provided by Exequity. The Compensation Committee also reviews competitive market data for annual salary rates for executive officer positions for the next fiscal year and recommends new salary rates to become effective the next fiscal year. The Compensation Committee may, however, review salaries or grant long-term incentive awards at other times during the year because of new appointments or promotions. Our Compensation Committee does not time the grants of long-term incentive awards around Valero's release of undisclosed material information.

In January 2020 the Compensation Committee approved a change to the timing of the annual grant of long-term incentive awards to executive officers. In 2019 and prior years, annual grants were administered in the fourth quarter in conjunction with the annual review of executive compensation. Beginning in 2020, annual grants of long-term incentive awards are now administered in the first quarter to better align with market practices and to more closely coincide with base salary changes, which typically occur effective January 1. The 2020 annual long-term incentive awards for executive officers were administered in February 2020.

Elements of Executive Compensation

Our executive compensation programs include the following material elements:

We chose these elements to foster the potential for both current and long-term compensation opportunities and to attract and retain executive talent. We believe that variable pay (i.e., annual incentive bonus and long-term equity-based incentives that do not become a permanent part of base salary)—when delivered through appropriate incentives—is ultimately the best way to drive total compensation among our executive officers.

We believe that a significant portion of the compensation paid to our named executive officers should be incentive-based and determined by both company and individual performance. Our executive compensation program is designed to accomplish the following long-term objectives:

- to provide compensation payouts that are tied to the performance of internal and external metrics both on a relative and absolute basis;
- to align executives' pay opportunities with stockholder value creation; and
- to attract, motivate, and retain the best executive talent in our industry.

We believe that superior performance is motivated when an executive's earn-out of his or her full compensation opportunities is contingent on achieving performance results that exceed pre-established goals and/or outperforming our industry peers.

Our annual incentive program rewards are tied to:

- Valero's attainment of key financial performance measures;
- Valero's success in key operational and strategic measures;
- safe operations;
- environmental stewardship;
- reliable operations; and
- cost management.

Our long-term equity incentive awards are designed to tie executives' financial reward opportunities with increased stockholder value creation as measured by:

- long-term stock price performance (both absolute and relative to our peer group); and
- payment of regular dividends.

Base salary is designed to provide a fixed level of competitive pay that reflects the executive officer's primary duties and responsibilities, and to provide a base upon which incentive opportunities and benefit levels are established.

The long-term incentive awards in our compensation program include performance shares and restricted stock. We believe that incentives that drive stockholder value should also drive executive officer pay. We note that performance shares, when issued, do not assure a payout to the executive officer unless and until stockholder value is created through both company performance and TSR relative to our peers. We also believe that executive officers should hold an equity stake in the company to further motivate the creation of stockholder value, which is why we include awards of restricted stock in our long-term incentive program coupled with stock ownership guidelines.

BENCHMARKING COMPETITIVE PAY LEVELS

Our Compensation Committee benchmarks base salaries for our named executive officers against the 50th percentile (median) of competitive survey data and may make decisions to pay above or below this target based on individual circumstances (e.g., performance of the executive, internal parity, and management succession planning).

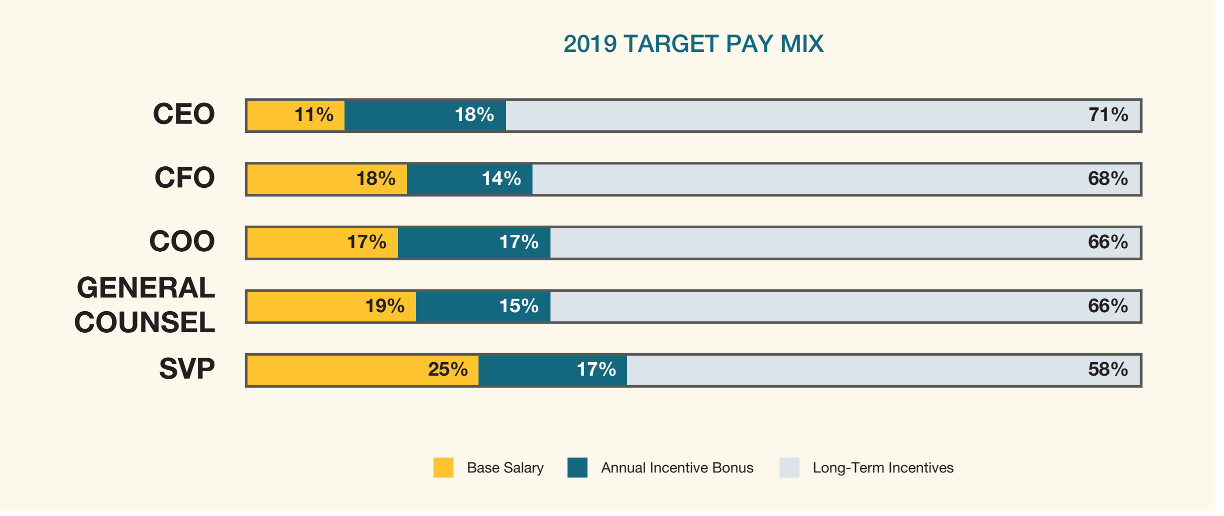
We also benchmark annual bonus, long-term incentive targets (expressed as a percentage of base salary), and total targeted pay for each executive position by reference to the 50th percentile (median) benchmark of the Compensation Comparator Group, and may make decisions to award above or below these targets based on individual circumstances (e.g., performance of the executive, internal parity, and management succession planning). Preserving flexibility to award incentive opportunities above or below the median peer levels helps tailor the incentives to the executive and the role, resulting in a more customized match of competitive pay opportunities and pay-for-performance design attributes.

In addition to benchmarking competitive pay levels to establish compensation levels and targets, we also consider the relative importance of a particular management position in comparison to other management positions in the organization. In this regard, when setting the level and targets for compensation for a particular position, we evaluate that position's scope and nature of responsibilities, size of business unit, complexity of duties and responsibilities, as well as that position's relationship to managerial authorities throughout the management ranks of Valero.

RELATIVE SIZE OF MAJOR COMPENSATION ELEMENTS

An executive officer's Total Target Pay is structured so that realizing the targeted amount is highly contingent on Valero's performance due to the executive's level of at-risk pay. We use the term "Total Target Pay" to refer to the sum of an executive's base salary, targeted incentive bonus, and the target values of long-term incentive awards.

The following graphics summarize the relative target pay mix of base salary and incentive compensation for 2019 for our named executive officers.



When setting executive compensation, the Compensation Committee considers the amount and form of compensation payable to an executive officer. The Committee seeks to achieve an appropriate balance between immediate cash rewards for the achievement of company and personal objectives and long-term incentives that align the interests of our officers with those of our stockholders. The size of each element is based on the assessment of competitive market practices as well as company and individual performance.

The Compensation Committee analyzes Total Target Pay from a market competitive perspective, and then evaluates each component relative to its market reference. The Committee believes that making a significant portion of an executive officer's incentive compensation contingent on long-term stock price performance more closely aligns the executive officer's interests with those of our stockholders.

Because we place a large amount of Total Target Pay at risk in the form of variable pay (annual bonus and long-term incentives), the Committee generally does not adjust current compensation based upon realized gains or losses from prior incentive awards or current stock holdings. For example, we normally will not change the size of a target long-term incentive grant in a particular year solely because of Valero's stock price performance during the immediately preceding years. The Compensation Committee recognizes that the refining and marketing industry is volatile and strives to maintain a measure of predictability consistent with a substantial reliance on variable compensation structures in furtherance of a fundamental pay-for-performance philosophy.

INDIVIDUAL PERFORMANCE AND PERSONAL OBJECTIVES

The Compensation Committee evaluates the individual performance of, and performance objectives for, our named executive officers. Performance and compensation for our Chief Executive Officer are reviewed and approved by the Board's independent directors with recommendations from the Compensation Committee. For officers other than the Chief Executive Officer, individual performance and compensation are evaluated by the Compensation Committee with recommendations from our Chief Executive Officer. Individual performance and objectives are specific to each officer position.

Criteria used to measure an individual's performance may include assessment of objective criteria (e.g., execution of projects within budget parameters, improving an operating unit's profitability, or timely completing an acquisition or divestiture) as well as qualitative factors such as the executive's ability to lead, ability to communicate, and successful adherence to Valero's stated values (i.e., commitment to safety, commitment to the environment, commitment to our communities, commitment to our employees, and commitment to our stakeholders). There are no specific weights assigned to these various elements of performance.

BASE SALARIES

Base salaries for our named executive officers are approved by the Compensation Committee after taking into consideration median practices for comparable roles among the peer companies. The Compensation Committee also considers the recommendations of the

Chief Executive Officer for officers other than the Chief Executive Officer. The base salary and all other compensation of the Chief Executive Officer are reviewed and approved by the independent directors of the Board.

Base salaries are reviewed annually and may be adjusted to reflect promotions, the assignment of additional responsibilities, individual performance, or the performance of Valero. Salary changes resulting from the annual review are typically made effective on January 1. Salaries are also periodically adjusted to remain competitive with companies within the compensation survey data. An executive's compensation typically increases in relation to his or her responsibilities within Valero.

ANNUAL INCENTIVE BONUS

We believe that the achievement of short-term financial and operational performance objectives is critical to creating long-term stockholder value. The annual incentive bonus is designed to incentivize executives to achieve industry-leading results as reflected through business-critical financial, operational, and strategic performance measures. We continue as the premier operator in the fuels manufacturing and marketing industry through disciplined execution of our strategic plan and daily focus on operational excellence by our employees and management team. The annual incentive bonus design guides and incentivizes this daily focus with particular emphasis on ensuring safety and protection of our employees, contractors and communities. Our additional focus on operating our plants reliably at the lowest cost allows us to maximize profitability in all margin environments.

The Compensation Committee considers the following to determine bonuses for each officer:

- the position of the named executive officer, which is used to determine a targeted percentage of base salary that may be awarded as incentive bonus;
- pre-established performance objectives that include a quantitative financial performance goal (Financial Performance Goal), operational performance goals (Operational Performance Goals), and qualitative goals and objectives including the effective use of capital (Strategic Company Performance Goals) for the completed fiscal year; and
- a qualitative evaluation of the individual's performance.

Thus, the amount of the bonus ultimately paid to a named executive officer takes into consideration the Compensation Committee's assessment of Valero's and each executive's performance in relation to the pre-established performance goals more fully described below.

Financial Performance Goal

The *Financial Performance Goal* considered for our annual incentive bonus targets is EPS, adjusted for special items and impairments that are non-recurring and/or not indicative of our core performance. The Compensation Committee establishes minimum, target, and maximum levels for EPS in the first quarter of the performance year. We believe that this measure appropriately reflects our business planning process and corporate philosophy regarding financial performance measurement. Valero's performance in 2019 was $5.88 per share (versus a target of $6.65 per share). The following table describes the adjustment to Valero's 2019 EPS for purposes of the 2019 *Financial Performance Goal*.

Earnings per common share – assuming dilution	$ 5.84
Exclude:	
Loss on early redemption of debt (1)	(0.04)
Adjusted EPS for Financial Performance Goal	$ 5.88

(1) The penalty and other expenses incurred in connection with the early redemption of our 6.125% senior notes due Feb. 1, 2020 are not associated with the ongoing costs of our borrowing and financing activities.

Operational Performance Goals

The *Operational Performance Goals* considered for our annual incentive bonuses, as established and approved by the Compensation Committee in the first quarter of the performance year, are measured against:

- Valero's achievements in the areas of health, safety, and environmental stewardship including environmental scorecard incidents, process safety incidents, reportable spills, environmental management system scores, and health & safety management system scores;
- Valero's achievements in improving refining competitiveness through improved mechanical availability; and
- Valero's achievements in managing refinery operating costs.

These Operational Performance Goals are set at levels deemed to be challenging to achieve, but reasonably attainable with strong performance. We believe that these measures appropriately reflect key business objectives of Valero. After completion of the fiscal year, each of the *Operational Performance Goals* is measured against Valero's actual performance in these areas and the minimum, target, and maximum levels established by the Compensation Committee. Valero's performance score for 2019 for this category was 85.30 percent (versus a target score of 40.00 percent). For additional details on Valero's 2019 performance versus targeted amounts for our *Operational Performance Goals*, see the "Annual Incentive Bonus Performance Goals" table that follows in this section.

Strategic Company Performance Goals

Valero's *Strategic Company Performance Goals* were established in the first quarter of the 2019 performance year by the Chief Executive Officer and approved by the Compensation Committee. Included in these goals for 2019 was a qualitative capital-based performance measure assessed by the Compensation Committee through Return on Capital Employed (ROCE) and a qualitative assessment by the Compensation Committee of cost control initiatives. After completion of the fiscal year, the *Strategic Company Performance Goals* were evaluated as a whole.

Significant achievements in this area for 2019 included: (i) the creation of long-term stockholder value and the return of cash to stockholders through a quarterly cash dividend increase from $0.80 per share to $0.90 per share and $0.78 billion of common stock repurchases; (ii) the return of 43% of adjusted net cash provided by operating activities to stockholders through dividends and stock buybacks which is in line with management's payout goal; (iii) the successful completion of capital projects to expand our market reach and capture margins including the completion of an alkylation unit at our Houston refinery and of the Central Texas Pipelines and Terminals project; (iv) the successful execution of Valero's capital expenditures plan, which totaled $2.6 billion for 2019; (v) ROCE achievement of 6.9%; and (vi) identified cost savings and expense management totaling $177 million. Valero's performance score for 2019 for this category was 20.0 percent (versus a target score of 20.0 percent).

In January 2020, the Compensation Committee approved changes to the *Strategic Company Performance Goals* component of the 2020 Annual Incentive Bonus program. This component now includes evaluation by the Compensation Committee of accomplishments related to a comprehensive array of strategic initiatives and projects (detailed in the table below), which contribute to the overall success of the company during the year and support the company's long-term strategy.

Strategic Area	Initiative/Project/Objective
Returns to Stockholders	• Return cash to stockholders through dividends and stock buybacks
Disciplined Use of Capital	• Balanced utilization of sustaining and growth capital vs target
Operational Excellence	• Execution of capital projects and turnarounds • Margin improvement and market expansion • Cost management and expense control
Organizational Excellence	• Strategic communications • Succession planning and leadership development • Innovation • Public policy
Environmental, Social and Governance (ESG) Efforts & Improvement	• Environmental stewardship • Sustainability • Diversity and inclusion • Compliance • Corporate citizenship and community

Valero's Achievement of Performance Goals for 2019

The following table details the performance targets and final results of Valero's achievements in 2019 for each of the sub-components of the bonus program's *Financial Performance Goal, Operational Performance Goals,* and *Strategic Goals*.

Annual Incentive Bonus Performance Goals and Achievement

Component		Weighting	Minimum	Target	Maximum	Achieved in 2019	Bonus Percent Earned (1)
Financial Performance Goal							
I. EPS, adjusted *($/share)*		40.00%	*$ 1.66*	*$ 6.65*	*$13.30*	$5.88	39.78%
Operational							
II. Health, Safety, and Environmental (2)		13.33%	*0.0%*	*112.5%*	*225.0%*	221.87%	29.58%
III. Mechanical Availability (3)		13.33%	*95.6*	*96.2*	*97.6*	97.0	25.72%
IV. Refining Cash Operating Expense Management (4) ($/EDC)		13.34%	*$145*	*$120*	*$111*	$110	30.00%
	subtotal	40.00%				*subtotal*	86.30%
Strategic							
V. Company Goals and Objectives (5)		20.00%					20.00%
Total		100.00%					145.08%

Footnotes:

(1) Represents performance achieved in 2019 and component percent weighting.

(2) Consists of 14 separately weighted health, safety, and environmental metrics across Valero's three business units with an aggregated performance score opportunity ranging from 0% to 225%. Performance measures include environmental scorecard incidents, process safety incidents, reportable spills, environmental management system scores, and health & safety management system scores. Performance "achieved" was at 98.6% of maximum.

(3) Using the Mechanical Availability scoring from the industry-standard Solomon Associates survey in which "Target" represents median performance.

(4) Using the Cash Operating Expense per EDC (Equivalent Distillation Capacity) metric as reported in the industry-standard Solomon Associates survey in which "Target" represents median performance (lower is better).

(5) As established by the Compensation Committee in consultation with the CEO, and includes a qualitative assessment of progress against strategic objectives, use of capital and cost control initiatives. Performance "achieved" was at maximum. Changes to the Strategic segment for 2020 are described more fully under the caption, "Strategic Company Performance Goals" in this section.

The final 2019 bonus amounts paid to our named executive officers were determined as a function of: (i) Valero's performance as measured against the financial, operational, and strategic performance goals, and (ii) the Committee's assessment of the named executive officers' individual performance in 2019.

The following table summarizes the 2019 bonus amounts paid to our named executive officers:

	Gorder	Titzman	Riggs	Fraser	Simmons
Base Salary (1)	$1,745,000	$ 725,000	$ 840,000	$ 600,000	$ 650,000
Bonus Target Percentage (2)	160%	80%	100%	80%	65%
Bonus Target Amount (3)	$2,792,000	$ 580,000	$ 840,000	$ 480,000	$ 422,500
Bonus Percentage Achieved (4)	145.08%	145.08%	145.08%	145.08%	145.08%
Earned Target Incentive Bonus (5)	$4,050,634	$ 841,464	$1,218,672	$ 696,384	$ 612,963
Bonus Amount Paid (6)	$4,100,000	$ 842,000	$1,250,000	$ 700,000	$ 625,000

Footnotes:

(1) Base salary is the officer's base salary at December 31, 2019.

(2) Bonus target as a percentage of base salary.

Footnotes (cont.):

(3) Determined by multiplying “Bonus target percentage” times “Base salary.”

(4) Valero’s performance score for “Bonus percentage achieved” was 145.08% based on results of the Annual Incentive Bonus Performance Goals detailed in the previous table.

(5) Determined by multiplying “Bonus target amount” times “Bonus percentage achieved.”

(6) As disclosed in the Summary Compensation Table. The actual amount paid was determined based on: (i) Valero’s performance as measured against financial, operational, and strategic goals, and (ii) the Committee’s assessment of the named executive officers’ individual performance in 2019.

LONG-TERM INCENTIVE AWARDS

We provide stock-based, long-term compensation to our executive officers through our stockholder-approved equity plan. The plan provides for a variety of stock and stock-based awards, including restricted stock which vests over a period (at least three years) determined by the Compensation Committee, and performance shares that vest (become non-forfeitable) contingent upon Valero’s achievement of an objective performance goal.

For 2019, the mix of long-term incentives awarded to our named executive officers was split evenly, on a share value basis, between grants of restricted stock and awards of performance shares. We believe that these awards create a powerful link between the creation of stockholder value and executive pay delivered. In addition, we believe that the balance between absolute performance alignment through restricted shares, and the relative performance objectives underscored by the relative TSR performance shares, is appropriate. In order for executives to fully realize their targeted opportunities, Valero must both perform well and beat the stock price performance of companies in the Performance Peer Group listed above under the caption “Administration of Executive Compensation Programs—Benchmarking Data—Performance Peer Group.”

For each officer, a target amount of long-term incentives is established and is expressed as a percentage of base salary. In establishing award sizes, the Compensation Committee makes primary reference to median peer company grant levels and makes individualized determinations of award sizes based on additional factors such as: each executive’s experience and contribution to company success, internal parity, and management succession. In addition, an executive’s targeted award may be adjusted based upon the Compensation Committee’s determination of the officer’s individual performance, which (for officers other than the Chief Executive Officer) takes into consideration the recommendation of the Chief Executive Officer.

Performance Shares

For 2019, performance share targets represent 50 percent of each executive officer’s long-term incentive target on a share value basis. Performance shares are payable in shares of Common Stock on the vesting dates of the performance shares. Shares of Common Stock are earned with respect to vesting performance shares only upon Valero’s achievement of TSR objectives (measured in relation to the TSR of our peers). Shares not earned in a given performance period expire and are forfeited. Performance shares are also subject to potential forfeiture if an executive terminates his or her employment prior to vesting.

The performance shares awarded in 2019 are subject to vesting in three increments, based upon our TSR compared to our peer group during one-year, two-year, and three-year performance periods. Performance periods measure TSR based on the average closing stock prices for the final 15 trading days of December at the beginning and end of the performance periods, including dividends. At the end of each performance period, our TSR for the period is compared to the TSR of our performance peer group. Shares of Common Stock are awarded based on Valero’s TSR performance versus the peers’ TSR. If Valero’s relative TSR ranking equals the median of the peer group, 100% of the target shares are earned; if Valero ranks in the first or second position among the peers, 200% of the target shares will be earned; if Valero ranks in the last or second-to-last position among the peers, 0% of the target shares will be earned. TSR performance ranking between the second and second-to-last positions will result in payouts determined by straight-line interpolation (unless Valero’s TSR rank equals the median in which case 100% of the target shares will be earned).

Additional shares of Common Stock may be earned based on the accumulated value of dividends paid on Valero’s Common Stock during the pertinent performance period. The amount of accumulated dividends is multiplied by the earned percentage payout (if any) for the performance shares, and the product is divided by the fair market value of the Common Stock on the performance shares’ vesting date. The resulting amount is paid in a whole number of shares of Common Stock. The value of the dividends credited to the outstanding performance shares is paid to participants only to the extent that the underlying performance shares earn shares of Common Stock, based on Valero’s TSR performance, and is paid (in shares of Common Stock) only when the underlying performance shares vest.

Upon vesting, officers can designate up to 50% of the after-tax vested shares of Common Stock to be delivered in cash. If a cash payment is elected, the total number of after-tax shares to be delivered is multiplied by the fair market value of the Common Stock on the performance shares' vesting date, and the product is multiplied by the cash payment election percentage designated by the award recipient. The resulting amount is paid in cash, with the remainder paid in shares of Common Stock.

As shown in the following table, the vesting outcomes for Valero's previously granted and outstanding Performance Shares which had performance periods ending on December 31, 2019 effectively demonstrates the alignment of Valero's long-term incentive program to the interests of Valero's stockholders.

Performance Shares Grant (Year & Segment)	Final Percentile TSR Ranking versus Peers	Vesting Percentage of Target (Target = 100%) (Range of 0% to 200%)
2016 (final of 3 segments)	3 of 9	200.0% (1)
2017 (2nd of 3 segments)	3 of 9	166.7%
2018 (1st of 3 segments)	2 of 9	200.0%

(1) The 2016 TSR performance measurement scale provided for maximum payout (200% of target) if Valero's TSR performance was in the 75th percentile or above of performance within the peer group. This differs from the 2017 and 2018 TSR performance measurement scales which match the 2019 measurement scale as described previously in this section and which require a TSR rank of 1st or 2nd position within the peer group for maximum payout.

In 2020, the Compensation Committee approved new metrics for purposes of the *Performance Shares* component of the 2020 Annual Long-term Incentive program. In addition to continued utilization of a performance measure based on TSR performance relative to a peer group, the performance shares will also include a performance measure based on Valero's Return on Invested Capital (ROIC) over a three-year period versus a target. The performance shares awards for 2020 retain the primary design elements as previously described in this section, but will now have the performance-based vesting criteria segmented such that 75% of the target award will be measured against Valero's relative TSR versus a peer group performance measure and the remaining 25% measured against Valero's ROIC versus a target performance measure.

Restricted Stock

Restricted stock targets represent the remaining 50 percent of each executive officer's long-term incentive target on a share value basis. Restricted stock is subject to forfeiture if an executive terminates his or her employment prior to vesting (other than upon retirement and other than following a permitted voluntary termination following a change in control). Dividends are paid on shares of restricted stock as and when dividends are declared and paid on Valero's outstanding common stock.

Our mix of long-term incentives provides an appropriate balance between the pay-for-performance attributes of performance shares and the equity alignment and retentive qualities of restricted shares. This mix also generally aligns with market practices, and thus supports recruitment and retention of top-quality executive talent.

The Compensation Committee considers and grants long-term incentive awards to our officers and certain other employees annually; grants were made previously during the fourth quarter in conjunction with the last regularly scheduled meeting of the Compensation Committee for the year. The performance shares and restricted stock components of our executive officers' 2019 long-term incentive awards were granted in October 2019. Beginning in 2020, long-term incentive awards to our officers will be granted annually during the first quarter of the year in order to better align annual pay decisions and awards across salary, target bonus, and long-term incentives, and to align with competitive practices.

Long-Term Incentive Agreement with Mr. Riggs. On Nov. 2, 2019, Mr. Riggs's operations responsibilities were expanded to oversee not only refining operations but also Valero's mid-stream and renewable fuels operations. In order to reward Mr. Riggs for his expanded role, and also to help ensure continued retention over the coming years, the Compensation Committee approved restricted share awards to Mr. Riggs in December 2019. The long-term incentive package awarded to Mr. Riggs in December is valued at $5 million and comprises three grants of restricted shares that are scheduled to vest over a three-year period. In addition to appropriately rewarding Mr. Riggs for his expanded role, the long-term incentive agreement is intended to incentivize excellent performance and to ensure the retention of critical talent.

The first grant of 10,548 restricted shares (valued at $1 million) is included in the disclosures for the Summary Compensation Table and Grants of Plan-Based Awards table in this proxy statement. The second grant (27,194 restricted shares, valued at $2 million) was made on Feb. 26, 2020. The third grant of restricted shares (to be valued at $2 million) is scheduled to be made in February 2021, subject to the continued employment of Mr. Riggs on that date.

The target pay mix and other descriptions of Mr. Riggs's annual compensation included in this Compensation Discussion and Analysis excludes the values and terms specific to the long-term incentive agreement described above. The long-term incentive agreement pertains to an award that is specifically targeted at the retention of Mr. Riggs throughout the covered period and is not an integral part of his regular, annual compensation program.

PERQUISITES AND OTHER BENEFITS

Consistent with our goal of providing compensation and benefits that are aligned with market practices among our peers, officers are eligible to receive reimbursement for club dues, federal income tax preparation, home security protection, and an annual health examination. We do not provide executive officers with automobiles or automobile allowances or supplemental executive medical coverage.

We provide other benefits, including medical, life, dental, and disability insurance in line with competitive market conditions. Our named executive officers are eligible for the same benefit plans provided to our other employees, including our Thrift Plan and insurance and supplemental plans chosen and paid for by employees who desire additional coverage.

Consistent with typical practices among our peers, executive officers and other employees whose compensation exceeds certain limits are eligible to participate in non-qualified excess benefit programs whereby those individuals can choose to make larger contributions than allowed under the qualified plan rules and receive correspondingly higher benefits. These plans are described below.

POST-EMPLOYMENT BENEFITS

Pension Plans

We have a noncontributory defined benefit Pension Plan in which most of our employees, including our named executive officers, are eligible to participate and under which contributions by individual participants are neither required nor permitted. We also have a noncontributory, non-qualified Excess Pension Plan and a non-qualified Supplemental Executive Retirement Plan (SERP), which provide supplemental pension benefits to certain highly compensated employees. Our named executive officers are participants in the SERP. The SERP is offered to align with competitive practices among our peers, and to thus support recruitment and retention of critical executive talent. The Excess Pension Plan and the SERP provide eligible employees with additional retirement savings opportunities that cannot be achieved with tax-qualified plans due to Internal Revenue Code limits on (i) annual compensation that can be taken into account under qualified plans, or (ii) annual benefits that can be provided under qualified plans. These plans are further described in the disclosures under the caption "Executive Compensation—Post-Employment Compensation."

Nonqualified Deferred Compensation Plans

Deferred Compensation Plan. Our named executive officers are eligible to participate in our Deferred Compensation Plan ("DC Plan"). The DC Plan is offered to align with competitive practices among our peers, and thereby support recruitment and retention of executive talent. The DC Plan permits eligible employees to defer a portion of their salary and/or bonus until separation (i.e., retirement or termination of employment). Under the DC Plan, each year eligible employees are permitted to elect to defer up to 30 percent of their salary and/or 50 percent of their cash bonuses to be earned for services performed during the following year. We have not made discretionary contributions to participants' accounts, and currently we have no plans to do so.

All amounts credited under the DC Plan (other than discretionary credits) are immediately 100 percent vested. Any discretionary credits, if ever granted, will vest in accordance with the vesting schedule determined at the time of the grant of discretionary credits. Participant accounts are credited with earnings (or losses) based on investment fund choices made by the participants among available funds selected by Valero's Benefits Plans Administrative Committee.

Excess Thrift Plan. Our Excess Thrift Plan provides benefits to participants in our Thrift Plan whose annual additions to the Thrift Plan are subject to the limitations on annual additions as provided under Section 415 of the Internal Revenue Code, and/or who are constrained from making maximum contributions under the Thrift Plan by Section 401(a)(17) of the Internal Revenue Code, which limits the amount of an employee's annual compensation which may be taken into account under that plan. Two separate components comprise the Excess Thrift Plan: (i) an "excess benefit plan" as defined under Section 3(36) of ERISA; and (ii) a plan that is unfunded and maintained primarily for the purpose of providing deferred compensation for a select group of management or highly compensated employees.

Additional information about these plans and contributions made by Valero and each of our named executive officers under non-qualified defined contribution and other deferred compensation plans are presented in this proxy statement under the caption "Executive Compensation—Nonqualified Deferred Compensation."

Change of Control Severance Arrangements

We have change of control severance agreements with each of our named executive officers. The agreements are intended to assure the continued objectivity and availability of the officers in the event of any merger or acquisition that would likely threaten the job security of many top executives. These arrangements are also intended to maintain executive focus and productivity in a period of uncertainty. If a change of control occurs during the term of an agreement, the agreement becomes operative for a fixed three-year period. The agreements provide generally that the officers' terms and conditions of employment will not be adversely changed during the three-year period after a change of control. For information regarding payments that may be made under these agreements, see the disclosures in this proxy statement under the caption "Executive Compensation—Potential Payments upon Termination or Change of Control."

Accounting and Tax Treatment

ACCOUNTING TREATMENT

Compensation expense for our share-based compensation plans is based on the fair value of the awards granted and is recognized in income on a straight-line basis over the shorter of (a) the requisite service period of each award, or (b) the period from the grant date to the date retirement eligibility is achieved if that date is expected to occur during the nominal vesting period. Specific components of our stock-based compensation programs are discussed in Note 14 of Notes to Consolidated Financial Statements in Valero's Annual Report on Form 10-K for the year ended Dec. 31, 2019.

TAX TREATMENT

Section 162(m) of the Internal Revenue Code of 1986 generally limits the deductibility of compensation paid to certain top executives to $1 million. In previous years, there was an exemption from this $1 million deduction limit for compensation payments that qualified as "performance-based" under applicable regulations. However, the enactment of the Tax Cuts and Jobs Act of 2017 eliminated the performance-based compensation exemption, except with respect to certain grandfathered arrangements.

We believe that outstanding stock options, as well as performance shares granted in 2017, continue to qualify as performance-based compensation under the grandfather rules provided under the Tax Cuts and Jobs Act of 2017. Grants of restricted stock that are not subject to specific quantitative performance measures, and that were awarded in 2017 and earlier years, will likely not qualify as performance-based compensation under the Section 162(m) grandfather rules, and in such event, would be subject to Section 162(m) deduction restrictions.

Prospectively, for pay vehicles granted and earned in 2019 and beyond, the Tax Cuts and Jobs Acts of 2017 eliminated the deductibility of most components of pay to certain top executives to the extent that such pay exceeds $1 million in a year. Consistent with Valero's historic approach to deductibility under former Section 162(m), the Compensation Committee will continue to exercise flexibility and discretion in determining whether any given form of pay should be designed and administered to qualify for full deductibility.

Compensation-Related Policies

POLICY ON VESTING OF PERFORMANCE SHARES UPON CHANGE OF CONTROL OF VALERO

Our Board has adopted a policy regarding the vesting of performance shares upon a change of control of Valero. The policy provides that performance shares granted to participants in Valero's equity incentive plans will not vest automatically upon the date of a change of control (as defined in the applicable plan) of Valero. The policy further provides that in making awards of performance shares to participants, the Compensation Committee may provide in the award agreement with the participant that if a participant's employment with Valero is terminated following a change of control, any unvested performance shares held by the participant will vest on a partial, *pro rata* basis on the date of the participant's termination of employment, with such qualifications for an award as the Committee may determine. The policy is available on our website at www.valero.com > Investors > Corporate Governance > Governance Documents.

EXECUTIVE COMPENSATION CLAWBACK POLICY

Under our executive compensation clawback policy, in the event of a material restatement of Valero's financial results, the Board, or the appropriate committee thereof, will review all bonuses and other incentive and equity compensation awarded to our executive officers. The policy provides that if the bonuses and other incentive and equity compensation would have been lower had they been calculated based on such restated results, the Board (or committee), will, to the extent permitted by governing law and as appropriate under the circumstances, seek to recover for the benefit of Valero all or a portion of the specified compensation awarded to executive officers whose fraud or misconduct caused or partially caused such restatement, as determined by the Board (or committee). In determining whether to seek recovery, the policy states that the Board (or committee) shall take into account such considerations as it deems appropriate, including governing law and whether the assertion of a claim may prejudice the interests of Valero in any related proceeding or investigation. The policy is available on our website at www.valero.com > Investors > Corporate Governance > Governance Documents.

COMPENSATION CONSULTANT DISCLOSURE POLICY

Per the terms of our compensation consultant disclosure policy, Valero will make certain disclosures pertaining to compensation consultants in our proxy statements for annual meetings of stockholders. For any compensation consultant retained by the Compensation Committee to provide compensation advice with respect to the compensation disclosed in the Summary Compensation Table in the proxy statement, we will disclose (i) the total fees paid annually to the consultant for compensation-related services and non-compensation-related services, (ii) a description of any non-compensation-related services provided by the consultant, and (iii) any services that the consultant has provided to senior executives of Valero and the nature of those services. The policy is available on our website at www.valero.com > Investors > Corporate Governance > Governance Documents.

STOCK OWNERSHIP GUIDELINES

We have adopted stock ownership guidelines applicable to our officers and non-employee directors. The guidelines require that non-employee directors acquire and hold during their service shares of Common Stock equal in value to at least five times their annual cash retainer. Our officers are required to meet the applicable guidelines stated below.

Officer Position	Value of Shares Owned
Chief Executive Officer	5x Base Salary
President	3x Base Salary
Executive Vice Presidents	2x Base Salary
Senior Vice Presidents	1x Base Salary
Vice Presidents	1x Base Salary

Officers and non-employee directors have five years after becoming subject to the guidelines to meet the requisite ownership threshold and, once attained, are expected to continuously own sufficient shares to meet that threshold.

PROHIBITION AGAINST HEDGING AND PLEDGING

Our policies prohibit our directors, officers, and employees from speculating in our stock, which includes short selling (profiting if the market price of our stock decreases), buying or selling publicly traded options (including writing covered calls), hedging, or any other type of derivative arrangement that has a similar economic effect. In addition, our directors and officers are prohibited from pledging shares of Common Stock as collateral or security for indebtedness. Compliance with the guidelines is monitored by the Compensation Committee. The full text of our guidelines is included in our Corporate Governance Guidelines (as *Article IX*), available on our website at www.valero.com > Investors Relations > Corporate Governance > Governance Documents.

INSIDER TRADING POLICY

Our Securities Trading Policy prohibits our officers, directors, and employees from purchasing or selling Valero securities while in possession of material, nonpublic information, or otherwise using such information for their personal benefit or in any manner that would violate applicable laws and regulations.

COMPENSATION CONSULTANT DISCLOSURES

Our Compensation Committee may, in its sole discretion, retain or obtain the advice of a compensation consultant, independent legal counsel, or other adviser, and is directly responsible for the appointment, compensation, and oversight of the work of any compensation consultant, independent legal counsel, or other adviser retained by the Committee. Valero is obligated to provide appropriate funding for the Committee's retention of a consultant, counsel, or adviser.

In 2019, the Committee retained Exequity LLP as an independent compensation consultant. Exequity provided to the Committee objective expert analysis and independent advice regarding executive and director compensation. For the 2019 executive and director compensation services rendered to the Committee, Exequity earned professional fees of $516,374. Exequity did not provide other consulting services to the Committee, to Valero, or to any senior executives of Valero. Exequity is an independent adviser as determined under the SEC's rules and the NYSE's listing standards.

During 2019, Exequity's executive and director compensation consulting services included:

- assistance with establishing our overall executive compensation philosophy in light of our business strategies;
- assistance with selecting peer and comparator companies for benchmarking executive pay and monitoring Valero's performance;
- assessment of competitive pay for our executives, with separate analyses of base salary, annual incentive, and long-term incentive compensation;
- assessment of, and recommendations for, our annual incentive bonus program;
- assessment of, and recommendation of enhancements to, our long-term incentive program strategy, including (i) the design of an appropriate mix of equity incentive vehicles, (ii) determination of performance measures and measurement techniques, and (iii) determination of competitive equity grant guidelines consistent with our overall pay philosophy;
- assistance with implementation of the 2020 Omnibus Stock Incentive Plan;
- updates on trends and developments in executive compensation, new regulatory issues, and best practices;
- assessment of competitive pay for our directors; and
- assistance with proxy statement disclosures.

EQUITY COMPENSATION PLAN INFORMATION

The following table presents information regarding our equity compensation plans as of December 31, 2019.

	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (#)	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights ($)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (1)
Approved by stockholders:			
2011 Omnibus Stock Incentive Plan (2)	349,462	$34.94	7,740,665
2005 Omnibus Stock Incentive Plan	47,792	17.74	—
Not approved by stockholders:			
none	—	—	—
Total	397,254	27.68	7,740,665

Footnotes:

(1) Securities available for future issuance under these plans can be issued in various forms, including restricted stock, performance shares, stock unit awards, and stock options.

(2) The number of securities remaining available for future issuance under the 2011 Omnibus Stock Incentive Plan (2011 OSIP) as of Feb. 28, 2020, is 7,202,491.

Additional disclosures about the 2011 OSIP may be found in Proposal No. 4—Approve the 2020 Omnibus Stock Incentive Plan.

Our equity plans are described further in Note 14 of Notes to Consolidated Financial Statements for the fiscal year ended December 31, 2019, included in Valero's Annual Report on Form 10-K.

EXECUTIVE COMPENSATION

The following tables disclose compensation paid to or earned by our named executive officers for 2019. We use captions and headings in these tables that correspond to the SEC regulations requiring these disclosures. The footnotes to these tables provide important information to explain the values presented in the tables.

Summary Compensation Table

This table summarizes the compensation paid to our named executive officers for fiscal years 2019, 2018, and 2017. The elements of compensation listed in the table are described in the Compensation Discussion and Analysis section of this proxy statement and in the table's footnotes. The officers' titles listed below are their current titles.

Principal Position (1)	Year	Salary ($)	Stock Awards ($)(2)(3)	Non-Equity Incentive Plan Compensation ($)(4)	Change in Pension Value and Non-qualified Deferred Compensation Earnings ($)(5)	All Other Compensation ($)(6)	Total ($)	Total Excluding Change in Pension Value ($)(7)
Joseph W. Gorder, Chairman of the Board and CEO	**2019**	**1,745,000**	**14,485,699**	**4,100,000**	**7,484,813**	**360,440**	**28,175,952**	**20,691,139**
	2018	1,660,000	10,931,251	4,625,000	1,353,779	189,126	18,759,156	17,405,377
	2017	1,585,000	12,734,060	3,800,000	4,269,202	143,998	22,532,260	18,263,058
Donna M. Titzman, EVP and Chief Financial Officer	**2019**	**725,000**	**2,685,278**	**842,000**	**3,573,309**	**80,275**	**7,905,862**	**4,332,553**
	2018	641,667	1,508,905	840,000	382,570	70,593	3,443,735	3,061,165
	(8)							
R. Lane Riggs, President and Chief Operating Officer	**2019**	**840,000**	**4,792,892**	**1,250,000**	**4,245,462**	**108,056**	**11,236,410**	**6,990,948**
	2018	800,000	2,200,997	1,110,000	—	103,172	4,214,169	4,214,169
	2017	700,000	2,710,576	925,000	1,743,387	96,683	6,175,646	4,432,259
Jason W. Fraser, EVP and General Counsel	**2019**	**600,000**	**2,280,836**	**700,000**	**1,811,402**	**110,874**	**5,503,112**	**3,691,710**
	(9)							
	(9)							
Gary K. Simmons, EVP and Chief Commercial Officer	**2019**	**650,000**	**1,787,833**	**625,000**	**2,535,277**	**175,412**	**5,773,522**	**3,238,245**
	2018	625,000	1,174,051	705,000	—	81,590	2,585,641	2,585,641
	2017	600,000	1,398,749	620,000	1,345,120	88,961	4,052,830	2,707,710

Footnotes to Summary Compensation Table:

(1) The persons listed in this table are referred to in this proxy statement as our "named executive officers" (NEOs).

(2) The amount shown is the "grant date fair value" of stock awards (restricted stock and performance shares) computed under Financial Accounting Standards Board Accounting Standards Codification Topic 718, Compensation–Stock Compensation (FASB ASC Topic 718). The grant date fair values are higher than the "target value" of stock awards for each NEO due to reasons more fully described in Compensation Discussion and Analysis and below in this footnote. The target values of stock awards for the NEOs were (rounded): Mr. Gorder ($10,990,000), Ms. Titzman ($2,500,000), Mr. Riggs ($3,360,000), Mr. Fraser ($2,250,000), and Mr. Simmons ($1,500,000)

The grant date fair values disclosed under FASB ASC Topic 718 for our performance share awards include the values of certain tranches of unvested performance shares that were awarded in years prior to the fiscal year shown in the table. The computations of grant date fair values for performance shares are more fully described in footnote (6) to the Grants of Plan-Based Awards table in this proxy statement.

(footnote (2) continues on the following page)

Footnotes to Summary Compensation Table (cont.):

footnote (2) continued

The dollar values included in the "Stock Awards" column include the following components:

	Gorder	Titzman	Riggs	Fraser	Simmons
Restricted Stock	5,900,119	1,341,432	2,803,504	1,207,586	805,057
Performance Shares	8,585,580	1,343,846	1,989,388	1,073,250	982,776
Total (in dollars)	14,485,699	2,685,278	4,792,892	2,280,836	1,787,833

The process used to value and grant restricted stock and performance shares to our NEOs in 2019 is consistent with previous years. For restricted stock awards, the disclosed grant date fair values are higher than the target values for each officer due to the difference between (i) the stock price used to determine the number of restricted shares granted to achieve the target value (determined by using the average closing stock price for the 15 trading days ending the day before the grant) and (ii) the grant date fair value of the award as computed under FASB ASC Topic 718. The target values of restricted stock awards for 2019 were (rounded): Mr. Gorder ($5,495,000), Ms. Titzman ($1,250,000), Mr. Riggs ($1,680,000), Mr. Fraser ($1,125,000), and Mr. Simmons ($750,000). The final value realized by each named executive officer will be determined at a later date upon award vesting.

For performance shares, the grant date fair values disclosed represent the aggregated fair values of three tranches from three separate award years as required under FASB ASC Topic 718 (i.e., first tranche of 2019 award, second tranche of 2018 award, and third tranche of 2017 award). These are deemed to be three separate grants for determining fair value and each is deemed to have a grant date in 2019 per FASB ASC Topic 718. As further described in footnote (6) to the Grants of Plan-Based Awards table, the expected conversion rate (probable outcome) for each of these awards determines a unique fair value per share for each tranche. The expected conversion rates are 112.47% for the 2019 award, 169.95% for the 2018 award, and 142.27% for the 2017 award. The target values for the 2019 grants of performance shares to our NEOs (described further in Compensation Discussion and Analysis) were (rounded): Mr. Gorder ($5,495,000), Ms. Titzman ($1,250,000), Mr. Riggs ($1,680,000), Mr. Fraser ($1,125,000), and Mr. Simmons ($750,000)

(3) Stock options were not granted to our named executive officers in 2019, 2018, or 2017. Additional information about the restricted stock and performance shares granted in 2019 is disclosed in the Grants of Plan-Based Awards table in this proxy statement. Additional information about restricted stock is disclosed in Note 14 (Stock-Based Compensation) of Notes to Consolidated Financial Statements in Valero's Annual Report on Form 10-K for the year ended December 31, 2019.

(4) Represents amounts earned under our annual incentive bonus plan, as described in "Compensation Discussion and Analysis—Elements of Executive Compensation—Annual Incentive Bonus."

(5) This column represents the sum of the change in pension value and nonqualified deferred compensation earnings for each of the NEOs. There are no above-market or preferential earnings on non-tax-qualified deferred compensation amounts included in the table presented above. The NEOs participate in the same pension and non-qualified deferred compensation plans as similarly situated Valero employees (senior-level Valero executive leadership). The narrative disclosures following the Pension Benefits table describe the present value assumptions used for these calculations. Additional information about Valero's defined benefit plans is disclosed in Note 13 (Employee Benefit Plans) of Notes to Consolidated Financial Statements in Valero's Annual Report on Form 10-K for the year ended December 31, 2019.

The following table lists the components of (i) the increase or decrease in total pension values for 2018, and (ii) the increase in total pension values for 2019 for our NEOs.

	Gorder	Titzman	Riggs	Fraser	Simmons
Components of change in value (rounded to '000s):					
2018					
one year increase in age	628,000	207,000	262,000	81,000	225,000
one year increase in service	1,200,000	195,000	272,000	127,000	220,000
pay changes	1,457,000	888,000	635,000	278,000	160,000
assumption changes (primarily *decrease* in present values due to increase in the discount rates used to determine benefits)	(1,931,000)	(908,000)	(1,205,000)	(423,000)	(923,000)
Total change in pension value 2018	1,354,000	382,000	(36,000)	63,000	(318,000)
2019					
one year increase in age	900,000	262,000	311,000	99,000	256,000
one year increase in service	1,227,000	203,000	264,000	124,000	204,000
pay changes	1,993,000	1,267,000	1,220,000	622,000	389,000
assumption changes (primarily *increase* in present values due to decrease in the discount rates used to determine benefits)	3,364,000	1,841,000	2,451,000	967,000	1,686,000
Total change in pension value 2019	**7,484,000**	**3,573,000**	**4,246,000**	**1,812,000**	**2,535,000**

Footnotes to Summary Compensation Table (cont.):

footnote (5) continued

The discount rates used in 2019, 2018, and 2017 to determine the present value of accumulated benefits are listed in the disclosures following the Pension Benefits table.

Disclosures in the Summary Compensation Table for 2018 compensation show a zero value for Mr. Riggs and Mr. Simmons per Instruction 3 to Item 402(c)(2)(viii) of Regulation S-K. The actual aggregate changes in the actuarial present value of these officers' accumulated benefits under their defined benefit and actuarial pension plans (including supplemental plans) were negative values. These negative values were: Mr. Riggs (-$35,467), Mr. Simmons (-$317,781).

(6) Amounts listed as "All Other Compensation" for 2019 are composed of the following items. Any amount in excess of $10,000 (whether or not such amount may be deemed to be a perquisite or other personal benefit) is separately quantified.

For *Mr. Gorder*: Valero contributions to the officer's Thrift Plan account ($19,600), Valero contributions to the officer's Excess Thrift Plan account ($102,550), home security ($28,449), gross up payment for home security imputed income ($18,458), an executive physical exam, reimbursement of club membership dues, Valero-provided dollars for the purchase of health and welfare benefits ($26,779), imputed income related to payment of UK income tax for trailing income from prior work assignment in England ($153,847), imputed income for tax return preparation fees.

For *Ms. Titzman*: Valero contributions to the officer's Thrift Plan account ($19,600), Valero contributions to the officer's Excess Thrift Plan account ($31,150), an executive physical exam, Valero-provided dollars for the purchase of health and welfare benefits ($24,895), imputed income for tax return preparation fees.

For *Mr. Riggs*: Valero contributions to the officer's Thrift Plan account ($19,600), Valero contributions to the officer's Excess Thrift Plan account ($39,200), home security, gross up payment for home security imputed income, an executive physical exam, reimbursement of club membership dues, Valero-provided dollars for the purchase of health and welfare benefits ($30,084), imputed income for tax return preparation fees.

For *Mr. Fraser*: Valero contributions to the officer's Thrift Plan account ($19,600), Valero contributions to the officer's Excess Thrift Plan account ($22,400), home security, gross up payment for home security imputed income, reimbursement of club membership dues, Valero-provided dollars for the purchase of health and welfare benefits ($30,084), imputed income related to payment of UK income tax for trailing income from prior work assignment in England ($17,699), imputed income for tax return preparation fees.

For *Mr. Simmons*: Valero contributions to the officer's Thrift Plan account ($19,600), Valero contributions to the officer's Excess Thrift Plan account ($25,900), home security ($52,155), gross up payment for home security imputed income ($33,839), an executive physical exam, reimbursement of club membership dues ($10,904), Valero-provided dollars for the purchase of health and welfare benefits ($30,084).

(7) The values in this column represent the "Total" compensation for 2019 for each NEO when excluding the year-over-year changes to the present values of accumulated benefits under the pension and nonqualified deferred compensation plans, which can increase or decrease significantly from year-to-year due to the actuarial assumptions used in a given year (primarily the discount rates used to determine the present value of accumulated benefits). See footnote (5) above for the specific impact of assumption changes to the total change in pension values in 2019 versus 2018.

The amounts reported in this column are calculated by subtracting the change in pension values reported in the Change in Pension Value and Nonqualified Deferred Compensation Earnings column, from the amounts reported in the Total compensation column. The amounts reported in this column differ from, and are not substitutes for, the amounts reported in the Total compensation column.

(8) Ms. Titzman was not a named executive officer for 2017.

(9) Mr. Fraser was not a named executive officer for 2018 or 2017.

Grants of Plan-Based Awards

The following table describes plan-based awards for our named executive officers in 2019.

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards			Estimated Future Payouts Under Equity Incentive Plan Awards			Grant Date Fair Value of Stock and Option Awards ($) (1)
		Threshold ($)	Target ($)	Maximum ($)	Threshold (#)	Target (#)	Maximum (#)	
Joseph W. Gorder	n/a (2)	—	2,792,000	5,584,000				
	10/30/2019 (3)				n/a	59,510	n/a	5,900,119
	n/a (5)					*59,510*		
	10/30/2019 (6)					19,836	39,672	2,220,640
	10/30/2019 (6)					18,007	36,014	3,023,916
	10/30/2019 (6)					23,766	47,532	3,341,024
Donna M. Titzman	n/a (2)	—	580,000	1,160,000				
	10/30/2019 (3)				n/a	13,530	n/a	1,341,432
	n/a (5)					*13,530*		
	10/30/2019 (6)					4,510	9,020	504,895
	10/30/2019 (6)					2,903	5,806	487,501
	10/30/2019 (6)					2,500	5,000	351,450
R. Lane Riggs	n/a (2)	—	840,000	1,680,000				
	10/30/2019 (3)				n/a	18,190	n/a	1,803,448
	12/18/2019 (4)				n/a	10,548	n/a	1,000,056
	n/a (5)					*18,190*		
	10/30/2019 (6)					6,064	12,128	678,865
	10/30/2019 (6)					3,440	6,880	577,679
	10/30/2019 (6)					5,213	10,426	732,844
Jason W. Fraser	n/a (2)	—	480,000	960,000				
	10/30/2019 (3)				n/a	12,180	n/a	1,207,586
	n/a (5)					*12,180*		
	10/30/2019 (6)					4,060	8,120	454,517
	10/30/2019 (6)					2,150	4,300	361,050
	10/30/2019 (6)					1,833	3,666	257,683
Gary K. Simmons	n/a (2)	—	422,500	845,000				
	10/30/2019 (3)				n/a	8,120	n/a	805,057
	n/a (5)					*8,120*		
	10/30/2019 (6)					2,706	5,412	302,937
	10/30/2019 (6)					1,917	3,834	321,922
	10/30/2019 (6)					2,546	5,092	357,917

Footnotes to Grants of Plan-Based Awards table:

(1) The reported grant date fair value of stock awards was determined in compliance with Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 718. Stock options were not granted to our named executive officers in 2019.

(2) Represents potential awards under our annual incentive bonus program. Actual amounts earned by our NEOs for 2019 are reported in the Summary Compensation Table under the column “Non-Equity Incentive Plan Compensation.” The “target” amounts listed in the Grants of Plan-Based Awards table are computed by multiplying base salary by 160%, 80%, 100%, 80%, and 65% for Mr. Gorder, Ms. Titzman, Mr. Riggs, Mr. Fraser, and Mr. Simmons, respectively.

Footnotes to Grants of Plan-Based Awards table (cont.):

(3) Represents an award of restricted stock granted Oct. 30, 2019. The shares are scheduled to vest (become nonforfeitable) annually in equal one-third increments. Dividends on the restricted shares are paid as and when dividends are declared and paid on our Common Stock. Restricted stock awards are more fully described in "Compensation Discussion and Analysis—Elements of Executive Compensation—Long-Term Incentive Awards—Restricted Stock." For each NEO, the dollar amount stated in the column "Grant Date Fair Value of Stock and Option Awards" is included within the amount listed in the "Stock Awards" column of the Summary Compensation Table and in footnote (2) to the Summary Compensation Table.

(4) Represents an award of restricted stock granted Dec. 18, 2019. The shares are scheduled to vest (become nonforfeitable) annually in equal one-third increments. The grant was made pursuant to a long-term incentive agreement with Mr. Riggs. The agreement is described in "Compensation Discussion and Analysis—Elements of Executive Compensation—Long-Term incentive Awards—Restricted Stock—Long-Term Incentive Agreement with Mr. Riggs." The dollar amount stated in the column "Grant Date Fair Value of Stock and Option Awards" is included within the amount listed in the "Stock Awards" column of the Summary Compensation Table and in footnote (2) to the Summary Compensation Table.

(5) Represents the number of performance shares awarded under our 2011 Omnibus Stock Incentive Plan to our NEOs on Oct. 30, 2019 under our long-term incentive awards program described in "Compensation Discussion and Analysis—Elements of Executive Compensation—Long-Term Incentive Awards—Performance Shares." Per the awards' terms, on a normal vesting date officers can earn, in shares of Common Stock, from 0% to 200% of the number of performance shares that are vesting, based upon Valero's achievement of objective performance measures during the performance periods prescribed by our Compensation Committee.

The performance shares are scheduled to vest annually in one-third increments (tranches) in January 2021, January 2022, and January 2023, with any resulting payout at those times conditioned upon Valero's performance during the pertinent performance periods. Only the first tranche of these performance shares is deemed to have a "grant date" in 2019, as explained in footnote (6) below. Our disclosures referenced by footnote (5) are for information purposes only, and tie to the disclosures made by our NEOs in 2019 on Forms 4 in compliance with Section 16 of the Exchange Act. Our disclosures in footnote (6) below are intended to comply with the requirements of Item 402 of Regulation S-K with respect to "grants" of performance shares.

(6) Item 402(d)(2)(viii) of Regulation S-K requires us to disclose the "grant date fair value" of equity awards "computed in accordance with FASB ASC Topic 718" (Topic 718). Our performance shares are awarded in three tranches, with the tranches having measurement periods (the performance period) of differing lengths. The first tranche of an award has a performance period of 12 months, the second tranche of an award has a performance period of 24 months, and the third tranche of an award has a performance period of 36 months.

The amounts referenced by footnote (6) in the Grants of Plan-Based Awards table above represent three tranches from three separate award years—namely, the *first* tranche of performance shares awarded in 2019 (awarded on Oct. 30, 2019), the *second* tranche of performance shares awarded in 2018 (awarded on Oct. 31, 2018), and the *third* tranche of performance shares awarded in 2017 (awarded on Nov. 1, 2017). Under Topic 718, each of these tranches is deemed to be a separate "grant" for fair value purposes, and each is deemed to have a "grant date" in 2019, that is, Oct. 30, 2019, the date when the Compensation Committee established the peer group of companies for these tranches. The dollar amounts included in the table represent the grant date fair values from the three tranches that are deemed to have a grant date in 2019.

For each NEO, the sum of the dollar amounts stated in the Grants of Plan-Based Awards table's column entitled "Grant Date Fair Value of Stock and Option Awards" is also included in the Summary Compensation Table, first, within the amount listed in the "Stock Awards" column of the Summary Compensation Table, and second, in footnote (2) to the Summary Compensation Table.

(footnote (6) continues on the following page)

Footnotes to Grants of Plan-Based Awards table (cont.):

footnote (6) continued

The grant date fair values for the performance shares included in the Grants of Plan-Based Awards table are summarized in the following table.

	performance shares deemed (under Topic 718) to have a grant date in 2019		grant date fair value ($)	lowest possible performance ($)	highest possible performance ($)
Gorder	*1st tranche of 2019 award*	19,836	2,220,640	0	4,441,280
	2nd tranche of 2018 award	18,007	3,023,916	0	6,047,832
	3rd tranche of 2017 award	23,766	3,341,024	0	6,682,048
	total 2019 grant date fair value		8,585,580	0	17,171,160
Titzman	*1st tranche of 2019 award*	4,510	504,895	0	1,009,790
	2nd tranche of 2018 award	2,903	487,501	0	975,002
	3rd tranche of 2017 award	2,500	351,450	0	702,900
	total 2019 grant date fair value		1,343,846	0	2,687,692
Riggs	*1st tranche of 2019 award*	6,064	678,865	0	1,357,730
	2nd tranche of 2018 award	3,440	577,679	0	1,155,358
	3rd tranche of 2017 award	5,213	732,844	0	1,465,688
	total 2019 grant date fair value		1,989,388	0	3,978,776
Fraser	*1st tranche of 2019 award*	4,060	454,517	0	909,034
	2nd tranche of 2018 award	2,150	361,050	0	722,100
	3rd tranche of 2017 award	1,833	257,683	0	515,366
	total 2019 grant date fair value		1,073,250	0	2,146,500
Simmons	*1st tranche of 2019 award*	2,706	302,937	0	605,874
	2nd tranche of 2018 award	1,917	321,922	0	643,844
	3rd tranche of 2017 award	2,546	357,917	0	715,834
	total 2019 grant date fair value		982,776	0	1,965,552

2019 Award. For performance shares awarded on Oct. 30, 2019, the grant date (per Topic 718) for the *first* tranche is deemed to have occurred in 2019. The performance shares in this tranche were deemed to have an expected conversion rate (probable outcome) of 112.47% with a fair value per share of $111.95. The fair values of the second and third tranches will be determined on their respective Topic 718 grant dates.

2018 Award. For performance shares awarded on Oct. 31, 2018, the grant date (per Topic 718) for the *second* tranche is deemed to have occurred in 2019. The performance shares in this tranche were deemed to have an expected conversion rate (probable outcome) of 169.95% and fair value per share of $167.93. The fair value of the third tranche will be determined on its Topic 718 grant date.

2017 Award. For performance shares awarded on Nov. 1, 2017, the grant date (per Topic 718) for the *third* tranche is deemed to have occurred in 2019. The performance shares in this tranche were deemed to have an expected conversion rate (probable outcome) of 142.27% and fair value per share of $140.58.

All Awards. For all awards, the "highest possible performance" values listed above assume achievement of the highest level of possible performance conditions (that is, vesting at 200% of target) per SEC Regulation S-K, Instruction 3 to Item 402(c)(2)(v).

Outstanding Equity Awards at December 31, 2019

This table describes unexercised stock options, unvested shares of restricted stock, and unvested performance shares held by our named executive officers as of Dec. 31, 2019.

	Option Awards				Stock Awards			
					Restricted Stock		Performance Shares	
	Number of Securities Underlying Unexercised Options (#) Exercisable	Number of Securities Underlying Unexercised Options (#) Unexercisable	Option Exercise Price ($)(1)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested ($)(2)	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)(2)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested ($)(2)
Joseph W. Gorder	26,750	—	24.582	10/28/2021	13,797 (3)	1,292,089	27,473 (8)	5,145,693
	37,567	—	27.318	11/09/2022	21,842 (4)	2,045,503	47,533 (9)	5,936,060
	31,770	—	39.665	11/08/2023	36,092 (5)	3,380,016	54,020 (10)	6,745,329
	43,810	—	48.565	10/23/2024			59,510 (11)	5,573,112
Donna M. Titzman	6,398	—	27.318	11/09/2022	1,517 (3)	142,067	2,626 (8)	491,850
	5,860	—	39.665	11/08/2023	1,515 (6)	141,880	5,000 (9)	624,411
	4,365	—	48.565	10/23/2024	3,521 (4)	329,742	8,710 (10)	1,087,651
					8,205 (5)	768,398	13,530 (11)	1,267,085
R. Lane Riggs	2,667	—	48.565	10/23/2024	5,214 (3)	488,291	5,983 (8)	1,120,616
					6,880 (4)	644,312	10,426 (9)	1,302,023
					18,190 (5)	1,703,494	10,320 (10)	1,288,624
					10,548 (7)	987,820	18,190 (11)	1,703,494
Jason W. Fraser	—	—	—		1,834 (3)	171,754	1,833 (8)	343,321
					822 (6)	76,980	3,666 (9)	457,818
					4,300 (4)	402,695	6,450 (10)	805,390
					12,180 (5)	1,140,657	12,180 (11)	1,140,657
Gary K. Simmons	1,750	—	48.565	10/23/2024	2,170 (3)	203,221	3,030 (8)	567,519
					3,320 (4)	310,918	5,093 (9)	636,057
					4,924 (5)	461,133	5,750 (10)	718,015
							8,120 (11)	760,438

Valero

Footnotes to Outstanding Equity Awards table:

(1) Our equity plans provide that the exercise price for all stock options must not be less than the mean of our Common Stock's high and low NYSE reported sales price per share on the date of grant.

(2) The assumed market values were determined using the closing market price of our Common Stock on Dec. 31, 2019 ($93.65 per share). For a further discussion of the vesting of performance share awards (as noted in the following footnotes), see "Compensation Discussion and Analysis—Elements of Executive Compensation—Long-Term Incentive Awards—Performance Shares."

(3) The unvested portion of this award is scheduled to vest on Nov. 1, 2020.

(4) The unvested portion of this award is scheduled to vest in equal installments on Oct. 31, 2020 and Oct. 31, 2021.

(5) The unvested portion of this award is scheduled to vest in equal installments on Oct. 30, 2020; Oct. 30, 2021; and Oct. 30, 2022.

(6) The unvested portion of this award is scheduled to vest in equal installments on May 3, 2020 and May 3, 2021.

(7) The unvested portion of this award is scheduled to vest in equal installments on Dec. 18, 2020; Dec. 18, 2021; and Dec. 18, 2022.

(8) These performance shares vested on Jan. 23, 2020 at 200% of target. The value shown in the column, "Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested," represents the market value of 200% (the actual payout amount) of the performance shares at the closing price of our Common Stock on Dec. 31, 2019 ($93.65 per share).

(9) One-half of these performance shares vested on Jan. 23, 2020 at 166.7% of target; the other half is scheduled to vest in January 2021. The value shown in the column, "Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested," represents, for the performance shares that vested on Jan. 23, 2020, the market value of 166.7% (the actual payout amount) of the performance shares at the closing price of our Common Stock on Dec. 31, 2019 ($93.65 per share), and for the remaining one-half, the market value of 100% (assumed) of the closing price of our Common Stock on Dec. 31, 2019.

(10) One-third of these performance shares vested on Jan. 23, 2020 at 200% of target; an additional one-third is scheduled to vest in January 2021, and the final one-third is scheduled to vest in January 2022. The value shown in the column, "Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested," represents, for the performance shares that vested on Jan. 23, 2020, the market value of 200% (the actual payout amount) of the performance shares at the closing price of our Common Stock on Dec. 31, 2019 ($93.65 per share), and for the remaining two-thirds, the market value of 100% (assumed) of the closing price of our Common Stock on Dec. 31, 2019.

(11) These performance shares are scheduled to vest in one-third increments in each of January 2021, January 2022, and January 2023. The value shown in the column, "Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested," represents the market value of 100% of the performance shares at the closing price of our Common Stock on Dec. 31, 2019.

Option Exercises and Stock Vested

The following table provides information regarding (i) stock option exercises by our named executive officers, and (ii) the vesting of restricted stock and performance shares held by our named executive officers during 2019 on an aggregated basis.

	Option Awards		Stock Awards (1)	
Name	No. of Shares Acquired on Exercise (#)(2)	Value Realized on Exercise ($)(3)	No. of Shares Acquired on Vesting (#)(2)	Value Realized on Vesting ($)(4)
Joseph W. Gorder	21,400	1,665,531		
(5)			40,667	4,038,762
(6)			13,544	1,072,211
Donna M. Titzman	—	—		
(5)			5,628	549,836
(6)			1,383	109,485
R. Lane Riggs	—	—		
(5)			14,637	1,454,775
(6)			2,478	196,171
Jason W. Fraser	—	—		
(5)			6,229	612,637
(6)			923	73,069
Gary K. Simmons	—	—		
(5)			5,667	561,752
(6)			1,614	127,772

Footnotes to Option Exercises and Stock Vested table:

(1) Represents shares of Common Stock from the vesting of restricted stock and performance shares in 2019.

(2) Represents the gross number of shares received by the named executive officer before deducting any shares withheld from (i) an option's exercise to pay the exercise price and/or tax obligation, or (ii) the vesting of restricted stock or performance shares to pay the resulting tax obligation.

(3) The reported value is determined by multiplying (i) the number of option shares, times (ii) the difference between the market price of the Common Stock on the date of exercise and the exercise price of the stock option. The value is stated before payment of applicable taxes.

(4) The reported value is determined by multiplying number of vested shares by the market value of the shares on the vesting date. The value is stated before payment of applicable taxes.

(5) Represents number of shares of Common Stock and value related to vesting of restricted stock.

(6) Represents number of shares of Common Stock and value related to vesting of performance shares.

Post-Employment Compensation

PENSION BENEFITS

The following table describes the accumulated benefits of our named executive officers under Valero's tax-qualified defined benefit plan and supplemental retirement plans during 2019.

Name	Plan Name	No. of Years Credited Service (#) (1)	Present Value of Accumulated Benefits ($)	Payments During Last Fiscal Year ($)
Joseph W. Gorder (2)	Pension Plan	29.17	1,216,569	—
	Excess Pension Plan	17.67	8,474,289	—
	SERP	17.67	17,660,595	—
Donna M. Titzman	Pension Plan	33.29	1,568,361	—
	Excess Pension Plan	33.29	3,351,769	—
	SERP	33.29	5,039,285	—
R. Lane Riggs	Pension Plan	30.92	1,331,031	—
	Excess Pension Plan	30.92	3,689,999	—
	SERP	30.92	6,852,565	—
Jason W. Fraser	Pension Plan	20.96	782,914	—
	Excess Pension Plan	20.96	835,257	—
	SERP	20.96	2,598,622	—
Gary K. Simmons	Pension Plan	32.52	1,460,260	—
	Excess Pension Plan	32.52	3,311,886	—
	SERP	32.52	3,998,341	—

Footnotes to Pension Benefits table:

(1) The years of credited service for our NEOs include five years of service (6.5 years for Mr. Fraser) in our plans' "Cash Balance Provision" starting on Jan. 1, 2015 (Mr. Fraser's participation in the Cash Balance Provision commenced July 1, 2013). The remainder of the NEOs' years of service is in the "Formula Provision" of our plans. The Formula Provision and the Cash Balance Provision are described in the narrative disclosures that follow this table.

(2) The 29.17 years of service stated for Mr. Gorder for the Pension Plan represent the sum of his participation in (a) the Valero Pension Plan since 2002 (17.67 years), and (b) the qualified pension plan of UDS (11.5 years). In 2001, Mr. Gorder received a lump sum settlement relating to prior years of service. The Pension Plan amount stated above reflects the effect of offsetting Mr. Gorder's accrued benefit under the Valero Pension Plan by the value of his lump sum settlement in 2001. In addition, Mr. Gorder has approximately three years of service in a pension plan sponsored by an entity unaffiliated with Valero or UDS that was spun-off from a predecessor of UDS. The 17.67 years of service stated for Mr. Gorder for the Excess Pension Plan and SERP represent his participation since the date of his commencement of employment with Valero.

The present values stated above were calculated using the same interest rates and mortality tables we use for our financial reporting. Present values at Dec. 31, 2019 were determined using plan specific discount rates (3.29 percent for Pension Plan, 2.92 percent for Excess Pension Plan, 2.74 percent for SERP) and the plans' earliest unreduced retirement age (i.e., age 62). The present values reflect postretirement mortality rates based on the PRI-2012 mortality table projected generationally using scale MP-2019. No decrements were included for pre-retirement termination, mortality, or disability. When applicable, lump sums were determined based on a 3.29 percent interest rate and the mortality table prescribed by the IRS in Notice 2019-26 for distributions in 2020.

Discount rates used to determine present value of accumulated benefits (%)

plan	2017	2018	2019
Pension Plan	3.71	4.40	3.29
Excess Pension Plan	3.39	4.07	2.92
SERP	3.37	4.02	2.74

Pension Plan. Under our Pension Plan, an eligible employee who is at least 55 years old may elect to retire prior to the normal retirement age of 65, provided the employee has completed as least five years of vesting service. Under the plan's early retirement provisions, an employee may elect to commence a benefit upon retirement or delay payments to a later date. Pension payments from the Formula Provision (defined below) that begin after age 55 and before age 62 are reduced by four percent for each full year between the benefit start date and the employee's 62nd birthday. The four-percent reduction is prorated for a partial year. The formula used to calculate the benefit and the optional forms of payment are otherwise the same as for normal retirement. Mr. Gorder, Ms. Titzman, and Mr. Simmons were eligible for early retirement benefits.

For employees hired prior to Jan. 1, 2010, the Pension Plan (supplemented, as necessary, by the Excess Pension Plan) provides a monthly pension at normal retirement equal to 1.6 percent of the participant's average monthly compensation (based upon earnings during the three consecutive calendar years during the last 10 years of the participant's credited service affording the highest such average) times the participant's years of credited service. This is known as the "Formula Provision." Each of our named executive officers was hired prior to Jan. 1, 2010.

For employees hired on or after Jan. 1, 2010, the Pension Plan (supplemented, as necessary, by the Excess Pension Plan) is a cash balance benefit that provides a monthly pension at normal retirement based on annual employer contributions that are based on years of service, eligible compensation, and pay credits. This is known as the "Cash Balance Provision." After a one-year waiting period, pay credits are retroactive to the participant's date of hire and are based on years of service and eligible compensation.

points (age and vesting service)	annual pay credit percentage
under 35	6.0% of eligible pay
35–49	7.5% of eligible pay
50–64	9.0% of eligible pay
65–79	10.5% of eligible pay
80+	12.0% of eligible pay

In addition to pay credits, participants will also be eligible for monthly interest credits based on the 10-Year U.S. treasury note rate with a minimum of 3 percent.

In 2013, we began to implement changes to certain of our U.S. qualified pension plans that cover the majority of our U.S. employees. Benefits under our primary pension plan changed from a final average pay formula (the Formula Provision) to the Cash Balance Provision with staged effective dates from July 1, 2013 through Jan. 1, 2015, depending on the age and service of the affected employees. All final average pay benefits under the Formula Provision were frozen as of Dec. 31, 2014. On Jan. 1, 2015, participants formerly under the Formula Provision in the Pension Plan transitioned to the Cash Balance Provision, with all future Pension Plan benefits to be earned under the new cash balance formula.

Excess Pension Plan. Our Excess Pension Plan provides benefits to those employees whose pension benefits under our defined benefit Pension Plan are subject to limitations under the Internal Revenue Code, or are otherwise indirectly constrained by the Code from realizing the maximum benefit available to them under the terms of Pension Plan. The Excess Pension Plan is designed as an "excess benefit plan" as defined under §3(36) of ERISA, for those benefits provided in excess of section 415 of the Code. The Excess Pension Plan is not intended to be either a qualified plan under the provisions of Section 401(a) of the Code, or a funded plan subject to the funding requirements of ERISA.

Subject to other terms of the Excess Pension Plan, the benefit payable under the plan in the Formula Provision is generally an amount equal to "x" minus "y", where "x" is equal to 1.6 percent of a participant's final average monthly earnings (as determined under the Excess Pension Plan) multiplied by the participant's number of years of credited service, and "y" is equal to the participant's benefit that is payable under the Pension Plan. The benefit payable under the Excess Pension Plan in the Cash Balance Provision is generally an amount equal to "x" minus "y", where "x" is equal to the accumulated account balance that the participant would be entitled to receive without regard to the limitations, and "y" is equal to the participant's accumulated account balance that is payable under the Pension Plan. The Excess Pension Plan benefit is made in a lump sum. A participant's benefits under the Excess Pension Plan will vest concurrently with the vesting of the participant's benefits under the Pension Plan.

SERP. Our Supplemental Executive Retirement Plan (SERP) provides an additional benefit equal to 0.35 percent times the product of the participant's years of credited service (maximum 35 years) multiplied by the excess of the participant's average monthly compensation over the lesser of 1.25 times the monthly average (without indexing) of the social security wage bases for the 35-year period ending with the year the participant attains social security retirement age, or the monthly average of the social security wage base in effect for the year that the participant retires. The participant's most highly compensated consecutive 36 months of service are considered. The SERP benefit payment is made in a lump sum. A participant in the SERP will vest in the SERP benefit when he or she reaches age 55 (and has completed at least five years of credited service). An executive will become a participant in the SERP as of the date he or she is selected and named in the minutes of the Compensation Committee for inclusion as a participant in the SERP.

Compensation for purposes of the Pension Plan, Excess Pension Plan, and SERP includes salary and bonus. No extra years of credited service have been granted to any of our named executive officers.

Nonqualified Deferred Compensation

The following table describes contributions by Valero and each named executive officer under our nonqualified defined contribution and other deferred compensation plans during 2019. The table also presents each named executive officer's earnings, withdrawals (if any), and year-end balances in these plans.

		Executive Contributions in Last FY ($)	Registrant Contributions in Last FY ($) (1)	Aggregate Earnings in Last FY ($)	Aggregate Withdrawals/ Distributions ($)	Aggregate Balance at Last FYE ($)
Joseph W. Gorder	Excess Thrift Plan	—	102,550	—	—	1,411,478
Donna M. Titzman	Excess Thrift Plan	—	31,150	—	—	785,911
R. Lane Riggs	Excess Thrift Plan	—	39,200	—	—	403,859
	UDS Nonqualified 401(k) Plan (2)	—	—	4,066	—	47,883
Jason W. Fraser	Excess Thrift Plan	—	22,400	—	—	96,258
Gary K. Simmons	Excess Thrift Plan	—	25,900	—	—	303,061
	UDS Nonqualified 401(k) Plan (2)	—	—	27,849	—	124,877

Footnotes to Nonqualified Deferred Compensation table:

(1) All of the amounts included in this column are also included within the amounts reported as "All Other Compensation" for 2019 in the Summary Compensation Table.

(2) Valero assumed the UDS Nonqualified 401(k) Plan when Valero acquired UDS in 2001. This plan is frozen.

Our Deferred Compensation Plan and Excess Thrift Plan are described in "Compensation Discussion and Analysis—Elements of Executive Compensation—Post-Employment Benefits." The following terms also apply to these plans.

Under the Deferred Compensation Plan (DC Plan), participants may elect when and over what period of time their deferrals will be distributed based on plan provisions. Participants may elect to have their accounts distributed in a lump sum on a specified date, at least three-to-five years after the year of the deferral election. Participants may, at the time of their deferral elections, choose to have their accounts distributed as soon as reasonably practical following retirement or other termination, or on the first day of January following the date of retirement or termination. Participants may also elect to have their accounts distributed in one lump-sum payment or in two- to 15-year installments upon retirement. Upon a participant's death, the participant's beneficiary will receive the participant's DC Plan balance in one lump-sum payment within 90 days following the participant's death. Upon a change in control of Valero, all DC Plan accounts are immediately vested in full, and distributions are thereafter made in accordance with the plan's normal distribution provisions. None of our named executive officers participated in the DC Plan in 2019.

The Excess Thrift Plan provides benefits to participants of our qualified thrift plan whose accounts would not otherwise be credited with company matching contributions due to certain IRS limits on contributions and/or compensation. The Excess Thrift Plan is neither a qualified plan for federal tax purposes nor a funded plan subject to ERISA. Two separate components comprise the Excess Thrift Plan: (i) an "excess benefit plan" as defined under Section 3(36) of ERISA; and (ii) a plan that is unfunded and maintained primarily for the purpose of providing deferred compensation for a select group of management or highly compensated employees.

Potential Payments Upon Termination or Change of Control

CHANGE OF CONTROL SEVERANCE AGREEMENTS

Our executive officers have change of control severance agreements with Valero. The agreements seek to assure the continued availability of the officers in the event of a change of control of Valero. When a change of control occurs, the agreements become operative for a fixed three-year period. The agreements provide that the officers' terms of employment will not be changed materially during the three years following a change of control. Each agreement subjects the officer to certain obligations of confidentiality, both during the term and after termination, for information relating to Valero that the officer acquired during his employment. The footnotes to the tables that accompany these disclosures further describe the terms and conditions of the agreements.

When determining the amounts and benefits payable under the agreements, the Compensation Committee and Valero sought to secure compensation that is competitive in our market to recruit and retain executive talent. Consideration was given to the principal economic terms found in change of control severance agreements of other publicly traded companies.

POLICY FEATURES

Our Board has adopted a policy regarding the vesting of performance shares in a change-of-control context. The policy provides that performance shares *will not* vest automatically upon the date of a change of control of Valero. Instead, the performance share agreements contain a double trigger feature, so that accelerated vesting of performance shares will not occur until the officer's employment is terminated following a change of control. At that time, any unvested performance shares held by the officer will vest on a partial, *pro rata* basis, commensurate with the officer's months of service during the applicable performance period.

Our change of control severance agreements do not contain tax gross-up benefits. In 2013, all agreements were amended to eliminate the gross-up benefit that formerly entitled the officers to receive a payment to make them whole for any excise tax on excess parachute payments imposed under Section 4999 of the Internal Revenue Code. Valero has adopted a policy that this benefit may not be included in any future change of control agreements.

TERMS AND CONDITIONS

For purposes of the agreements, "change of control" means any of the following (subject to additional particulars as stated in the agreements):

- acquisition by an individual, entity, or group of beneficial ownership of 20 percent or more of our outstanding Common Stock;
- ouster from the Board of a majority of the incumbent directors;
- consummation of a business combination (e.g., merger, share exchange).

In the agreements, "cause" is defined to mean, generally, the willful and continued failure of the officer to perform substantially the officer's duties or illegal or gross misconduct by the officer that is materially and demonstrably injurious to Valero. "Good reason" is defined to mean, generally:

- a diminution in the executive officer's position, authority, duties and responsibilities;
- relocation of the executive (or increased travel requirements); or
- failure of Valero's successor to assume and perform under the agreement.

The following tables disclose potential payments (calculated per SEC regulations) to our named executive officers in connection with a change of control of Valero. If an officer's employment is terminated for "cause," the officer will not receive any benefits or compensation other than accrued salary or vacation pay that was unpaid as of the date of termination; therefore, there is no presentation of termination for "cause" in the following tables. Values in the tables assume that a change of control occurred on Dec. 31, 2019, and that the officer's employment was terminated on that date.

Mr. Gorder and Ms. Titzman have grandfathered forms of agreements entered into in 2007. The form of agreement for Messrs. Riggs, Fraser, and Simmons (entered into in 2016 and thereafter) represent the current form of agreement approved by our Compensation Committee for our executive officers. The current form of agreement requires termination of employment following a change of control (double trigger) for accelerated vesting of stock options and restricted stock (the grandfathered agreements for Mr. Gorder and Ms. Titzman accelerate vesting of stock options and restricted stock upon occurrence of the change of control). All forms of agreement for our NEOs require a double trigger for the acceleration of performance shares. Other differences in benefits payable under the grandfathered agreements and our current form of agreement are described in the footnotes to the following table.

Potential Payments Under Change of Control Severance Agreements

A. Termination of Employment (i) by the Company other than for "Cause" or (ii) by the Executive for "Good Reason" (1) ($)

Component of Payment	Gorder	Titzman	Riggs	Fraser	Simmons
Salary (2)	5,235,000	1,450,000	1,680,000	1,200,000	1,300,000
Bonus (2)	13,875,000	1,684,000	1,680,000	960,000	845,000
Pension, Excess Pension, and SERP	10,270,498	2,785,082	—	—	—
Contributions under Defined Contribution Plans	366,450	101,500	—	—	—
Health & Welfare Plan Benefits (3)	80,337	49,790	60,168	60,168	60,168
Outplacement Services	25,000	25,000	25,000	25,000	25,000
Accelerated Vesting of Restricted Stock (4)	6,717,608	1,382,087	3,823,917	1,792,086	975,271
Accelerated Vesting of Performance Shares (5)	3,180,448	420,769	654,333	310,356	339,856

B. Continued Employment Following Change of Control (6) ($)

Component of Payment	Gorder	Titzman	Riggs	Fraser	Simmons
Salary, Bonus, Pension, Excess Pension, SERP, Contributions under Defined Contribution Plans, Health & Welfare Benefits	(6)	(6)	(6)	(6)	(6)
Accelerated Vesting of Restricted Stock (4)	6,717,608	1,382,087	—	—	—

Footnotes for Potential Payments Under Change of Control Severance Agreements tables:

(1) If the officer's employment is terminated by the company other than for "cause," or if the officer terminates his or her employment for "good reason," the officer is generally entitled to receive the following:

(a) a lump sum cash payment equal to the sum of:

(i) accrued and unpaid compensation through the date of termination, including a pro-rata annual bonus (for this table, we assumed that the officer's bonus for the year of termination was paid at year-end);

(ii) two times (*three times* for Mr. Gorder, per his grandfathered form of agreement) the sum of (A) the officer's annual base salary plus (B) the officer's eligible bonus amount;

(iii) the actuarial present value of the pension benefits (qualified and nonqualified) Mr. Gorder would have received for an additional three years of service (*two years* of service for Ms. Titzman) (Messrs. Riggs, Fraser, and Simmons do not participate in this element of compensation); and

(iv) for Mr. Gorder, the equivalent of three years (*two years* for Ms. Titzman) of employer contributions under Valero's tax-qualified and supplemental defined contribution plans (Messrs. Riggs, Fraser and Simmons do not participate in this element of compensation);

(b) continued welfare benefits for two years (*three years* for Mr. Gorder); and

(c) up to $25,000 of outplacement services.

If employment is terminated by reason of death or disability, the officer's estate will be entitled to receive a lump sum cash payment equal to any accrued and unpaid salary and vacation pay plus a prorated bonus amount earned per the terms of the agreement. In the case of disability, the officer would be entitled to disability and related benefits at least as favorable as those provided by Valero under its programs during the 120 days prior to the officer's termination of employment.

If the officer voluntarily terminates employment other than for "good reason," he or she will be entitled to a lump sum cash payment equal to any accrued and unpaid salary and vacation pay plus a prorated bonus amount earned per the terms of the agreement.

Footnotes for Potential Payments Under Change of Control Severance Agreements tables (cont.):

(2) We assumed each officer's compensation at the time of the triggering event to be as stated below. The listed salary is the executive officer's rate of pay as of Dec. 31, 2019. The listed bonus amounts for Mr. Gorder and Ms. Titzman represent the highest bonus earned by the executive in any of fiscal years 2017, 2018, or 2019 (the three years prior to the assumed change of control). The listed bonus amounts for Messrs. Riggs, Fraser, and Simmons represent the target bonus in effect prior to the assumed change of control.

Name	Salary	Bonus
Joseph W. Gorder	1,745,000	4,625,000
Donna M. Titzman	725,000	842,000
R. Lane Riggs	840,000	840,000
Jason W. Fraser	600,000	480,000
Gary K. Simmons	650,000	422,500

(3) The executive is entitled to coverage under health and welfare benefit plans (e.g., health, dental, etc.) for two years (*three years* for Mr. Gorder) following the date of termination.

(4) For Mr. Gorder and Ms. Titzman, upon a change of control of Valero, the vesting periods on outstanding stock options and shares of restricted stock are automatically accelerated to the date of the change of control. For Messrs. Riggs, Fraser, and Simmons, the vesting periods on outstanding stock options and shares of restricted stock are accelerated following a change of control upon the executive's termination of employment (double trigger) so long as the termination is (i) other than for cause, in the case of involuntary termination, or (ii) for "good reason," in the case of voluntary termination.

There are no values presented in the foregoing tables for accelerated vesting of stock options because all of the stock options held by our NEOs are fully vested.

For shares of restricted stock, the amounts stated in the table represent the product of (a) the number of shares for which vesting is accelerated, and (b) $93.65 (the closing price of Common Stock on the NYSE on Dec. 31, 2019).

(5) Outstanding performance shares do not vest automatically upon a change of control of Valero. Instead, accelerated vesting of performance shares occurs when the executive's employment with Valero is terminated following a change of control (double trigger). In that event, the unvested performance shares held by the officer will vest on a partial, *pro rata* basis on the date of the officer's termination of employment.

The amounts disclosed in the table assume that a change of control occurred Dec. 31, 2019. For outstanding performance shares awarded in 2017, the amount included in the table represents a *pro rata* payout of common shares based upon the officer's 24 months of service during the shortened performance period ending Dec. 31, 2019 (*pro rata* shares times $93.65, the closing price of Common Stock on the NYSE on Dec. 31, 2019), assuming a payout at 100%.

For outstanding performance shares awarded in 2018, the amount included in the table represents a *pro rata* payout of common shares based upon the officer's 12 months of service during the shortened performance periods ending Dec. 31, 2019 (*pro rata* shares times $93.65), assuming a payout at 100%.

For outstanding performance shares awarded in 2019, the amount included in the table is zero because the first measurable performance period for the shares would begin Jan. 1, 2020, and the officer will have zero months of service during any measurable performance period; therefore zero shares of Common Stock would be earned.

(6) The agreements provide for a three-year term of employment following a change of control, and generally provide that the officer will continue to enjoy compensation and benefits per the terms in effect prior to the change of control. In addition, for Mr. Gorder and Ms. Titzman, all outstanding stock options and shares of restricted stock will vest on the date of the change of control (see footnote (4) above).

DIRECTOR COMPENSATION

This table summarizes compensation earned by our directors in 2019.

	Fees Earned or Paid in Cash ($)	Stock Awards ($) (1)	Total ($)
H. Paulett Eberhart	130,000	175,000	305,000
Joseph W. Gorder	—	—	(2)
Kimberly S. Greene	130,000	175,000	305,000
Deborah P. Majoras	150,000	175,000	325,000
Eric D. Mullins	—	—	(3)
Donald L. Nickles	130,000	175,000	305,000
Philip J. Pfeiffer	130,000	175,000	305,000
Robert A. Profusek	160,000	175,000	335,000
Stephen M. Waters	130,000	175,000	305,000
Randall J. Weisenburger	150,000	175,000	325,000
Rayford Wilkins, Jr.	150,000	175,000	325,000

Footnotes to Director Compensation table:

(1) The amounts shown represent the grant date fair value of stock unit awards granted in 2019, computed in compliance with FASB ASC Topic 718. Valero did not grant stock options to any director in 2019. The following table presents for each non-employee director nominee the number of unvested restricted shares of Common Stock and stock units held as of Dec. 31, 2019. There are no outstanding stock options (vested or unvested) held by any of our non-employee directors.

Name	Unvested Restricted Stock	Unvested Stock Units
H. Paulett Eberhart	903	2,164
Kimberly S. Greene	903	2,164
Deborah P. Majoras	903	2,164
Eric D. Mullins	—	—
Donald L. Nickles	903	2,164
Philip J. Pfeiffer	903	2,164
Robert A. Profusek	903	2,164
Stephen M. Waters	903	1,933
Randall J. Weisenburger	903	2,164
Rayford Wilkins, Jr.	903	2,164

(2) Mr. Gorder did not receive any compensation as director of Valero in 2019. His compensation for service as an executive officer in 2019 is presented in this proxy statement in the compensation tables for our named executive officers.

(3) Mr. Mullins joined the Board on Jan. 23, 2020.

Our non-employee directors earn an annual cash retainer of $130,000. Valero pays an annual retainer in lieu of separate meeting fees. In addition to the retainer, in 2019, directors who chaired the Audit, Compensation, and Nominating/Governance and Public Policy Committees earned an additional $20,000 cash payment for their service as Chair, and Mr. Profusek earned an additional $30,000 cash payment for his service as Lead Director. Directors are reimbursed for expenses of meeting attendance. Directors who are employees of Valero do not receive compensation for serving as directors.

In addition to annual cash payments, in 2019, each non-employee director who was re-elected on the date of our annual stockholders meeting received an equity grant in the form of stock units (described below) valued at $175,000 (calculated pursuant to FASB ASC Topic 718). Grants of equity awards supplement the cash compensation paid to our non-employee directors and serve to increase our directors' identification with the interests of our stockholders through ownership of Common Stock. Non-employee directors are expected to hold shares of Common Stock having a value equal to five times the annual cash retainer and have five years from the date of their initial election to the Board to meet that guideline.

Each stock unit represents the right to receive one share of Valero Common Stock, and is scheduled to vest (become nonforfeitable) in full on the date of Valero's next annual meeting of stockholders for the election of directors. Directors may elect to defer receipt of the common shares for an additional one-year following the vesting date of the stock units. The stock unit award includes a dividend equivalent award, representing the right to receive, on the vesting date of the stock unit award, a payment in cash in an amount equal to the cumulative amount of dividends paid to holders of Common Stock during the period when the stock unit remained outstanding prior to vesting — calculated as if each stock unit held by the director was an outstanding share of Common Stock.

The Compensation Committee reviews our director compensation program at least annually with assistance and input from our compensation consultant. The annual review includes an assessment of the director compensation programs of our peers and of industry trends and developments. On Sept. 5, 2019, following our Compensation Committee's review of our non-employee director compensation program and the programs of our peers, the Board adopted certain changes to our director compensation program. These changes, effective Jan. 1, 2020, are (i) an increase in the value of annual equity awards to $200,000, (ii) an increase in Lead Director pay to $35,000 per year, and (iii) an increase in committee chair pay to $25,000 per year. The annual cash retainer of $130,000 for each director remained unchanged. The changes were approved to more closely align our program with that of our peers and with general industry practice.

The Board previously approved a limitation on the amount of equity compensation that may be paid to our non-employee directors in any year. The limitation was implemented via an amendment to our 2011 Omnibus Stock Incentive Plan (the same limitation is contained in the proposed 2020 Omnibus Stock Incentive Plan). The limitation provides that a non-employee director may not receive in any calendar year awards payable in shares of Common Stock that have a fair market value greater than $500,000 in the aggregate. We selected $500,000 as the amount of the limitation because we believe that it places a meaningful limit on awards to our non-employee directors. While the amount of equity compensation awarded to our non-employee directors in recent years has been considerably lower than this limit, we believe that setting a limitation at this level provides us with a reasonable degree of flexibility to make adjustments that we may in the future deem appropriate or necessary for our compensation program to remain competitive in the market.

PAY RATIO DISCLOSURE

The following disclosure are made pursuant to Item 402(u) of SEC Regulation S-K.

The median of the annual total compensation of all employees of Valero for 2019, except our CEO, was $272,417, and the annual total compensation of our CEO, Mr. Gorder, for 2019 was $28,175,952 (as disclosed in the Summary Compensation Table). As a result, our CEO's 2019 annual total compensation was 103 times that of the median annual total compensation of all employees of Valero.

To determine the median of the annual total compensation of all employees, we first identified the median employee using the sum of base pay, annual bonus, and the grant date fair value of long-term incentive awards. Once the median employee was identified, we then determined the median employee's annual total compensation as of Dec. 31, 2019 using the Summary Compensation Table methodology set out in Item 402(c)(2)(x) of SEC Regulation S-K. In determining our pay ratio for 2019, we referred to the same employee who was identified as our median employee as of Dec. 31, 2018. We determined that there have been no changes to our employee population or employee compensation arrangements in 2019 that we believe would significantly impact our pay ratio disclosure and thus require identification of a new median employee.

Our total employee population (U.S. and non-U.S.) as of Dec. 31, 2019, was approximately 10,225 employees. To determine the median employee for purposes of this disclosure, following the *de minimis* exemption under Item 402(u)(4)(ii) of Regulation S-K, we excluded all of our employees in Peru (118 employees) and all of our employees in Mexico (16 employees); the excluded employees represent less than five percent of our total employees. We did not exclude any employees under the data privacy exemption of Item 402(u)(4)(i).

	Median Employee to CEO Pay Ratio	
	Median Employee ($)	**CEO ($)**
Salary	113,770	1,745,000
Stock Awards	—	14,485,699
Non-Equity Incentive Plan Compensation	14,030	4,100,000
Change in Pension Value and Nonqualified Deferred Compensation Earnings	109,770	7,484,813
All Other Compensation	34,847	360,440
Total Compensation	272,417	28,175,952
Median Employee to CEO Pay Ratio	1:103	

CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

Review

Our Board adopted a Related Party Transaction Policy to establish procedures for the notification, review, approval, ratification, and disclosure of related party transactions. Under the policy, a related party transaction is a transaction, arrangement, or relationship in which (i) Valero (including any of its subsidiaries) was, is or will be a participant, (ii) the amount involved exceeds $120,000, and (iii) any "related person" had, has or will have a direct or indirect material interest. Under the policy, a related person means, generally, any person who would be deemed to be a "related person" as defined in Item 404 of SEC's Regulation S-K. Under the policy, a related party transaction must be submitted to the Board's Nominating/Governance and Public Policy Committee for review and approval. The policy is available on our website at www.valero.com > Investors > Corporate Governance > Governance Documents.

We also have a Conflict of Interest Policy to address instances in which an employee or director's private interests may conflict with the interests of Valero. The policy is published on our intranet website. We have a Conflicts of Interest Committee (composed of Valero employees) to help administer our conflicts policy and to determine whether any employee or director's private interests may interfere with the interests of Valero. Conflicts of interest are also addressed in our *Code of Business Conduct and Ethics*. Any waiver of any provision of this code for executive officers or directors may be made only by the Board, and will be promptly disclosed as required by law or NYSE rule.

PROPOSAL NO. 2—RATIFY APPOINTMENT OF KPMG LLP AS INDEPENDENT AUDITORS

(ITEM 2 ON THE PROXY CARD)

The Audit Committee determined on Feb. 26, 2020, to engage KPMG LLP ("KPMG") as Valero's independent registered public accounting firm for the fiscal year ending Dec. 31, 2020. KPMG has served as Valero's independent registered public accounting firm since 2004.

The Audit Committee is directly responsible for the appointment, compensation determination, retention, and oversight of the independent auditors retained to audit Valero's financial statements. The Audit Committee is responsible for the audit fee negotiations and fee approval associated with Valero's retention of the independent auditing firm.

The Audit Committee annually reviews and evaluates the qualifications, performance, and independence of Valero's independent auditing firm, and reviews and evaluates the lead partner of the independent auditor team. In conjunction with the mandated rotation of the audit firm's lead engagement partner, the Audit Committee is involved in the selection of the audit firm's new lead engagement partner. To monitor auditor independence, the Audit Committee periodically considers whether there should be a rotation of the independent auditing firm.

The members of the Audit Committee and the Board believe that the continued retention of KPMG to serve as Valero's independent registered public accounting firm for the fiscal year ending Dec. 31, 2020, is in the best interests of Valero and its investors. Accordingly, the Board requests stockholder approval of the following resolution.

> "**RESOLVED**, that the appointment of the firm of KPMG LLP as Valero's independent registered public accounting firm for the purpose of conducting an audit of the consolidated financial statements and the effectiveness of internal control over financial reporting of Valero and its subsidiaries for the fiscal year ending Dec. 31, 2020, is hereby approved and ratified."

Representatives of KPMG are expected to be present at the Annual Meeting to respond to appropriate questions raised at the Annual Meeting or make appropriate statements at the Annual Meeting.

The Board recommends that the stockholders vote "FOR" this proposal.

The affirmative vote of a majority of the voting power of the shares present in person or by proxy and entitled to vote is required for adoption of this proposal. If the appointment is not approved, the adverse vote will be considered as an indication to the Audit Committee that it should select another independent registered public accounting firm for the following year. Because of the difficulty and expense of making any substitution of public accountants so long after the beginning of the current year, it is contemplated that the appointment for 2020 will be permitted to stand unless the Audit Committee finds other good reason for making a change.

KPMG LLP FEES

The following table presents fees for services provided to us by KPMG for the years shown ($ in millions).

	2019	2018
Audit Fees (1)	8.7	9.0
Audit-Related Fees (2)	0.4	0.4
Tax Fees (3)	0.2	0.5
All Other Fees (4)	—	—
total	9.3	9.9

Notes:

(1) Represents fees for professional services rendered for the audit of the annual financial statements included in Valero's annual reports on Form 10-K, review of Valero's interim financial statements included in Valero's Forms 10-Q, the audit of the effectiveness of Valero's internal control over financial reporting, and services that are normally provided by the principal auditor (e.g., comfort letters, statutory audits, attest services, consents, and assistance with and review of documents filed with the SEC).

(2) Represents fees for assurance and related services that are reasonably related to the performance of the audit or review of Valero's financial statements and not reported under the caption for Audit Fees. The fees listed above are related primarily to the audit of Valero's benefit plans.

(3) Represents fees for professional services rendered by KPMG for tax compliance and tax consulting services. For 2019 and 2018, the fees relate primarily to property tax consulting and compliance services.

(4) Category represents fees for professional services, if any, other than the services reported under the preceding captions.

Audit Committee Pre-Approval Policy

The Audit Committee adopted a pre-approval policy to address the pre-approval of certain services rendered to Valero by its independent auditor. The text of that policy appears in Exhibit 99.01 to Valero's Annual Report on Form 10-K for the year ended Dec. 31, 2017.

All of the services rendered by KPMG to Valero for 2019 were pre-approved specifically by the Audit Committee or pursuant to our pre-approval policy. None of the services provided by KPMG were approved by the Audit Committee under the pre-approval waiver provisions of paragraph (c)(7)(i)(C) of Rule 2-01 of Regulation S-X.

REPORT OF THE AUDIT COMMITTEE FOR FISCAL YEAR 2019

Management is responsible for Valero's internal controls and financial reporting process. KPMG LLP (KPMG), Valero's independent registered public accounting firm for the fiscal year ended Dec. 31, 2019, is responsible for performing an independent audit of Valero's consolidated financial statements in accordance with the standards of the Public Company Accounting Oversight Board (PCAOB), and an audit of the effectiveness of Valero's internal control over financial reporting in accordance with the standards of the PCAOB, and to issue KPMG's reports thereon. The Audit Committee monitors and oversees these processes. The Audit Committee approves the selection and appointment of Valero's independent registered public accounting firm and recommends the ratification of its selection and appointment to our Board.

The Audit Committee has reviewed and discussed Valero's audited financial statements with management and KPMG. The committee has discussed with KPMG the matters required to be discussed by the applicable requirements of the PCAOB and the SEC. The committee has received the written disclosures and the letter from KPMG required by applicable requirements of the PCAOB regarding the independent accountant's communications with the audit committee concerning independence, and has discussed with KPMG that firm's independence.

Based on the foregoing review, discussions, and other matters the Audit Committee deemed relevant and appropriate, the committee recommended to the Board that the audited financial statements of Valero be included in its Annual Report on Form 10-K for the year ended Dec. 31, 2019, for filing with the SEC.

Members of the Audit Committee:

Randall J. Weisenburger, Chairman
H. Paulett Eberhart
Stephen M. Waters

The material in this Report of the Audit Committee is not "soliciting material," is not deemed filed with the SEC, and is not to be incorporated by reference in any of Valero's filings under the Securities Act or the Exchange Act, respectively, whether made before or after the date of this proxy statement and irrespective of any general incorporation language therein.

PROPOSAL NO. 3—ADVISORY VOTE TO APPROVE COMPENSATION OF NAMED EXECUTIVE OFFICERS

(ITEM 3 ON THE PROXY CARD)

Our Board and our stockholders have determined to hold an advisory vote on executive compensation ("say-on-pay") every year. Accordingly, we are asking stockholders to vote to approve the 2019 compensation of our named executive officers as such compensation is disclosed pursuant to Item 402 of the SEC's Regulation S-K, including the Compensation Discussion and Analysis, the compensation tables, and other narrative compensation disclosures required by Item 402. This proxy statement contains all of these required disclosures.

We request the stockholders to approve the following resolution:

> "**RESOLVED**, that the compensation paid to Valero's named executive officers, as disclosed pursuant to Item 402 of Regulation S-K, including the Compensation Discussion and Analysis, compensation tables, and narrative discussion, is hereby approved."

Because the vote on this proposal is advisory, it will not affect compensation already paid or awarded to any named executive officer and will not be binding on Valero, the Board, or the Compensation Committee. The Board and Compensation Committee, however, will review the voting results and take into account the outcome in determining future annual compensation for the named executive officers.

Proxies will be voted for approval of the proposal unless otherwise specified. Approval of this proposal requires the affirmative vote of a majority of the shares present in person or represented by proxy at the meeting and entitled to vote on the proposal.

The Board recommends that the stockholders vote "FOR" this proposal.

PROPOSAL NO. 4—APPROVE THE 2020 OMNIBUS STOCK INCENTIVE PLAN

(ITEM 4 ON THE PROXY CARD)

We are asking stockholders to approve the Valero Energy Corporation 2020 Omnibus Stock Incentive Plan (the “2020 OSIP”). The Compensation Committee and the Board of Directors have approved the 2020 OSIP, subject to approval by Valero’s stockholders.

The Board requests that you approve the following resolution.

RESOLVED, that the stockholders hereby approve the Valero Energy Corporation 2020 Omnibus Stock Incentive Plan.

The affirmative vote of a majority of the voting power of the shares present in person or by proxy and entitled to vote is required for adoption of this proposal. Pursuant to rules of the NYSE, brokers will not have discretion to vote on this proposal.

The Board recommends that stockholders vote “FOR” this proposal.

The purpose of the 2020 OSIP is to attract and retain the services of eligible individuals, to provide them with a proprietary interest in Valero, and to motivate them using stock-based incentives linked to long-range performance goals and the interests of Valero’s stockholders.

Our employees, non-employee directors, and third-party services providers will be eligible to participate in the 2020 OSIP. As of Jan. 31, 2020, we had 10,222 employees and 10 non-employee directors. On March 4, 2020, the closing price of our Common Stock on the NYSE was $64.15 per share.

With the 2020 OSIP, we are seeking approval for a total number of shares equal to the sum of:

(1) 8,580,000, plus

(2) any shares of Common Stock available for grant under the 2011 OSIP (defined below) as of the date when the 2020 OSIP is approved by Valero’s stockholders, plus

(3) shares of Common Stock previously subject to awards under the 2011 OSIP or 2020 OSIP that are forfeited, terminated, canceled or rescinded, settled in cash in lieu of Common Stock, or exchanged for awards that do not involve Common Stock, or expire unexercised on or after the effective date of the 2020 OSIP.

No awards or grants have been made under the 2020 OSIP, and no awards or grants will be made under the 2020 OSIP unless it is approved by the stockholders. We will register the shares to be issued from the 2020 OSIP on a registration statement on Form S-8 as soon as practicable after stockholder approval of the plan. If the 2020 OSIP is not approved by the stockholders, it will not become effective.

We presently use our 2011 Omnibus Stock Incentive Plan (2011 OSIP) for stock-based awards. If stockholders approve the 2020 OSIP, no further awards will be made under the 2011 OSIP and it will be terminated. Additional information about our stock-based compensation plans is provided in this proxy statement under the caption, “Equity Compensation Plan Information.”

As of Dec. 31, 2019, we had 7,740,665 shares available for issuance under the 2011 OSIP.

As of Feb. 28, 2020, we had 7,202,491 shares available for issuance under the 2011 OSIP. The decrease is due primarily to the 2020 grants of annual long-term incentive awards made to our executive officers on Feb. 26, 2020.

As shown in the following table, the total number of shares subject to outstanding stock options, restricted shares, performance shares and stock units under the 2011 OSIP as of Feb. 28, 2020 was 2,167,923.

The following provides information about outstanding equity awards under the 2011 OSIP as of Dec. 31, 2019, and Feb. 28, 2020.

2011 OSIP

Outstanding Stock Options

as of	total # outstanding	weighted average exercise price	weighted average remaining term
Dec. 31, 2019	349,462	$ 34.94	3.33 yrs
Feb. 28, 2020	349,462	$ 34.94	3.17 yrs

Total # of other outstanding equity awards

	Restricted Stock	Performance Shares (target)	Stock Units
Dec. 31, 2019	1,091,854	499,857	19,245
Feb. 28, 2020	1,267,275	531,186	20,000

Dilution and Run Rate

The 7,202,491 shares available under the 2011 OSIP as of Feb. 28, 2020, and the 8,580,000 new shares being requested for the 2020 OSIP, represent 1.76% and 2.10%, respectively, and 3.86% in the aggregate of our 408,932,677 common shares outstanding as of Feb. 28, 2020. No additional awards will be made under the 2011 OSIP upon approval of the 2020 OSIP by the stockholders.

The following table describes the run rate with respect to equity awards issued under the 2011 OSIP. The run rate is determined by dividing the sum of (i) restricted shares granted, (ii) stock units granted, (iii) common shares earned upon the settlement of performance shares, and (iv) stock options granted, by the basic weighted-average total shares of our outstanding Common Stock for the pertinent year. A calculation of our run rate for the last three fiscal years appears below:

Fiscal Year	Restricted Shares Granted	Stock Units Granted	Common Shares Earned from Settlement of Performance Shares	Stock Options Granted	Total	Basic Weighted Average Common Shares Outstanding	Run Rate
2019	677,482	19,245	29,714	—	726,441	413,225,530	0.18%
2018	628,908	14,013	217,485	—	860,406	426,437,617	0.20%
2017	739,393	—	318,400	—	1,057,793	441,619,203	0.24%
Three-Year Average Run Rate							**0.21%**

Anticipated Awards to Participants

Because awards under the 2020 OSIP would be granted at the discretion of the Compensation Committee, it is not possible for us to determine the amount of awards that may be granted from the 2020 OSIP to the named executive officers listed in the Summary Compensation Table or to any other potential participants.

Summary

The following summary of the material terms of the 2020 OSIP does not purport to be complete and is subject to and qualified in its entirety by reference to the complete text of the 2020 OSIP, which is attached to this proxy statement as Appendix A. If this summary conflicts with the terms of the Plan, the terms of the Plan will govern. In this summary:

- "shares" means Valero's $0.01 par value common stock;
- "stock unit" means a unit or right whose value is based on the value of a share;
- "Plan" means the 2020 Omnibus Stock Incentive Plan; and
- "Committee" means the Compensation Committee of the Board.

Administration. The Plan is administered by the Committee. The Committee is composed of directors appointed by the Board who are non-employee directors, as defined by Rule 16b-3 of the Securities Exchange Act of 1934. The Committee is authorized, subject to the terms of the Plan, to determine which participants will receive awards, the times when such awards will be made, the times when such awards will vest, the types of awards, the number of shares to be issued under the awards, and other terms and conditions of awards.

Share Counting. All awards granted under the Plan will be counted against the aggregate number of shares that may be awarded under the Plan on a one-for-one basis. If an award granted under the Plan is subsequently forfeited or cancelled without the payment of consideration, then, subject to the terms of the Plan, the shares allocable to the forfeited or cancelled portion of the award will be added back to the aggregate number available for grant under the Plan, and may again be subject to an award granted under the Plan.

If, however, shares are delivered or tendered to Valero for repurchase to satisfy the exercise price of an option award, those shares may not be added back to the aggregate number of shares available for grants under the Plan. In addition, if any shares are withheld from issuance to satisfy tax obligations associated with an award, those shares will count against the aggregate number of shares available for future grants under the Plan.

Limitations on Awards. The following limitations apply:

- The exercise price of stock options cannot be less than 100 percent of the fair market value of a share at the time the option is granted.
- The grant price of a stock appreciation right (“SAR”) cannot be less than 100 percent of the fair market value of a share at the time the SAR is granted.
- Repricing or the cashing out of stock options and SARs is not permitted, subject to limited exceptions in connection with certain extraordinary transactions affecting Valero as further specified in the Plan.
- No participant may receive during any calendar year awards that are to be settled in shares covering an aggregate of more than 1,000,000 shares.
- A non-employee director may not receive in any calendar year awards that are to be settled in shares having an aggregate fair market value that is greater than $500,000.
- No participant may receive during any calendar year awards that are to be settled in cash covering an aggregate of more than $20,000,000.
- The terms of awards may not exceed 10 years.
- The Plan does not contain an evergreen provision.

Vesting. No award granted under the Plan shall become exercisable or vested prior to the one-year anniversary of the award’s date of grant; provided, however, that, such restriction shall not apply to awards granted under the Plan with respect to the number of shares which, in the aggregate, does not exceed five percent of the total number of shares that were authorized to be issued as awards under the Plan.

Types of Awards. The Plan permits grants of: (i) restricted stock and restricted stock units; (ii) stock options (including incentive and non-qualified stock options); (iii) SARs; (iv) performance awards of cash, stock, or other securities; and (v) other stock-based awards (e.g., stock unit awards). Awards may be granted alone, in addition to, or in combination with, any other awards under the Plan or any other compensation plan. Awards can be granted for cash or other consideration as determined by the Committee or as required by applicable law (or for no cash consideration). Awards may provide that upon the grant or exercise thereof, the holder will receive cash, shares or other securities, or any combination of these.

Restricted Stock and Restricted Stock Units. Restricted stock is an award of shares subject to a restriction period specified in the award. During the restriction period, the shares may not be transferred or pledged and are subject to forfeiture. Potential events of forfeiture include early termination of employment. The holder is otherwise usually treated as a registered stockholder with the right to receive dividends and vote the shares during the restriction period. Restricted stock units are similar to restricted stock except that the award takes the form of stock units instead of shares. During the restriction period, a holder of restricted stock units may be paid cash (dividend equivalents) that are equal in timing and amount to share dividends, but does not have voting or other stockholder rights. The units may be settled in cash or shares.

Stock Options and Stock Appreciation Rights. Stock options give the holder the right to purchase shares at the exercise price specified in the award. SARs give the holder the right to receive an amount in cash or shares equal to the spread between the exercise price specified in the award and the market price of a share at the time of exercise. SARs may be granted alone or with stock options. Stock options and SARs granted under the Plan are subject to the terms and conditions determined by the Committee, except that the exercise price cannot be less than 100 percent of the fair market value of a share at the time of the grant and the maximum term is

10 years. The Committee determines the form in which payment of the exercise price may be made. Incentive Stock Options may be granted, provided that they meet the requirements of the Internal Revenue Code. Stock options and SARs generally are subject to forfeiture upon a participant's termination of employment or service.

Performance Awards. Performance awards that may be granted under the Plan may consist of a right payable in cash, shares, other securities or other property upon the achievement of certain performance goals. The Committee shall determine the performance goals to be achieved during any performance period, the length of any performance period, the amount of any performance award, and the amount of any payment or transfer to be made pursuant to any performance award. Performance awards may be paid in a lump sum, installments, on a deferred basis or otherwise as prescribed by the Committee. Performance awards generally are subject to forfeiture upon a participant's termination of employment or service. Performance goals may be particular to a Plan participant, may relate to the performance of Valero or one of its subsidiaries or divisions, or a combination thereof.

Stock Compensation and Other Stock-Based Awards. The Committee may grant other forms of awards based on, payable in, or otherwise related in whole or in part to shares under the Plan. Subject to the terms of the Plan, the Committee shall determine the terms and conditions of any such other stock-based awards. The number and type of shares to be distributed in lieu of the cash compensation applicable to any award as well as the terms and conditions of any bonus awards shall be determined by the Committee.

Adjustments. The Committee may make appropriate adjustments in the number of shares available under the Plan to reflect any stock split, stock dividend, recapitalization, reorganization, consolidation, merger, combination or exchange of shares, distribution to stockholders, liquidation, dissolution, or other similar event.

Change of Control. Upon a change of control as defined in the Plan, the Committee generally is authorized to cause outstanding awards to be assumed, or new rights substituted therefor, by the surviving entity in the change of control. In addition, subject to applicable laws, any change of control agreement or any policy previously adopted by the Board, for participants whose employment has been terminated in connection with the change of control, the Committee may accelerate vesting periods, provide for extended exercise periods (for options), or waive other conditions applicable to the outstanding awards so that the terminated participant's outstanding awards may be vested, exercised, paid, or distributed in full on or before a date fixed by the Committee. Also in connection with a participant's termination of employment as a result of the change of control, the Committee may provide for the purchase of outstanding awards from the participant for cash.

Amendment/Limitations on Amendments. The Committee, or as applicable, the Board, may terminate or amend the Plan without participant or stockholder approval, except that stockholder approval is required for any amendment that would require stockholder approval under the rules of the NYSE, or as otherwise may be required by applicable rule or regulation. No option or SAR may be canceled and replaced with an option or SAR having a lower exercise price, except in connection with a stock dividend, stock split or similar event as specified in the Plan in order to prevent dilution or enlargement of benefits intended under the Plan.

Effective Date and Termination. The Plan will become effective on the date of its approval by Valero's stockholders. If the Plan is approved at the 2020 annual meeting, it will continue in force for a period of ten years, after which no additional awards may be made under the Plan.

Federal Income Tax Consequences

The following discussion summarizes certain federal income tax consequences of the issuance and receipt of 2020 OSIP awards. The rules governing the tax treatment of such awards are complex, so the following discussion of tax consequences is necessarily general in nature and is not complete. In addition, statutory provisions are subject to change, as are their interpretations, and their application may vary in individual circumstances. This summary does not purport to cover all federal employment tax or other federal tax consequences associated with the 2020 OSIP, nor does it address state, local, or non-U.S. taxes. The 2020 OSIP is not qualified under the provisions of Section 401(a) of the Internal Revenue Code (Code), and is not subject to the provisions of the Employee Retirement Income Security Act of 1974.

Options, SARs, Performance Unit Awards, Restricted Stock Unit Awards and Other Stock-Based Awards. A participant generally is not required to recognize income on the grant of an option, SAR, restricted stock unit award, performance unit award or other stock-based award. Instead, ordinary income generally is required to be recognized on the date the option or SAR is exercised (but see the discussion on Incentive Stock Options), or in the case of restricted stock unit awards, performance unit awards or other stock-based awards, upon the issuance of shares and/or the payment of cash pursuant to the terms of the award when the award vests. In general, the amount of ordinary income required to be recognized is: (a) in the case of an option, an amount equal to the excess, if any, of the fair market value of the shares on the exercise date over the exercise price; (b) in the case of a SAR, the fair market value of any shares or cash received upon exercise; and (c) in the case of restricted stock unit awards, performance unit awards or other stock-based awards, the amount of cash and/or the fair market value of any shares received in respect thereof.

Incentive Stock Options. When a participant is granted an incentive stock option, or when the participant exercises the incentive stock option, the participant will generally not recognize taxable income (except for purposes of alternative minimum tax). If the participant holds the shares for at least two years from the date of grant, and one year from the date of exercise, then any gain or loss will be treated as long-term capital gain or loss. If, however, the shares are disposed of during this period, the option will be treated as a non-qualified stock option, and the participant will recognize ordinary income equal to the lesser of the fair market value of the shares on the exercise date minus the exercise price or the amount realized on disposition minus the exercise price. Any gain in excess of the ordinary income portion will be taxable as long-term or short-term capital gain.

Cash-Based Awards. Upon payment of a cash-based award, a participant is required to recognize ordinary income in the amount of the award.

Restricted Stock and Performance Share Awards. Unless a participant who receives an award of restricted stock or performance shares makes an election under Section 83(b) of the Code as described below, the participant generally is not required to recognize ordinary income on the award of restricted stock or performance shares. Instead, on the date the shares vest (i.e., become transferable and no longer subject to forfeiture), the participant will be required to recognize ordinary income in an amount equal to the excess, if any, of the fair market value of the shares on such date over the amount, if any, paid for such shares. If a Section 83(b) election has not been made, any dividends received with respect to restricted stock or performance shares that are subject at that time to a risk of forfeiture or restrictions on transfer generally will be treated as compensation that is taxable as ordinary income to the recipient. If a participant makes a Section 83(b) election within 30 days of the date of transfer of the restricted stock or performance shares, the participant will recognize ordinary income on the date the shares are awarded. The amount of ordinary income required to be recognized is an amount equal to the excess, if any, of the fair market value of the shares on the date of award over the amount, if any, paid for such shares. In such case, the participant will not be required to recognize additional ordinary income when the shares vest.

Gain or Loss on Sale or Exchange of Shares. In general, gain or loss from the sale or exchange of shares granted or awarded under the 2020 OSIP will be treated as capital gain or loss, provided that the shares are held as capital assets at the time of the sale or exchange.

Deductibility by Valero. To the extent that a participant recognizes ordinary income in the circumstances described above, Valero will be entitled to a corresponding deduction, provided that, among other things, the income meets the test of reasonableness, is an ordinary and necessary business expense, is not disallowed by Section 162(m) of the Code and is not an “excess parachute payment” within the meaning of Section 280G of the Code (see the discussions on Section 162(m) and Parachute Payments below).

Section 162(m). Section 162(m) of the Code generally limits the deductibility of compensation paid to certain top executives to $1 million. In previous years, there was an exemption from this $1 million deduction limit for compensation payments that qualified as “performance-based” under applicable regulations. However, the enactment of the Tax Cuts and Jobs Act of 2017 eliminated the performance-based compensation exemption, except with respect to certain grandfathered arrangements. Prospectively, for pay vehicles granted and earned in 2019 and beyond, the Tax Cuts and Jobs Acts of 2017 eliminated the deductibility of most components of pay to certain top executives to the extent that such pay exceeds $1 million in a year. Consistent with Valero’s historic approach to deductibility under former Section 162(m), the Committee will continue to exercise flexibility and discretion in determining whether any given form of pay should be designed and administered to qualify for full deductibility.

Parachute Payments. Under the provisions of Section 280G of the Code, the accelerated vesting of options and benefits paid under other awards in connection with a change in control of a corporation may be required to be valued and taken into account in determining whether participants have received compensatory payments, contingent upon a change in control, in excess of certain limits. If these limits are exceeded, a portion of the amounts payable to the participant may be subject to an additional 20 percent federal tax and may be nondeductible to the corporation.

Withholding. Awards under the 2020 OSIP may be subject to tax withholding. When an award results in income subject to withholding, we may require the participant to remit the withholding amount to Valero or cause our shares to be withheld from issuance or sold in order to satisfy the tax withholding obligations.

Section 409A. Section 409A of the Code (Section 409A) applies to compensation plans providing deferred compensation to employees, directors and consultants, and potentially could apply to the different awards available under the 2020 OSIP. Generally, to the extent that deferrals of these awards fail to meet certain requirements under Section 409A, such awards will be subject to immediate taxation and tax penalties in the year they vest unless the requirements of Section 409A are satisfied. Valero’s intent is that awards under the 2020 OSIP will be structured and administered in a manner that either complies with or is exempt from the requirements of Section 409A. If any provision or award under the 2020 OSIP would result in the imposition of an applicable tax under Section 409A and related regulations and Treasury pronouncements, then that provision or award may be reformed to avoid imposition of the applicable tax and no action taken to comply with Section 409A shall be deemed to adversely affect the participant’s rights to an award.

MISCELLANEOUS

Governance Documents and Codes of Ethics

Our *Code of Ethics for Senior Financial Officers* applies to our principal executive officer, principal financial officer, and controller. The code charges these officers with responsibilities regarding honest and ethical conduct, the preparation and quality of the disclosures in documents and reports we file with the SEC, and compliance with applicable laws, rules, and regulations. We have also adopted a *Code of Business Conduct and Ethics* which applies to all of our employees and directors.

We post the following documents on our website at www.valero.com > Investors > Corporate Governance > Governance Documents. A printed copy of these documents is available to any stockholder upon request. Requests for documents must be in writing and directed to Valero's Secretary at the address indicated on the cover page of this proxy statement.

- Restated Certificate of Incorporation
- Bylaws
- Code of Business Conduct and Ethics
- Code of Ethics for Senior Financial Officers
- Corporate Governance Guidelines
- Audit Committee Charter
- Compensation Committee Charter
- Nominating/Governance and Public Policy Committee Charter
- Related Party Transactions Policy
- Compensation Consultant Disclosures Policy
- Policy on Executive Compensation in Restatement Situations
- Policy on Political Contributions, Lobbying, and Trade Associations
- Policy on Vesting of Performance Shares
- Health, Safety and Environmental Policy
- Human Rights Policy

Stockholder Communications, Nominations, and Proposals

Stockholders and other interested parties may communicate with the Board, its non-management directors, or the Lead Director by sending a written communication addressed to "Board of Directors," "Non-Management Directors," or "Lead Director" in care of Valero's Secretary at the address indicated on the cover page of this proxy statement.

In order to submit a stockholder proposal for inclusion in our proxy statement for the 2021 annual meeting of stockholders pursuant to Rule 14a-8 of the Exchange Act, we must receive your written proposal on or before Nov. 20, 2020. The proposal must comply with Rule 14a-8, which lists the requirements for the inclusion of stockholder proposals in company-sponsored proxy materials.

To present a stockholder proposal at the 2021 annual meeting of stockholders that is not the subject of a proposal pursuant to Rule 14a-8 of the Exchange Act, or to recommend to the Board's Nominating/Governance and Public Policy Committee the nomination of a person for election to the Board, you must follow the procedures stated in Article I, Section 9 of our bylaws. These procedures include the requirement that your proposal must be delivered to Valero's Secretary not later than the close of business on the 90th day or earlier than the close of business on the 120th day prior to the first anniversary of the preceding year's annual meeting. If the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, your notice must be delivered not earlier than the close of business on the 120th day prior to such annual meeting and not later than the close of business on the later of the 90th day prior to such annual meeting or the 10th day following the day we publicly announce the date of the 2021 annual meeting of stockholders.

An eligible stockholder, or eligible group of stockholders, that wants to nominate a candidate for election to the Board pursuant to the proxy access provisions of our bylaws must follow the procedures stated in Article I, Section 9A of our bylaws. These procedures include the requirement that your nomination must be delivered to Valero's Secretary not later than the close of business on the 120th day or earlier than the close of business on the 150th day prior to the first anniversary of the preceding year's annual meeting. If the date of the annual meeting is more than 30 days before or more than 60 days after such anniversary date, your notice must be delivered not later than the 120th day prior to such annual meeting or, if later, the 10th day following the day we publicly announce the date of the 2021 annual meeting of stockholders. Our bylaws are available on our website at www.valero.com > Investors > Corporate Governance > Governance Documents. Stockholders are urged to review all applicable rules and consult legal counsel before submitting a nomination or proposal to Valero.

Other Business

If any matters not referred to in this proxy statement properly come before the Annual Meeting or any adjournments or postponements thereof, the enclosed proxies will be deemed to confer discretionary authority on the individuals named as proxies to vote the shares represented by proxy in accordance with their best judgments. The Board is not currently aware of any other matters that may be presented for action at the Annual Meeting.

Financial Statements

Consolidated financial statements and related information for Valero, including audited financial statements for the fiscal year ended Dec. 31, 2019, are contained in Valero's Annual Report on Form 10-K. We have filed our Annual Report on Form 10-K with the SEC. You may review this report on the internet as indicated in the Notice and through our website (www.valero.com > Investors > Financial Information > SEC Filings).

Householding

The SEC's rules allow companies to send a single Notice or single copy of annual reports, proxy statements, prospectuses, and other disclosure documents to two or more stockholders sharing the same address, subject to certain conditions. These "householding" rules are intended to provide greater convenience for stockholders, and cost savings for companies, by reducing the number of duplicate documents that stockholders receive. If your shares are held by an intermediary broker, dealer, or bank in "street name," your consent to householding may be sought, or may already have been sought, by or on behalf of the intermediary. If you prefer to receive your own set of proxy materials now or in future years, you may request a duplicate set by phone at 800-579-1639, or you may contact your broker.

Transfer Agent

Computershare Investor Services serves as our transfer agent, registrar, and dividend paying agent with respect to our Common Stock. Correspondence relating to any stock accounts, dividends, or transfers of stock certificates should be addressed to:

Computershare Investor Services
Shareholder Communications

by regular mail:
P.O. Box 505000
Louisville, KY 40233-5000

by overnight delivery:
462 South 4th Street
Suite 1600
Louisville, KY 40202

(888) 470-2938
(312) 360-5261
www.computershare.com

Appendix A

VALERO ENERGY CORPORATION
2020 OMNIBUS STOCK INCENTIVE PLAN

This Valero Energy Corporation **2020 Omnibus Stock Incentive Plan** (hereinafter called the "Plan") was approved by the Company's Board on February 26, 2020, and subject to approval by the Company's stockholders, the Plan will become effective as of the Effective Date. Upon the Effective Date, no further awards will be granted under the Prior Plan and it will be terminated.

ARTICLE 1. PURPOSE

The purpose of the Plan is to attract and retain the services of eligible individuals, to provide them with a proprietary interest in the Company, and to motivate them using stock-based incentives linked to long-range performance goals and the interests of the Company's stockholders.

ARTICLE 2. DEFINITIONS

For the purpose of the Plan, unless the context requires otherwise, the following terms shall have the meanings indicated:

2.1 "Affiliate" shall mean any corporation or other entity (including, but not limited to, a partnership or a limited liability company), that is affiliated with the Company through stock or equity ownership or otherwise, and is designated as an Affiliate for purposes of this Plan by the Committee.

2.2 "Award" means the grant of any Incentive Stock Option, Non-qualified Stock Option, SAR, Restricted Stock, Restricted Stock Unit, Stock Unit Award, Performance Share, Performance Unit, Performance Cash, Other Stock Based Awards, or Dividend Equivalent whether granted singly, in combination or in tandem (each individually referred to herein as an "Incentive").

2.3 "Award Agreement" means a written or electronic agreement between a Participant and the Company, which contains the terms of the grant of an Award.

2.4 "Award Period" means the period during which one or more Incentives granted under an Award may be exercised or earned.

2.5 "Board" means the board of directors of the Company.

2.6 "Cause" means the:

(a) conviction of the Participant by a state or federal court of (i) a felony involving moral turpitude or (ii) embezzlement or misappropriation of funds of the Company,

(b) the Company's reasonable determination that the Participant has (i) committed an act of fraud, embezzlement, theft, or misappropriation of funds in connection with such Participant's duties in the course of his or her employment with the Company (or applicable Subsidiary), or (ii) engaged in gross mismanagement, negligence or misconduct that causes or could potentially cause material loss, damage or injury to the Company, any of its Subsidiaries, or their respective employees, or

(c) the Company's reasonable determination that (i) the Participant has violated any company policy, including but not limited to, policies regarding sexual harassment, insider trading, confidentiality, substance abuse and/or conflicts of interest, which violation could result in the termination of the Participant's employment or service as a Non-employee Director, or (ii) the Participant has failed to satisfactorily perform the material duties of the Participant's position with the Company or any of its Subsidiaries.

2.7 "Change of Control." A Change of Control shall be deemed to occur when:

(a) following approval by the stockholders of the Company, an agreement or transaction is consummated pursuant to which: (i) the Company merges or consolidates with any other Person (other than a wholly owned subsidiary of the Company) and is not the surviving entity (or in which the Company survives only as the subsidiary of another entity); (ii) the Company sells all or substantially all of its assets to any other Person (other than a wholly owned subsidiary of the Company); or (iii) the Company is liquidated or dissolved; or

(b) consummation by any "person" or "group" of a tender offer or exchange offer for 20 percent or more of the Shares then outstanding, or for any number or amount of Shares which, if the tender or exchange offer were to be fully subscribed and all Shares for which the tender or exchange offer is made were to be purchased or exchanged pursuant to the offer, would result in the acquiring person or group directly or indirectly beneficially owning 50 percent or more of the Shares then outstanding; or

(c) individuals who, as of any date, constitute the Board (the "Incumbent Board") thereafter cease for any reason to constitute at least a majority of the Board, provided that any individual becoming a director whose election, or nomination for election by the Company's stockholders, was approved by a vote of at least a majority of the directors then comprising the Incumbent Board shall be considered as though such individual were a member of the Incumbent Board, but excluding, for this purpose, any such individual whose initial assumption of office occurs as a result of an actual or threatened election contest with respect to the election or removal of directors or other actual or threatened solicitation of proxies or consents by or on behalf of a person or group other than the Board.

2.8 "Code" means the Internal Revenue Code of 1986, as amended, together with the published rulings, regulations, and interpretations promulgated thereunder.

2.9 "Committee" means the Compensation Committee of the Board or such other Committee appointed or designated by the Board to administer the Plan in accordance with Article 3 of this Plan.

2.10 "Common Stock" means the Company's $0.01 par value common stock, which the Company is currently authorized to issue or may in the future be authorized to issue.

2.11 "Company" means Valero Energy Corporation, a Delaware corporation, and any successor entity.

2.12 "Date of Grant" means the effective date on which an Award is made to a Participant as set forth in the applicable Award Agreement.

2.13 "Dividend Equivalent" means an Award, designated as a Dividend Equivalent, granted to Participants pursuant to Section 6.8 hereof, or in conjunction with other Awards, the value of which is determined, in whole or in part, by the value of payments tied to or based on the payment of dividends to holders of Common Stock and may be conditioned on the attainment of Performance Goals in a manner deemed appropriate by the Committee and described in the Award Agreement.

2.14 "Effective Date" means the date this Plan is duly approved by the Company's stockholders.

2.15 "Employee" means common law employee (as defined in accordance with the Regulations and Revenue Rulings then applicable under Section 3401(c) of the Code) of the Company or any Subsidiary, or an individual who has agreed to become an employee of the Company or any Subsidiary and actually becomes such an employee within six months of such agreement.

2.16 "Fair Market Value" of a share of Common Stock is the mean of the highest and lowest prices per share on the New York Stock Exchange on the pertinent date, or in the absence of reported sales on such day, then on the next following day for which sales were reported.

2.17 "Good Reason" means that the Participant's employment may be terminated by the Employee for Good Reason following a Change of Control, or anytime within two years following the date of Change of Control, when Good Reason means:

(a) The assignment to the Employee of any duties inconsistent in any respect with the Employee's position (including status, offices, titles and reporting requirements), authority, duties, or responsibilities or any other action by the Company that results in a diminution in such position's, authority, duties, or responsibilities, excluding for this purpose an isolated, insubstantial , and inadvertent action not taken in bad faith and that is remedied by the Company promptly after receipt of notice thereof given by the Employee;

(b) Any reduction in the Employee's base salary, annual incentive target opportunity, and/or long-term incentive target opportunity below the level at which the Employee was awarded compensation immediately prior to the Change of Control;

(c) The Company's requiring that the Employee to be based at any office or location other than the location at which the Employee was based immediately preceding the Change of Control or a location other than the principal executive offices of the Company, without the Employee's written consent; or

(d) Any requirement for the Employee to travel on Company business to a substantially greater extent than required immediately prior to the Change of Control.

2.18 “Incentive” means an Award under the Plan as defined by Section 2.2 of Article 2.

2.19 “Incentive Stock Option” or “ISO” means an incentive stock option within the meaning of Section 422 of the Code, granted pursuant to this Plan.

2.20 “Limited SAR” or “Limited Stock Appreciation Right” means an Award designated as an SAR as defined in this Article 2, which is granted with certain limiting features as determined by the Committee and as set forth in the Award Agreement at the time of grant.

2.21 “Limited SAR Price” means the Fair Market Value of each share of Common Stock covered by a Limited SAR on the Date of Grant of the Limited SAR.

2.22 “Non-Employee Director” means a member of the Board who is not an Employee or, for purposes of eligibility to receive an Award under the Plan and become a Participant, also includes a member of the board of directors or board of managers at any Affiliate or Subsidiary.

2.23 “Non-qualified Stock Option” or “NQSO” means a stock option, granted pursuant to this Plan that is not intended to comply with the requirements set forth in Section 422 of the Code.

2.24 “NYSE” means the New York Stock Exchange.

2.25 “Option Price” means the price which must be paid by a Participant upon exercise of a Stock Option to purchase a share of Common Stock.

2.26 “Other Stock Based Awards” means an Award granted pursuant to Section 6.8.

2.27 “Participant” shall mean an Employee, Non-Employee Director, or Third Party Service Provider to whom an Award is granted under this Plan.

2.28 “Performance Award” means an Award made pursuant to this Plan to a Participant that is subject to the attainment of one or more Performance Goals. Performance Awards may be in the form of Performance Shares, Performance Units, Performance Cash, or Dividend Equivalents.

2.29 “Performance Cash” means an Award, designated as Performance Cash and denominated in cash, granted to a Participant pursuant to Section 6.7 hereof, the value of which is conditioned, in whole or in part, by the attainment of Performance Goals in a manner deemed appropriate by the Committee and described in the Award Agreement.

2.30 “Performance Criteria” or “Performance Goals” or “Performance Measures” mean the objectives established by the Committee for a Performance Period, for the purpose of determining when an Award subject to such objectives is earned.

2.31 “Performance Period” means the time period designated by the Committee during which Performance Goals must be met.

2.32 “Performance Share” means an Award, designated as a Performance Share in the form of shares of Common Stock or other securities of the Company, granted to a Participant pursuant to Section 6.7 hereof, the value of which is determined, in whole or in part, by the value of Common Stock and/or conditioned on the attainment of Performance Goals in a manner deemed appropriate by the Committee and described in the Award Agreement.

2.33 “Performance Unit” means an Award, designated as a Performance Unit, granted to a Participant pursuant to Section 6.7 hereof, the value of which is determined, in whole or in part, by the attainment of Performance Goals in a manner deemed appropriate by the Committee and described in the Award Agreement.

2.34 “Person” shall mean any individual, corporation, partnership, association, joint-stock company, trust, unincorporated organization, government or political subdivision thereof or other entity.

2.35 “Plan” means this Valero Energy Corporation 2020 Omnibus Stock Incentive Plan, as amended from time to time.

2.36 “Prior Plan” means the Valero Energy Corporation 2011 Omnibus Stock Incentive Plan, as amended from time to time.

2.37 “Restricted Stock” means shares of Common Stock issued or transferred to a Participant pursuant to Section 6.4 of this Plan that are subject to restrictions or limitations set forth in this Plan and in the related Award Agreement.

2.38 “Restricted Stock Unit” means a fixed or variable dollar-denominated right to acquire Common Stock, which may or may not be subject to restrictions, contingently awarded under Section 6.4 of the Plan.

2.39 "Retirement" means any termination of service due to retirement upon attainment of certain age and/or service requirements as specified by the Company's qualified retirement program(s) or successor programs or as determined by the Committee in the event of early retirement.

2.40 "SAR" or "Stock Appreciation Right" means the right to receive a payment, in cash and/or Common Stock, equal to the excess of the Fair Market Value of a specified number of shares of Common Stock on the date the SAR is exercised over the SAR Price for such shares, and may be granted as a Limited SAR.

2.41 "SAR Price" means the Fair Market Value of each share of Common Stock covered by an SAR on the Date of Grant of the SAR.

2.42 "SEC" shall mean the Securities and Exchange Commission.

2.43 "Share" means a share of Common Stock.

2.44 "Stock Option" means a Non-qualified Stock Option or an Incentive Stock Option.

2.45 "Stock Unit Award" means awards of Common Stock or other awards pursuant to Section 6.8 hereof that are valued in whole or in part by reference to, or are otherwise based on, shares of Common Stock or other securities of the Company.

2.46 "Subsidiary" means any entity for which Valero Energy Corporation is the ultimate parent company and in which all of the equity, partnership, member or other interests are owned by Valero Energy Corporation or another one of its Subsidiaries. "Subsidiaries" means more than one of any such entities.

2.47 "Third Party Service Provider" means any consultant, agent, advisor, or independent contractor who renders services to the Company, a Subsidiary, or an Affiliate that (a) are not in connection with the offer and sale of the Company's securities in a capital raising transaction, and (b) do not directly or indirectly promote or maintain a market for the Company's securities.

ARTICLE 3. ADMINISTRATION

3.1 The Committee shall administer the Plan unless otherwise determined by the Board. The administering Committee shall consist of not fewer than three persons. Any member of the Committee may be removed at any time, with or without cause, by resolution of the Board; and any vacancy occurring in the membership of the Committee may be filled by appointment by the Board on the recommendation of the Nominating/Governance and Public Policy Committee of the Board.

3.2 The Board shall select one of the members of the Committee to act as the Committee's Chair. A majority of the Committee shall constitute a quorum, and the act of a majority of the members of the Committee present at a meeting at which a quorum is present shall be the act of the Committee.

3.3 The Committee shall determine and designate from time to time the eligible persons to whom Awards will be granted and shall set forth in each related Award Agreement the Award Period, the Date of Grant, and such other terms and conditions as may be approved by the Committee not inconsistent with the Plan. The Committee shall determine whether an Award shall include one type of Incentive, two or more Incentives granted in combination, or two or more Incentives granted in tandem.

3.4 The Committee, in its discretion, shall (i) interpret the Plan, (ii) prescribe, amend, and rescind any rules and regulations necessary or appropriate for the administration of the Plan, and (iii) make such other determinations and take such other action as it deems necessary or advisable in the administration of the Plan. Any interpretation, determination, or other action made or taken by the Committee shall be final, binding, and conclusive on all interested parties.

3.5 With respect to restrictions in the Plan that are based on the requirements of Rule 16b-3 under the Securities Exchange Act of 1934, Section 422 of the Code, the rules of the NYSE or any exchange or inter-dealer quotation system upon which the Company's securities are listed or quoted, or any other applicable law, rule or restriction (collectively, "applicable law"), to the extent that any such restrictions are no longer required by applicable law, the Committee shall have the sole discretion and authority to grant Awards that are not subject to such mandated restrictions and/or to waive any such mandated restrictions with respect to outstanding Awards.

3.6 Subject to the terms of the Plan and applicable law, the Committee may delegate to one or more officers or managers of the Company or any Affiliate, or to a committee of such officers or managers, the authority, subject to the terms and limitations the Committee shall determine, to grant Awards or to cancel, modify or waive rights with respect to, or to amend, suspend, or terminate Awards.

ARTICLE 4. ELIGIBILITY

Employees (including Employees who are also a director or an officer), Non-Employee Directors, and Third Party Service Providers are eligible to participate in the Plan. The Committee, in its discretion, may grant, but shall not be required to grant, an Award to any Employee, Non-Employee Director, or Third Party Service Provider. Awards may be granted by the Committee at any time and from time to time selectively to one or more new Participants, or to then Participants, or to a greater or lesser number of Participants, and may include or exclude previous Participants, all as the Committee shall determine. Except as may be required by the Plan, Awards need not be uniform.

ARTICLE 5. SHARES SUBJECT TO PLAN

5.1 Total Shares Available. Subject to adjustment as provided in Articles 12 and 13, the maximum number of shares of Common Stock that may be delivered pursuant to Awards granted under the Plan is the sum of (a) 8,580,000, plus (b) any shares of Common Stock available for grants of Awards under the Prior Plan as of the Effective Date, plus (c) shares of Common Stock previously subject to Awards under the Plan or the Prior Plan that are forfeited, terminated, cancelled or rescinded, settled in cash in lieu of Common Stock, or exchanged for Awards that do not involve Common Stock, or expire unexercised on or after the Effective Date.

5.2 Source of Shares. Shares to be issued may be made available from authorized but unissued Common Stock, Common Stock held by the Company in its treasury, or Common Stock purchased by the Company on the open market or otherwise. During the term of this Plan, the Company will at all times reserve and keep available a number of shares of Common Stock that shall be sufficient to satisfy the requirements of this Plan.

5.3 Restoration and Retention of Shares ("Share Counting"). If any shares of Common Stock subject to an Award shall not be issued or transferred to a Participant and shall cease to be issuable or transferable to a Participant because of the forfeiture, termination, expiration or cancellation, in whole or in part, of such Award or for any other reason, or if any such shares shall, after issuance or transfer, be reacquired by the Company because of the Participant's failure to comply with the terms and conditions of an Award or for any other reason, the shares not so issued or transferred, or the shares so reacquired by the Company, as the case may be, shall no longer be charged against the limitation provided for in Section 5.1 and may be used thereafter for additional Awards under the Plan. The following additional parameters shall apply:

(a) To the extent an Award under the Plan is settled or paid in cash, Shares subject to such Award will not be considered to have been issued and will not be applied against the maximum number of shares of Common Stock provided for in Section 5.1.

(b) If an Award may be settled in shares of Common Stock or cash, such shares shall be deemed issued only when and to the extent that settlement or payment is actually made in shares of Common Stock. To the extent an Award is settled or paid in cash, and not shares of Common Stock, any Shares previously reserved for issuance or transfer pursuant to such Award will again be deemed available for issuance or transfer under the Plan, and the maximum number of shares of Common Stock that may be issued or transferred under the Plan shall be reduced only by the number of Shares actually issued and transferred to the Participant.

(c) Notwithstanding the foregoing: (i) Shares withheld or tendered to pay withholding taxes or the exercise price of an Award shall not again be available for the grant of Awards under the Plan, and (ii) the full number of Shares subject to a Stock Option or SAR granted that are settled by the issuance of Shares shall be counted against the Shares authorized for issuance under this Plan, regardless of the number of Shares actually issued upon the settlement of such Stock Option or SAR.

(d) Any Shares repurchased by the Company on the open market using the proceeds from the exercise of an Award shall not increase the number of Shares available for the future grant of Awards.

5.4 Uncertificated Shares. Shares issued under the Plan will be registered in uncertificated book-entry form (unless a holder of Common Stock requests a certificate representing such holder's shares of Common Stock). As a result, instead of receiving Common Stock certificates, holders of Common Stock will receive account statements reflecting their ownership interest in shares of Common Stock. The book-entry Shares will be held with the Company's transfer agent, which will serve as the record keeper for all shares of Common Stock being issued in connection with the Plan. Computershare Investor Services, Chicago, Illinois, currently serves as transfer agent, registrar and dividend paying agent for the Common Stock. Correspondence relating to any stock accounts, dividends or transfers of Common Stock should be addressed to: Computershare Investor Services Shareholder Communications, P.O. Box 505000, Louisville, KY 40233-5000, (888) 470-2938 or (312) 360-5261, www.computershare.com.

ARTICLE 6. GRANTS OF AWARDS

6.1 In General.

(a) The grant of an Award shall be authorized by the Committee and may be evidenced by an Award Agreement setting forth the Incentive or Incentives being granted, the total number of shares of Common Stock subject to the Incentive(s) or the value of the Performance Award (if applicable), the Option Price (if applicable), the Award Period, the Date of Grant, and such other terms as are approved by the Committee not inconsistent with the Plan. The Company may execute an Award Agreement with a Participant after the Committee approves the issuance of an Award. Any Award granted pursuant to this Plan must be granted within 10 years of the Effective Date of this Plan. The grant of an Award to a Participant shall not be deemed either to entitle the Participant to, or to disqualify the Participant from, receipt of any other Award under the Plan.

(b) If the Committee establishes a Date of Grant purchase price for an Award, the Participant must pay such purchase price within 30 days (or such shorter period as the Committee may specify) after the Date of Grant.

6.2 Limitations on Awards

(a) The Plan is subject to the following additional limitations:

(i) The Option Price of Stock Options cannot be less than 100 percent of the Fair Market Value of a share of Common Stock on the Date of Grant of the Stock Option.

(ii) The SAR Price of an SAR cannot be less than 100 percent of the Fair Market Value of a share of Common Stock on the Date of Grant of the SAR.

(iii) Repricing of Stock Options and SARs or other downward adjustments in the Option Price or SAR Price of previously granted Stock Options or SARs, respectively, are prohibited, except in connection with a corporate transaction involving the Company such as any stock dividend, stock split, extraordinary cash dividend, recapitalization, reorganization, merger, consolidation, split-up, spin-off, combination, or exchange of shares, provided that the terms of outstanding Awards may not be amended without stockholder approval to reduce the exercise price of outstanding Stock Options or SARs or cancel outstanding Stock Options or SARs in exchange for cash, other awards or Stock Options or SARs having an exercise price that is less than the exercise price of the original Stock Option or SAR.

(iv) No Participant may receive during any calendar year Awards that are to be settled in Shares of Common Stock covering an aggregate of more than 1,000,000 Shares. In addition, a Participant who is a Non-Employee Director may not receive in any calendar year Awards that are to be settled in Shares having a Fair Market Value (measured on the Date(s) of Grant) that is greater than $500,000 in the aggregate.

(v) No Participant may receive during any calendar year Awards that are to be settled in cash covering an aggregate of more than $20,000,000.

(vi) The term of Awards may not exceed 10 years.

(b) Limited SARs granted in tandem with Stock Options or other Awards shall not be counted towards the maximum individual grant limitation set forth in this Section, as the Limited SAR will expire based on conditions described in Section 6.5(b), below.

6.3 Rights as Stockholder. Except as provided in Section 6.4 of this Plan, until the issuance of the Shares of Common Stock (as evidenced by the appropriate entry on the books of the Company or its transfer agent), no right to vote or receive dividends or any other rights as a stockholder of the Company shall exist with respect to such Shares, notwithstanding the exercise of any Incentive or Award. No adjustment will be made for a dividend or other rights for which the record date is prior to the date Shares are issued, except as otherwise provided in this Plan.

6.4 Restricted Stock/Restricted Stock Units. If Restricted Stock and/or Restricted Stock Units are granted to a Participant under an Award, the Committee shall establish: (i) the number of shares of Restricted Stock and/or the number of Restricted Stock Units awarded, (ii) the price, if any, to be paid by the Participant for such Restricted Stock and/or Restricted Stock Units, (iii) the time(s) within which such Award may be subject to forfeiture, (iv) specified Performance Goals of the Company, a Subsidiary, any division thereof or any group of Employees of the Company, or other criteria, if any, which the Committee determines must be met in order to remove any restrictions (including vesting) on such Award, and (v) all other terms of the Restricted Stock and/or Restricted Stock Units, which shall be consistent with this Plan. The provisions of Restricted Stock and/or Restricted Stock Units need not be the same with respect to each Participant.

(a) Record of Shares. Each Participant who is awarded Restricted Stock shall be issued the number of shares of Common Stock specified in the Award Agreement for such Restricted Stock, and such shares shall be recorded in the share transfer records of the Company and ownership of such shares shall be evidenced by a book entry notation in the share transfer records of the Company's transfer agent. Such shares shall be registered in the name of the Participant, subject to any restrictions in effect for the Award.

(b) Restrictions and Conditions. Shares of Restricted Stock and Restricted Stock Units shall be subject to the following restrictions and conditions:

(i) Subject to the other provisions of this Plan and the terms of the particular Award Agreements, during such period as may be determined by the Committee commencing on the Date of Grant (the "Restriction Period"), the Participant shall not be permitted to sell, transfer, pledge or assign shares of Restricted Stock and/or Restricted Stock Units.

(ii) Except as provided in subparagraph (i) above and subject to the terms of a Participant's Award Agreement, the Participant shall have, with respect to his or her Restricted Stock, all of the rights of a stockholder of the Company, including the right to vote the Shares, and the right to receive any dividends thereon. Certificates or other evidence of ownership of shares of Common Stock free of restriction under this Plan shall be delivered to the Participant promptly after, and only after, the Restriction Period shall expire without forfeiture in respect of such shares of Common Stock. Each Participant, by his or her acceptance of Restricted Stock, shall irrevocably grant to the Company a power of attorney to transfer any forfeited Shares to the Company and agrees to execute any documents requested by the Company in connection with such forfeiture and transfer.

(iii) The Restriction Period of Restricted Stock and/or Restricted Stock Units shall commence on the Date of Grant and, subject to Article 13 of the Plan, unless otherwise established by the Committee in the Award Agreement setting forth the terms of the Restricted Stock and/or Restricted Stock Units, shall expire upon satisfaction of the conditions set forth in the Award Agreement; such conditions may provide for vesting based on (i) length of continuous service, (ii) achievement of specific business objectives, (iii) increases in specified indices, (iv) attainment of specified growth rates, or (v) other comparable Performance Measurements, as may be determined by the Committee in its sole discretion.

(c) Forfeiture. Except as otherwise determined by the Committee or the Chief Executive Officer, the provisions of Article 8 shall apply with respect to Restricted Stock granted hereunder.

6.5 SARs and Limited SARs.

(a) An SAR shall entitle the Participant at his or her election to surrender to the Company the SAR, or portion thereof, as the Participant shall choose, and to receive from the Company in exchange therefore cash in an amount equal to the excess (if any) of the Fair Market Value (as of the date of the exercise of the SAR) per share over the SAR Price per share specified in the Award Agreement with respect to such SAR, multiplied by the total number of shares of the SAR being surrendered. In the discretion of the Committee, the Company may satisfy its obligation upon exercise of an SAR by the distribution of that number of shares of Common Stock having an aggregate Fair Market Value (as of the date of the exercise of the SAR) equal to the amount of cash otherwise payable to the Participant (with a cash settlement to be made for any fractional share interests), or the Company may settle such obligation in part with shares of Common Stock and in part with cash.

(b) A Limited SAR shall allow the Participant to receive from the Company cash in an amount equal to the excess (if any) of the Fair Market Value (as of the date of the exercise of the Limited SAR) per share over the Limited SAR Price per share specified in such Limited SAR, multiplied by the total number of shares of the Limited SAR being surrendered. In the discretion of the Committee, the Company may satisfy its obligation upon exercise of a Limited SAR by the distribution of that number of shares of Common Stock having an aggregate Fair Market Value (as of the date of the exercise of the Limited SAR) equal to the amount of cash otherwise payable to the Participant (with a cash settlement to be made for any fractional share interests), or the Company may settle such obligation in part with shares of Common Stock and in part with cash. Limited SARs will expire without consideration upon the vesting, exercise, or settlement, in shares and/or in cash, of Awards for which the Limited SAR was granted in tandem.

6.6 Tandem Awards. The Committee may grant two or more Incentives in one Award in the form of a "tandem award," so that the right of the Participant to exercise one Incentive shall be canceled if, and to the extent, the other Incentive is exercised. For example, if a Stock Option and an SAR are issued in a tandem Award, and the Participant exercises the SAR with respect to 100 shares of Common Stock, the right of the Participant to exercise the related Stock Option shall be canceled to the extent of 100 shares of Common Stock.

6.7 Performance Based Awards.

(a) *Grant of Performance Awards.* The Committee may issue Performance Awards in the form of Performance Units, Performance Shares, Performance Cash, Other Stock Based Awards, or Dividend Equivalents to Participants subject to the Performance Goals and Performance Period as it shall determine. The terms and conditions of each Performance Award will be set forth in the Award Agreement. The Committee shall have complete discretion in determining the number and/or value of Performance Awards granted to each Participant. Participants receiving Performance Awards are not required to pay the Company therefor (except for applicable tax withholding) other than the rendering of services.

(b) *Value of Performance Awards.* The Committee shall set Performance Goals in its discretion for each Participant who is granted a Performance Award. Such Performance Goals may be particular to a Participant, may relate to the performance of the Subsidiary or division which employs him or her, may be based on the performance of the Company generally, or a combination of the foregoing. The Performance Goals may be based on achievement of financial statement objectives, or any other objectives established by the Committee. The Performance Goals may be absolute in their terms or measured in relationship to other companies similarly or otherwise situated. The extent to which such Performance Goals are met will determine the number and/or value of the Performance Awards that will be paid out to the Participant and/or the portion of an Award that may be exercised by the Participant.

(c) *Form of Payment.* Payment of the amount to which a Participant shall be entitled upon the settlement of a Performance Award shall be made in a lump sum or installments in cash, shares of Common Stock, or a combination thereof as determined by the Committee. Dividend Equivalents may not be paid on unvested Performance Shares.

6.8 Other Stock Based Awards.

(a) *Grant of Other Stock Based Awards*. The Committee may issue to Participants, either alone or in addition to other Awards made under the Plan, Stock Unit Awards which may be in the form of Common Stock or other securities. The value of each such Award shall be based, in whole or in part, on the value of the underlying Common Stock or other securities. The Committee, in its discretion, may determine that an Award, either in the form of a Stock Unit Award under this Section or as an Award granted pursuant to the other provisions of this Article, may provide to the Participant (i) dividends or Dividend Equivalents (payable on a current or deferred basis, except not for Stock Options and unvested SARs) and (ii) cash payments in lieu of or in addition to an Award. The Committee shall determine the terms, restrictions, conditions, vesting requirements, and payment rules (all of which are sometimes hereinafter collectively referred to as "rules") of the Award and shall set forth those rules in the related Award Agreement.

(b) *Rules for Stock Unit Awards*. The Committee, in its sole and complete discretion, may grant a Stock Unit Award subject to the following rules:

(i) All rights with respect to such Stock Unit Awards granted to a Participant under the Plan shall be exercisable during his or her lifetime only by such Participant or his or her guardian or legal representative.

(ii) Stock Unit Awards may require the payment of cash consideration by the Participant in receipt of the Award or provide that the Award, and any Common Stock or other securities issued in conjunction with the Award be delivered without the payment of cash consideration.

(iii) The Committee, in its sole and complete discretion, may establish certain Performance Criteria that may relate in whole or in part to receipt of the Stock Unit Awards.

(iv) Stock Unit Awards may be subject to a deferred payment schedule and/or vesting over a specified employment period.

ARTICLE 7. AWARD PERIOD; VESTING

7.1 Award Period. Subject to the other provisions of this Plan, no Incentive granted under the Plan may be exercised at any time after the end of its Award Period.

7.2 Vesting. No Award granted under the Plan shall become exercisable or vested prior to the one-year anniversary of the Date of Grant; provided, however, that, such restriction shall not apply to Awards granted under this Plan with respect to a number of Shares which, in the aggregate, does not exceed five percent (5%) of the total number of Shares authorized under Section 5.1 of the Plan for delivery in connection with Awards under the Plan, as such number may be adjusted in accordance with Article 12 and Article 13. This Section 7.2 shall not restrict the right of the Committee to provide for the acceleration or continued vesting or exercisability of an Award upon or after a Change of Control or termination of employment or otherwise pursuant to the terms of the Plan.

ARTICLE 8. TERMINATION OF SERVICE

8.1 Termination of Service.

(a) *Vesting and Exercise*. Except as otherwise provided in the Plan, or otherwise determined by the Committee and included in the applicable Award Agreement, a Stock Option, SAR or other Award having an exercise provision (each, an "Exercisable Award") vests in and may be exercised by a Participant only while the Participant is and has continually been since the Date of Grant of the Exercisable Award an Employee, Non-Employee Director or Third-Party Service Provider.

(b) *Voluntary Termination by Participant (Exercisable Awards)*. If a Participant's employment or service as a Non-Employee Director or Third-Party Service Provider is voluntarily terminated by the Participant (other than through retirement, death or disability as set forth in Section 8.3 below), then: (i) that portion of any Exercisable Award that has not vested on or prior to such date of termination shall automatically lapse and be forfeited, and (ii) all vested but unexercised Exercisable Awards previously granted to that Participant under the Plan shall automatically lapse and be forfeited at the close of business on the 30th day following the date of such Participant's termination, unless an Exercisable Award expires earlier according to its original terms.

(c) *Involuntary Termination for Cause (Exercisable Awards)*. If a Participant's employment or service as a Non-Employee Director or Third-Party Service Provider is involuntarily terminated by the Company for Cause: (i) that portion of any Exercisable Award that has not vested on or prior to such date of termination shall automatically lapse and be forfeited, and (ii) all vested but unexercised Exercisable Awards previously granted to that Participant under the Plan shall automatically lapse and be forfeited at the close of business on the 30th day following the date of such Participant's termination, unless an Exercisable Award expires earlier according to its original terms.

(d) *Involuntary Termination Other Than for Cause (Exercisable Awards).* If a Participant's employment or service as a Non-Employee Director or Third-Party Service Provider is involuntarily terminated by the Company other than for Cause: (i) that portion of any Exercisable Award that has not vested on or prior to such date of termination shall automatically lapse and be forfeited, and (ii) all vested but unexercised Exercisable Awards previously granted to that Participant under the Plan shall automatically lapse and be forfeited at the close of business on the last business day of the twelfth month following the date of the Participant's termination, unless an Exercisable Award expires earlier according to its original terms.

8.2 Awards *Other Than* Exercisable Awards. Except as otherwise provided in the Plan, or otherwise determined by the Committee and included in the applicable Award Agreement, if a Participant's employment or service as a Non-Employee Director or Third-Party Service Provider is voluntarily terminated by the Participant (other than through retirement, death or disability as set forth in Section 8.3 below), or is terminated by the Company with or without Cause, then any Award *other than* an Exercisable Award previously granted to that Participant under the Plan that remains unvested shall automatically lapse and be forfeited at the close of business on the date of such Participant's termination of employment or service.

8.3 Retirement, Death, Disability. Except as otherwise provided in the Plan, or otherwise determined by the Committee and included in the applicable Award Agreement, if a Participant's employment or service as a Non-Employee Director or Third-Party Service Provider is terminated because of retirement, death or disability (with the determination of disability to be made within the sole discretion of the Committee), any Award held by the Participant shall remain outstanding and vest or become exercisable according to the Award's original terms, provided that any Restricted Stock or Restricted Stock Units held by the Participant that remain unvested as of the date of retirement, death or disability shall immediately vest and become non-forfeitable as of such date.

8.4 Amendment. Subject to the limitations set forth in Section 6.2 above, the Committee or the Chief Executive Officer may prescribe new or additional terms for the vesting, exercise or realization of any Award, provided that no such action shall deprive a Participant or beneficiary, without his or her consent, of the right to any benefit accrued to his or her credit at the time of such action.

ARTICLE 9. EXERCISE OF INCENTIVE

9.1 In General. (a) A vested Incentive may be exercised during its Award Period, subject to limitations and restrictions set forth therein and in Article 8. A vested Incentive may be exercised at such times and in such amounts as provided in this Plan and the applicable Award Agreement, subject to the terms and conditions of the Plan.

(b) An Incentive may not be exercised and shares of Common Stock may not be issued pursuant to an Award if a necessary listing or quotation of the shares of Common Stock on a stock exchange or inter-dealer quotation system or any registration under state or federal securities laws required under the circumstances has not been accomplished. No Incentive may be exercised for a fractional share of Common Stock.

9.2 Stock Options. (a) Subject to such administrative regulations as the Committee may from time to time adopt, a Stock Option may be exercised by the delivery of written notice to the Company setting forth the number of shares of Common Stock with respect to which the Stock Option is to be exercised (the "Exercise Notice") and the date of exercise thereof (the "Exercise Date") in accordance with procedures established by the Company. On the Exercise Date, the Participant shall deliver to the Company consideration with a value equal to the total Option Price of the Shares to be purchased, payable as follows: (i) cash, check, bank draft, or money order payable to the order of the Company, (ii) Common Stock (including Restricted Stock) owned by the Participant on the Exercise Date, valued at its Fair Market Value on the Exercise Date, (iii) by delivery (including by fax) to the Company or its designated agent of an executed irrevocable option exercise form together with irrevocable instructions from the Participant to a broker or dealer, reasonably acceptable to the Company, to sell certain of the shares of Common Stock purchased upon exercise of the Stock Option and promptly deliver to the Company the amount of sale proceeds necessary to pay such purchase price, and/or (iv) in any other form of valid consideration that is acceptable to the Company in its sole discretion. If shares of Restricted Stock are tendered as consideration for the exercise of a Stock Option, a number of shares of Common Stock issued upon the exercise of the Stock Option equal to the number of shares of Restricted Stock used as consideration therefor shall be subject to the same restrictions and provisions as the Restricted Stock so submitted, as well as any additional restrictions that may be imposed by the Committee.

(b) Upon payment of all amounts due from the Participant, the Company shall cause shares of the Common Stock then being purchased to be delivered as directed by the Participant (or the person exercising the Participant's Stock Option in the event of his death) promptly after the Exercise Date, provided that if the Participant has exercised an Incentive Stock Option, the Company may at its option retain possession of the Shares acquired upon exercise until the expiration of the holding periods described in Section 422(a)(1) of the Code. The obligation of the Company to deliver shares of Common Stock shall, however, be subject to the condition that if at any time the Committee shall determine in its discretion that the listing, registration, or qualification of the Stock Option or the Common Stock upon any securities exchange or inter-dealer quotation system or under any state or federal law, or the consent or approval of any governmental regulatory body, is necessary or desirable as a condition of, or in connection with, the Stock Option or the issuance or purchase of shares of Common Stock thereunder, the Stock Option may not be exercised in whole or in part unless such listing, registration, qualification, consent, or approval shall have been effected or obtained free of any conditions not acceptable to the Committee.

(c) If the Participant fails to pay for any of the Common Stock specified in such notice or fails to accept delivery thereof, the Participant's right to purchase such Common Stock may be terminated by the Company.

9.3 SARs. Subject to the conditions of this Section 9.3 and such administrative regulations as the Committee may from time to time adopt, an SAR may be exercised by the delivery (including by fax) of written notice to the Committee setting forth the number of shares of Common Stock with respect to which the SAR is to be exercised and the date of exercise thereof in accordance with procedures established by the Company. On the SAR exercise date, the Participant shall receive from the Company in exchange therefore cash in an amount equal to the excess (if any) of the Fair Market Value (as of the date of the exercise of the SAR) per share of Common Stock over the SAR Price per share specified in such SAR, multiplied by the total number of shares of Common Stock of the SAR being surrendered. In the discretion of the Committee, the Company may satisfy its obligation upon exercise of an SAR by the distribution of that number of shares of Common Stock having an aggregate Fair Market Value (as of the date of the exercise of the SAR) equal to the amount of cash otherwise payable to the Participant, with a cash settlement to be made for any fractional share interests, or the Company may settle such obligation in part with shares of Common Stock and in part with cash.

9.4 Tax Payment Election. Subject to the approval of the Committee, and to any rules and limitations as the Committee may adopt, a person exercising an Incentive may make the payment of the amount of any taxes required to be collected or withheld by the Company in connection with such exercise in whole or in part by electing, at or before the time of exercise, either (i) to have the Company withhold from the number of Shares otherwise deliverable a number of Shares whose Fair Market Value equals the amount of the applicable supplemental wage withholding required plus any required state, local or employment tax withholdings, or (ii) to deliver certificates for other Shares owned by the person exercising the Award, endorsed in blank with appropriate signature guarantee, having a Fair Market Value equal to the amount otherwise to be collected or withheld.

9.5 Valuation. Any calculation with respect to a Participant's income, required tax withholding or other matters required to be made by the Company upon the exercise of an Incentive shall be made using the Fair Market Value of the shares of Common Stock on the Exercise Date, whether or not the Exercise Notice is delivered to the Company before or after the close of trading on that date, unless otherwise specified by the Committee. Notwithstanding the foregoing, for Stock Option exercises using the Company's "same-day-sale for cash method" or "broker sale for stock method," a Participant's taxable gain and related tax withholding on the exercise will be calculated using the actual market price at which Shares were sold in the transaction.

ARTICLE 10. AMENDMENT OR DISCONTINUANCE

10.1 In General. Subject to the limitations set forth in this Article 10, the Committee may at any time and from time to time, without the consent of the Participants, alter, amend, revise, suspend, or discontinue the Plan in whole or in part, provided that no amendment that requires stockholder approval under the rules of the national exchange on which the shares of Common Stock are listed, shall be effective unless such amendment shall be approved by the requisite vote of the stockholders of the Company entitled to vote thereon. Any such amendment shall, to the extent deemed necessary or advisable by the Committee, be applicable to any outstanding Incentives theretofore granted under the Plan, notwithstanding any contrary provisions contained in any Award Agreement. In the event of any such amendment to the Plan, the holder of any Incentive outstanding under the Plan shall, upon request of the Committee and as a condition to the exercisability thereof, execute a conforming amendment in the form prescribed by the Committee to any Award Agreement relating thereto.

10.2 Amendments to Awards. Subject to the limitations set forth in the Plan, the Committee may waive any conditions or rights under, amend any terms of, or alter any Award theretofore granted, provided that, unless required by law, no action contemplated or permitted by this Article 10 shall adversely affect any rights of Participants or obligations of the Company to Participants with respect to any Incentive theretofore granted under the Plan without the consent of the affected Participant.

10.3 Unusual or Nonrecurring Events. The Committee is hereby authorized to make adjustments in the terms, conditions, and criteria of Awards in recognition of unusual or nonrecurring events (including the events described in Article 12 of the Plan) affecting the Company, any Subsidiary, or the financial statements of the Company, or in recognition of changes in applicable laws, regulations, or accounting principles, whenever the Committee determines that such adjustments are appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan.

ARTICLE 11. EFFECTIVE DATE AND TERM

The Plan shall become effective on the Effective Date, and shall continue in existence and force for a period of 10 years thereafter, subject to earlier termination as prescribed under Article 10 above. After termination of the Plan no future Awards may be granted hereunder, but any Awards or Incentives granted before the date of termination will continue to be in effect in accordance with their terms and conditions.

ARTICLE 12. CAPITAL ADJUSTMENTS

12.1 In General. If at any time while the Plan is in effect, or Incentives are outstanding, there shall be any increase or decrease in the number of issued and outstanding shares of Common Stock resulting from (i) the declaration or payment of a stock dividend, (ii) any recapitalization resulting in a stock split-up, combination, or exchange of shares of Common Stock, or (iii) other increase or decrease in such shares of Common Stock effected without receipt of consideration by the Company, then:

(a) An appropriate adjustment shall be made in the maximum number of shares of Common Stock then subject to being awarded under the Plan and in the maximum number of shares of Common Stock that may be awarded to a Participant to the end that the same proportion of the Company's issued and outstanding shares of Common Stock shall continue to be subject to being so awarded.

(b) Appropriate adjustments shall be made in the number of shares of Common Stock and the Option Price thereof then subject to purchase pursuant to each such Stock Option previously granted and unexercised, to the end that the same proportion of the Company's issued and outstanding shares of Common Stock in each such instance shall remain subject to purchase at the same aggregate Option Price.

(c) Appropriate adjustments shall be made in the number of SARs and the SAR Price thereof then subject to exercise pursuant to each such SAR previously granted and unexercised, to the end that the same proportion of the Company's issued and outstanding shares of Common Stock in each instance shall remain subject to exercise at the same aggregate SAR Price.

(d) Appropriate adjustments shall be made in the number of outstanding shares of Restricted Stock with respect to which restrictions have not yet lapsed prior to any such change.

(e) Appropriate adjustments shall be made with respect to shares of Common Stock applicable to any other Incentives previously awarded under the Plan as the Committee, in its sole discretion, deems appropriate, consistent with the event.

12.2 Issuance of Stock or Other Convertible Securities. Except as otherwise expressly provided herein, the issuance by the Company of shares of its capital stock of any class, or securities convertible into shares of capital stock of any class, either in connection with a direct sale or upon the exercise of rights or warrants to subscribe therefor, or upon conversion of shares or obligations of the Company convertible into such shares or other securities, shall not affect, and no adjustment by reason thereof shall be made with respect to (i) the number of or Option Price of shares of Common Stock then subject to outstanding Stock Options granted under the Plan, (ii) the number of or SAR Price of shares of Common Stock then subject to outstanding SARs granted under the Plan, (iii) the number of outstanding shares of Restricted Stock, or (iv) the number of shares of Common Stock otherwise payable under any other Incentive.

12.3 Notification. Upon the occurrence of each event requiring an adjustment with respect to any Incentive, the Company shall notify each affected Participant of its computation of such adjustment, which shall be conclusive and shall be binding upon each such Participant.

ARTICLE 13. RECAPITALIZATION, MERGER AND CONSOLIDATION; CHANGE OF CONTROL

13.1 Adjustments, Recapitalizations, Reorganizations, or Other Adjustments. The existence of this Plan and Incentives granted hereunder shall not affect in any way the right or power of the Company or its stockholders to make or authorize any or all adjustments, recapitalizations, reorganizations, or other changes in the Company's capital structure and its business, or any merger or consolidation of the Company, or any issue of bonds, debentures, preferred or preference stocks ranking prior to or otherwise affecting the Common Stock or the rights thereof (or any rights, options, or warrants to purchase same), or the dissolution or liquidation of the Company, or any sale or transfer of all or any part of its assets or business, or any other corporate act or proceeding, whether of a similar character or otherwise.

13.2 Acquiring Entity. Subject to any required action by the stockholders, if the Company shall be the surviving or resulting corporation in any merger, consolidation or share exchange, any Incentive granted hereunder shall pertain to and apply to the securities or rights (including cash, property, or assets) to which a Participant would have been entitled.

13.3 Acquired Entity. In the event of any merger, consolidation or share exchange pursuant to which the Company is not the surviving or resulting corporation, there shall be substituted for each share of Common Stock subject to the unexercised portions of such outstanding Incentives, that number of shares of each class of stock or other securities or that amount of cash, property, or assets of the surviving, resulting or consolidated company that were distributed or distributable to the stockholders of the Company in respect to each share of Common Stock held by them, such outstanding Incentives to be thereafter exercisable for such stock, securities, cash, or property in accordance with their terms.

13.4 Change of Control. Unless otherwise specified in a change of control severance agreement between a Participant and the Company, and unless otherwise specifically prohibited under applicable laws, or by the rules of any governing governmental agency or authority or national securities exchange, or any policy previously adopted by the Board, the Committee may, in its sole discretion, at the time an Award is made or granted hereunder or at any time prior to, coincident with, or after the time of a Change of Control, take one of the following actions which shall apply only upon the occurrence of a Change of Control or, if later, upon the action being taken:

(a) Provide for the acceleration of any time periods, or the waiver of any other conditions, relating to the vesting, exercise, payment, or distribution of an Award so that any Award to a Participant whose employment has been terminated as a result of a Change of Control may be vested, exercised, paid, or distributed in full on or before a date fixed by the Committee, and in connection therewith the Committee may (i) provide for an extended period to exercise Stock Options or SARs (not to exceed the original term) and (ii) determine the level of attainment of any applicable performance goals;

(b) Provide for the purchase of any Awards from a participant whose employment has been terminated as a result of a Change of Control, upon the Participant's request, for an amount of cash equal to the amount that could have been obtained upon the exercise, payment, or distribution of such rights had such Award been currently exercisable or payable; or

(c) Cause the Awards then outstanding to be assumed, or new rights substituted therefore, by the surviving corporation in such Change of Control.

For purposes of sub-paragraphs (a) and (b) above, any Participant whose employment is either (i) terminated by the Company other than for "Cause," or (ii) terminated by the Participant for "Good Reason" (each as defined in this Plan) in either case upon, or on or prior to the second anniversary of a Change of Control, shall be deemed to have been terminated as a result of the Change of Control.

ARTICLE 14. LIQUIDATION OR DISSOLUTION

In case the Company shall, at any time while any Incentive under this Plan shall be in force and remain unexpired, sell all or substantially all of its property (other than in connection with a Change of Control Event), or dissolve, liquidate, or wind up its affairs (each, a "Dissolution Event"), then each Participant shall be thereafter entitled to receive, in lieu of each share of Common Stock of the Company which such Participant would have been entitled to receive under the Incentive, the same kind and amount of any securities or assets as may be issuable, distributable, or payable upon any such sale, dissolution, liquidation, or winding up with respect to each share of Common Stock of the Company. If the Company shall, at any time prior to the expiration of any Incentive, make any partial distribution of its assets, in the nature of a partial liquidation, whether payable in cash or in kind (but excluding the distribution of a cash dividend payable out of earned surplus and designated as such) then in such event the Option Prices or SAR Prices then in effect with respect to each Stock Option or SAR shall be reduced, on the payment date of such distribution, in proportion to the percentage reduction in the tangible book value of the shares of the Company's Common Stock (determined in accordance with generally accepted accounting principles) resulting by reason of such distribution.

ARTICLE 15. ADDITIONAL AUTHORITY OF COMMITTEE

In addition to the Committee's authority set forth elsewhere in this Plan, in order to maintain a Participant's rights in the event of any Change of Control or Dissolution Event described under Articles 13 and 14, the Committee, as constituted before the Change of Control or Dissolution Event, is hereby authorized, and has sole discretion, as to any Incentive, either at the time the Award is made hereunder or any time thereafter, to take any one or more of the following actions:

(a) provide for the purchase of any Incentive, upon the Participant's request, for an amount of cash equal to the amount that could have been attained upon the exercise of the Incentive or realization of the Participant's rights in the Incentive had the Incentive been currently exercisable or payable;

(b) adjust any outstanding Incentive as the Committee deems appropriate to reflect the Change of Control or Dissolution Event; or

(c) cause any outstanding Incentive to be assumed, or new rights substituted therefor, by the acquiring or surviving corporation after a Change of Control or successor following a Dissolution Event.

(d) The Committee may in its discretion include other provisions and limitations in any Award Agreement as it may deem equitable and in the best interests of the Company.

ARTICLE 16. INCENTIVES IN SUBSTITUTION FOR INCENTIVES GRANTED BY OTHER CORPORATIONS

Incentives may be granted under the Plan from time to time in substitution for similar instruments held by employees of a corporation who become or are about to become Employees of the Company or any Subsidiary as a result of a merger or consolidation of the employing corporation with the Company or the acquisition by the Company of stock of the employing corporation. The terms and conditions of the substitute Incentives so granted may vary from the terms and conditions set forth in this Plan to such extent as the Board at the time of grant may deem appropriate to conform, in whole or in part, to the provisions of the instruments in substitution for which they are granted.

ARTICLE 17. MISCELLANEOUS PROVISIONS

17.1 Code Section 409A. Notwithstanding anything in this Plan to the contrary, if any Plan provision or Award under the Plan would result in the imposition of an applicable tax under Section 409A of the Internal Revenue Code of 1986, as amended and related regulations and Treasury pronouncements ("Code Section 409A"), that Plan provision or Award may be reformed to avoid imposition of the applicable tax and no action taken to comply with Code Section 409A shall be deemed to adversely affect the Participant's rights to an Award. This Plan is intended to comply, and shall be administered consistently in all respects, with Code Section 409A, and the regulations and additional guidance promulgated thereunder to the extent applicable. Accordingly, the Company shall have the authority to take any action, or refrain from taking any action, with respect to this Plan or any Award hereunder that is reasonably necessary to ensure compliance with Code Section 409A (provided that the Company shall choose the action that best preserves the value of payments and benefits provided to Participant that is consistent with Code Section 409A); this Plan shall be interpreted in a manner that is consistent with Code Section 409A. In furtherance, but not in limitation of the foregoing:

(a) in no event may a Participant designate, directly or indirectly, the calendar year of any payment to be made hereunder;

(b) to the extent the Participant is a "specified employee" within the meaning of Code Section 409A, payments, if any, that constitute a "deferral of compensation" under Code Section 409A and that would otherwise become due during the first six months following Participant's termination of employment shall be delayed and all such delayed payments shall be paid in full in the seventh month after such termination date, provided that the above delay shall not apply to any payment that is excepted from coverage by Code Section 409A, such as a payment covered by the short-term deferral exception described in Treasury Regulations Section 1.409A-1(b)(4).

17.2 Investment Intent. The Company may require that there be presented to and filed with it by any Participant under the Plan, such evidence as it may deem necessary to establish that the Incentives granted or the shares of Common Stock to be purchased or transferred are being acquired for investment and not with a view to their distribution.

17.3 No Right to Continued Employment. Neither the Plan nor any Incentive granted under the Plan shall confer upon any Participant any right with respect to continuance of employment by the Company or any Subsidiary.

17.4 Indemnification. No member of the Board or the Committee, nor any officer or employee of the Company acting on behalf of the Board or the Committee, shall be personally liable for any action, determination, or interpretation taken or made in good faith with respect to the Plan, and all members of the Board or the Committee and each and any officer or employee of the Company acting on their behalf shall, to the fullest extent permitted by law, be fully indemnified and protected by the Company in respect of any such action, determination, or interpretation.

17.5 Effect of the Plan. Neither the adoption of this Plan nor any action of the Board or the Committee shall be deemed to give any person any right to be granted an Award or any other rights except as may be evidenced by an Award Agreement, or any amendment thereto, duly authorized by the Committee and executed on behalf of the Company, and then only to the extent and upon the terms and conditions expressly set forth therein.

17.6 Employees Based Outside of the United States. Notwithstanding any provision of this Plan to the contrary, in order to comply with the laws in other countries in which the Company, its Affiliates, and/or its Subsidiaries operate or have an Employee, Non-Employee Director, or Third Party Service Provider, the Committee, in its sole discretion, shall have the power and authority to:

(a) Determine which Affiliates and Subsidiaries shall be covered by this Plan;

(b) Determine which Employees , Non-Employee Directors, and/or Third Part Service Providers outside the United States are eligible to participate in this Plan;

(c) Modify the terms and conditions of any Award granted to Participants outside the United States to comply with applicable foreign laws;

(d) Establish subplans and modify exercise procedures and other terms and procedures, to the extent such actions may be necessary or advisable; and

(e) Take any action, before or after an Award is made, that it deems advisable to obtain approval or comply with any necessary local government regulatory exemptions or approvals.

Notwithstanding the above, the Committee may not take any actions hereunder, and no Awards shall be granted, that would violate applicable law.

17.7 Compliance with Laws and Regulations. Notwithstanding anything contained herein to the contrary, the Company shall not be required to sell or issue shares of Common Stock under any Incentive if the issuance thereof would constitute a violation by the Participant or the Company of any provisions of any law or regulation of any governmental authority or any national securities exchange or inter-dealer quotation system or other forum in which shares of Common Stock are quoted or traded (an "Exchange") (including without limitation Section 16 of the Securities Exchange Act of 1934), and, as a condition of any sale or issuance of shares of Common Stock under an Incentive, the Committee may require such agreements or undertakings, if any, as the Committee may deem necessary or advisable to assure compliance with any such law or regulation. The Plan, the grant and exercise of Incentives hereunder, and the obligation of the Company to sell and deliver shares of Common Stock hereunder, shall be subject to all applicable federal and state laws, rules and regulations, and the rules and regulations of any Exchange, and to such approvals by any government, regulatory agency or Exchange as may be required, and the grant or making of any Award shall be conditional and shall be granted or awarded subject to acceptance of the Shares deliverable pursuant to the Award for listing on the NYSE.

17.8 Severability. If any provision of the Plan or any Award is or becomes or is deemed to be invalid, illegal, or unenforceable in any jurisdiction as to any Person or Award, or would disqualify the Plan or any Award under any law deemed applicable by the Committee, such provision shall be construed or deemed amended to conform to applicable laws, or if it cannot be construed or deemed amended without, in the determination of the Committee, materially altering the intent of the Plan or the Award, such provision shall be stricken as to such jurisdiction, Person or Award and the remainder of the Plan and any such Award shall remain in full force and effect.

17.9 Tax Requirements, Withholding. The Company or any Affiliate is hereby authorized to withhold from any Award, from any payment due or transfer made under any Award or under the Plan or from any compensation or other amount owing to a Participant the amount (in cash, Shares, other securities, other Awards or other property) of any applicable withholding taxes with respect to an Award, its exercise, the lapse of restrictions thereon, payment or transfer under an Award or under the Plan, and to take any other action necessary in the opinion of the Company to satisfy all obligations for the payment of the taxes. Notwithstanding the foregoing, in the event of an assignment of a Non-qualified Stock Option or SAR, the Participant who assigns the Non-qualified Stock Option or SAR shall remain subject to withholding taxes upon exercise of the Non-qualified Stock Option or SAR by the transferee to the extent required by the Code or the rules and regulations promulgated thereunder. Such payments shall be required to be made prior to the delivery of any shares of Common Stock. Such payment may be made in cash, by check, or through the delivery of shares of Common Stock owned by the Participant (which may be effected by the actual delivery of shares of Common Stock by the Participant or by the Company's withholding a number of shares of Common Stock to be issued upon the exercise of a Stock Option or an SAR, if applicable), which shares of Common Stock have an aggregate Fair Market Value equal to the required minimum withholding payment, or any combination thereof.

17.10 No Representations or Warranties Regarding Tax Effect. Notwithstanding any provision of the Plan to the contrary, the Company, its Affiliates and Subsidiaries, the Board and the Committee make no representation or warranty with respect to the tax treatment under any federal, state, local or foreign laws and regulations thereunder (individually and collectively referred to as the "Tax Laws") of any Award granted or any amounts paid to any Participant under the Plan including, but not limited to, when and to what extent such Awards or amounts may be subject to tax, penalties and interest under the Tax Laws.

17.11 Assignability. (a) Incentive Stock Options may not be transferred or assigned other than by will or the laws of descent and distribution and may be exercised during the lifetime of the Participant only by the Participant or the Participant's legally authorized representative, and each Award Agreement in respect of an Incentive Stock Option shall so provide. The designation by a Participant of a beneficiary will not constitute a transfer of the Stock Option. The Committee may waive or modify any limitation contained in the preceding sentences of this Section 17.11 that is not required for compliance with Section 422 of the Code.

(b) The Committee may, in its discretion, authorize all or a portion of a Non-qualified Stock Option or SAR to be granted to a Participant to be on terms which permit transfer by such Participant to (i) the spouse, children or grandchildren of the Participant ("Immediate Family Members"), (ii) a trust or trusts for the exclusive benefit of such Immediate Family Members, or (iii) a partnership in which such Immediate Family Members are the only partners, (iv) an entity exempt from federal income tax pursuant to Section 501(c)(3) of the Code or any successor provision, or (v) a split interest trust or pooled income fund described in Section 2522(c)(2) of the Code or any successor provision, *provided* that (a) there shall be no consideration for any such transfer, (b) the Award Agreement pursuant to which such Non-qualified Stock Option or SAR is granted must be approved by the Committee and must expressly provide for transferability in a manner consistent with this Section, and (c) subsequent transfers of transferred Non-qualified Stock Options or SARs shall be prohibited except those by will or the laws of descent and distribution or pursuant to a qualified domestic relations order as defined in the Code or Title I of the Employee Retirement Income Security Act of 1974, as amended. Following transfer, any such Non-qualified Stock Option or SAR shall continue to be subject to the same terms and conditions as were applicable immediately prior to transfer, provided that for purposes of Articles 9, 10, 12, 14 and 16 hereof the term "Participant" shall be deemed to include the transferee. The events for termination of service described in Section 8.1 shall continue to be applied with respect to the original Participant, following which the Non-qualified Stock Options and SARs shall be exercisable by the transferee only to the extent and for the periods specified in the Award Agreement. The Committee and the Company shall have no obligation to inform any transferee of a Non-qualified Stock Option or SAR of any expiration, termination, lapse or acceleration of such Non-qualified Stock Option or SAR. The Company shall have no obligation to register with any federal or state securities commission or agency any Common Stock issuable or issued under a Non-qualified Stock Option or SAR that has been transferred by a Participant under this Section 17.11.

17.12 No Trust or Fund Created. Neither the Plan nor any Award shall create or be construed to create a trust or separate fund of any kind or any fiduciary relationship between the Company or any Affiliate, on the one hand, and a Participant or any other Person, on the other hand. To the extent that any Person acquires a right to receive payments from the Company or any Affiliate pursuant to an Award, such right shall be no greater than the right of any unsecured general creditor of the Company or any Affiliate.

17.13 Governing Law. The validity, construction and effect of the Plan and any actions taken or relating to the Plan shall be determined in accordance with the laws of the State of Texas and applicable federal law.

17.14 Successors and Assigns. The Company will require any successor (whether direct or indirect, by purchase, merger, consolidation or otherwise) to all or substantially all of the business and/or assets of the Company, expressly to assume and agree to perform the Company's obligations under this Plan in the same manner and to the same extent that the Company would be required to perform them if no such succession had taken place. As used herein, the "Company" shall mean the Company as herein before defined and any aforesaid successor to its business and/or assets.

17.15 No Fractional Shares. No fractional Shares shall be issued or delivered pursuant to the Plan or any Award, and the Committee shall determine whether cash, other securities, or other property shall be paid or transferred in lieu of any fractional Shares or whether fractional Shares or any rights thereto shall be canceled, terminated, or otherwise eliminated.

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, 2019

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the transition period from ______________ to ______________

Commission file number 001-13175

VALERO ENERGY CORPORATION

(Exact name of registrant as specified in its charter)

Delaware	**74-1828067**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

One Valero Way
San Antonio, Texas 78249
(Address of principal executive offices) (Zip Code)

Registrant's telephone number, including area code: **(210) 345-2000**

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock	VLO	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 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 $35.5 billion based on the last sales price quoted as of June 28, 2019 on the New York Stock Exchange, the last business day of the registrant's most recently completed second fiscal quarter.

As of January 31, 2020, 409,337,126 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, 2020, at which directors will be elected. Portions of the 2020 Proxy Statement are incorporated by reference in Part III of this Form 10-K and are deemed to be a part of this report.

CROSS-REFERENCE SHEET

The following table indicates the headings in the 2020 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 2020 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,* 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.

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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 23 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, 2020, we had 10,222 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 3.15 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 also own 14 ethanol plants located in the Mid-Continent region of the U.S. with a combined production capacity of approximately 1.73 billion gallons per year. We are also a joint venture partner in Diamond Green Diesel Holdings LLC (DGD), which owns and operates a renewable diesel plant in Norco, Louisiana. We sell our products in the wholesale rack or bulk markets in the U.S., Canada, the U.K., Ireland, and Latin America. Approximately 7,000 outlets carry our brand names.

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 About Valero > Investor Relations > Financial Information > SEC Filings) 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.

VALERO'S OPERATIONS

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 DGD, which were transferred from the refining 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, which is incorporated herein by reference, 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.

As a result, as of December 31, 2019, we had three reportable segments as follows:

- *Refining segment* includes our refining operations, the associated marketing activities, and logistics assets that support our refining operations;

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

- *Renewable diesel segment* includes the operations of DGD, our consolidated joint venture, as discussed in Note 12 of Notes to Consolidated Financial Statements, which is incorporated herein by reference.

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

REFINING

Refining Operations

As of December 31, 2019, our refining operations included 15 petroleum refineries in the U.S., Canada, and the U.K., with a combined total throughput capacity of approximately 3.15 million BPD. The following table presents the locations of these refineries and their approximate feedstock throughput capacities as of December 31, 2019.

Refinery	Location	Throughput Capacity (a) (BPD)
U.S.		
Benicia	California	170,000
Wilmington	California	135,000
Meraux	Louisiana	135,000
St. Charles	Louisiana	340,000
Ardmore	Oklahoma	90,000
Memphis	Tennessee	195,000
Corpus Christi (b)	Texas	370,000
Houston	Texas	255,000
McKee	Texas	200,000
Port Arthur	Texas	395,000
Texas City	Texas	260,000
Three Rivers	Texas	100,000
Canada		
Quebec City	Quebec, Canada	235,000
U.K.		
Pembroke	Wales, U.K.	270,000
Total		**3,150,000**

(a) "Throughput capacity" represents estimated capacity for processing crude oil, intermediates, and other feedstocks. 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.

The following table presents the percentages of principal charges and yields (on a combined basis) for all of our refineries for 2019, 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	23%
	sweet crude oil	54%
	residual fuel oil	7%
	other feedstocks	5%
	blendstocks	11%
Yields		
	gasolines and blendstocks	48%
	distillates	38%
	other products (primarily includes petrochemicals, gas oils, No. 6 fuel oil, petroleum coke, sulfur and asphalt)	14%

California

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. 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.

Louisiana

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.

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.

Oklahoma

Ardmore Refinery. Our Ardmore Refinery is located in Oklahoma, approximately 100 miles south of Oklahoma City. It processes sweet and sour 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.

Tennessee

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. Crude oil can also be received, along with other feedstocks, via barge. Most of the refinery's products are distributed via truck rack and barges.

Texas

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 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.

Houston Refinery. Our Houston Refinery is located on the Houston Ship Channel. It processes sweet crude and intermediate oils into gasoline, jet fuel, and diesel. The refinery successfully commissioned a new alkylation unit in 2019. The refinery receives its feedstocks primarily by various interconnecting pipelines and also has waterborne-receiving capability at deepwater docking facilities along the Houston Ship Channel. 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.

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.

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.

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.

Three Rivers Refinery. Our Three Rivers Refinery is located in South Texas between Corpus Christi and San Antonio. It primarily 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.

Canada

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.K.

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.

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 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.

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 5,158 branded sites in the U.S., 874 branded sites in the U.K. and Ireland, and 795 branded sites in Canada as of December 31, 2019. 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.

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 that process corn to produce ethanol, distillers grains, and corn oil. 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	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	110	289,000	38
Michigan	Riga	55	145,000	19
Minnesota	Welcome	140	368,000	49
Nebraska	Albion	135	355,000	47
Ohio	Bloomingburg	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 4.3 million gallons per day for 2019.

RENEWABLE DIESEL

Our renewable segment includes the operations of DGD, which owns and operates a biomass-based diesel plant (the DGD Plant) that processes animal fats, used cooking oils, and other vegetable oils into renewable diesel. The DGD Plant is located next to our St. Charles Refinery in Norco, Louisiana. During 2019, the DGD Plant's capacity was approximately 18,000 BPD. The DGD Plant is capable of annually converting approximately 2.3 billion pounds of rendered and recycled material into more than 275 million gallons of renewable diesel. In 2019, we began an expansion of the DGD Plant that is expected to increase production up to 675 million gallons of renewable diesel annually. DGD is in the advanced engineering review phase for a potential new renewable diesel plant to be located in Port Arthur, Texas.

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 (EPA) Renewable Fuel Standard (RFS) 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.

Capital Expenditures Attributable to Compliance with Environmental Regulations. In 2019, our capital expenditures attributable to compliance with environmental regulations were $235 million, and they are currently estimated to be $14 million for 2020 and $20 million for 2021. The estimates for 2020 and 2021 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, 2019, we were the lessee under a number of cancelable and noncancelable leases for certain properties. Our leases are discussed in Note 5 of Notes to Consolidated Financial Statements, which is incorporated herein by reference. Financial information about our properties is presented in Note 6 of Notes to Consolidated Financial Statements, which 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.

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, 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, 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. In November 2019, the current U.S. administration served notice on the United Nations that the U.S. would withdraw from the Paris Agreement in 2020. There are no guarantees that the Paris Agreement will not be re-implemented in the U.S. or re-implemented in part by specific U.S. states or local governments. Regardless, 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.

Investor sentiment towards climate change, fossil fuels, and sustainability could adversely affect our business and our stock price.

There have been efforts in recent years aimed at the investment community, including investment advisors, sovereign wealth funds, public pension funds, universities and other groups, to promote the divestment of shares of energy companies, as well as to pressure lenders and other financial services companies to limit or curtail activities with energy companies. If these efforts are successful, our stock price and our ability to access capital markets may be negatively impacted.

Members of the investment community are also increasing their focus on sustainability practices, including practices related to GHGs and climate change, in the energy industry. As a result, we may face increasing pressure regarding our sustainability disclosures and practices. Additionally, members of the investment community may screen companies such as ours for sustainability performance before investing in our stock.

If we are unable to meet the sustainability standards set by these investors, we may lose investors, our stock price may be negatively impacted and our reputation may be negatively affected.

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

Severe weather events, such as storms, droughts, or floods, could have an adverse effect on our operations. Members within the scientific community believe that an increasing concentration of GHG emissions in the Earth's atmosphere may contribute to climate changes that can have significant physical effects, including an increased frequency and severity of these types of events.

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

The U.S. EPA has implemented the 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 and diesel) that must be blended into 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, 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 withdrew the U.S. from the Trans-Pacific Partnership. 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.

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, as well as industry practices and customs. 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 and various agencies within the Department of Transportation, including the Surface Transportation Board, the Pipeline and Hazardous Materials Safety Administration, and the Federal Railroad Administration, have issued orders and rules pursuant to the Federal Railroad Safety Act of 1970, the Interstate Commerce Commission Termination Act of 1995, 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, positive train control and other operational controls, safety training programs, and notification requirements. The general trend has been toward greater regulation of rail transportation over recent years. 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 practices 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 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 may 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 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 cyberattacks 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.

Increasing regulatory focus on privacy and security issues and expanding laws could expose us to increased liability, subject us to lawsuits, investigations and other liabilities and restrictions on our operations that could significantly and adversely affect our business.

Along with our own data and information in the normal course of our business, we and our partners collect and retain certain data that is subject to specific laws and regulations. The transfer and use of this data both domestically and across international borders is becoming increasingly complex. This data is subject to governmental regulation at the federal, state, international, national, provincial and local levels in many areas of our business, including data privacy and security laws such as the European Union (EU) General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA).

The GDPR applies to activities regarding personal data that may be conducted by us, directly or indirectly through vendors and subcontractors, from an establishment in the EU. As interpretation and enforcement of the GDPR evolves, it creates a range of new compliance obligations, which could cause us to incur additional costs. Failure to comply could result in significant penalties of up to a maximum of 4 percent of our global turnover that may materially adversely affect our business, reputation, results of operations, and cash flows.

The CCPA, which came into effect on January 1, 2020, gives California residents specific rights in relation to their personal information, requires that companies take certain actions, including notifications for security incidents and may apply to activities regarding personal information that is collected by us, directly or indirectly, from California residents. As interpretation and enforcement of the CCPA evolves, it creates a range of new compliance obligations, with the possibility for significant financial penalties for noncompliance that may materially adversely affect our business, reputation, results of operations, and cash flows.

The GDPR and CCPA, as well as other data privacy laws that may become applicable to our business, 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.

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 reduced the U.S. corporate income tax rate from 35 percent to 21 percent and implemented 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 (i) repealed the manufacturing deduction we previously were able to claim, (ii) resulted in a shift from a worldwide system of taxation to a territorial system of taxation, resulting in a minimum tax on the income of international subsidiaries (the GILTI tax) rather than a tax deferral on such earnings in certain circumstances, (iii) limits 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 (iv) permits 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.

Our investments in joint ventures and other entities decrease our ability to manage risk.

We conduct some of our operations through joint ventures in which we may share control over certain economic and business interests with our joint venture partners and in some entities in which we have no ownership or control. Our joint venture partners may have economic, business or legal interests or goals that are inconsistent with our goals and interests or may be unable to meet their obligations. Failure by us, or an entity in which we have a joint-venture interest, to adequately manage the risks associated with any acquisitions or joint ventures could have a material adverse effect on our, or our joint ventures', financial position, results of operations, and liquidity.

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 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 financial agreements, including, but not limited to, 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.

Changes in the U.K.'s economic and other relationships with the EU could adversely affect us.

In June 2016, the U.K. elected to withdraw from the EU in a national referendum (Brexit). The U.K. withdrew from the EU on January 31, 2020, consistent with the terms of the EU-U.K. Withdrawal Agreement. The terms of that agreement provide for a transition period, from January 31, 2020 to December 31, 2020, during which the trading relationship between the U.K. and the EU will remain the same while the U.K. and the EU try to negotiate an agreement regarding their future trading relationship. The ultimate effects of Brexit will depend on whether an agreement is reached, or on the specific terms of any such agreement that is reached, either of which outcomes could adversely impact the ability to trade freely between the U.K. and the EU at the end of the transition period and could negatively impact our competitive position, supplier and customer relationships, and financial performance.

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). In our annual report on Form 10-K for the year ended December 31, 2018, we reported that we had an outstanding Notice of Violation (NOV) from the U.S. EPA related to violations from a 2015 Mobile Source Inspection. In the fourth quarter of 2019, we received a draft Consent Order from the U.S. EPA proposing penalties of $3.4 million. We are working with the U.S. EPA to resolve this matter.

Attorney General of the State of Texas (Texas AG) (Corpus Christi Asphalt Plant). In our quarterly report on Form 10-Q for the quarter ended March 31, 2019, we reported that we had received a letter and draft Agreed Final Judgment from the Texas AG related to a contaminated water backflow incident that occurred at the Valero Corpus Christi Asphalt Plant. The draft Agreed Final Judgment assesses proposed penalties in the amount of $1.3 million. We are working with the Texas AG to resolve this matter.

Texas AG (Port Arthur Refinery). In our quarterly report on Form 10-Q for the quarter ended June 30, 2019, we reported that the Texas AG had filed suit against our Port Arthur Refinery in the 419th Judicial District Court of Travis County, Texas, Cause No. D-1-GN-19-004121, for alleged violations of the Clean Air Act seeking injunctive relief and penalties. We are working with the Texas AG to resolve this matter.

Texas AG (Houston Terminal). In our annual report on Form 10-K for the year ended December 31, 2018, we reported that we had an outstanding Notice of Enforcement (NOE) from the Texas Commission on Environmental Quality (TCEQ), and an outstanding Violation Notice (VN) from the Harris County Pollution Control Services Department, both alleging excess emissions from Tank 003 that occurred during Hurricane Harvey. On January 27, 2020, the Texas AG filed suit related to this incident against our Houston Terminal in the 419th Judicial District Court of Travis County, Texas, Cause No. D-1-GN-20-000516 seeking injunctive relief and penalties. We are working with the Texas AG to resolve this matter.

Bay Area Air Quality Management District (BAAQMD) and Solano County Department of Resource Management Certified Unified Program Agency (Solano County) (Benicia Refinery). In our quarterly report on Form 10-Q for the quarter ended March 31, 2019, we reported that we had received multiple VNs issued by the BAAQMD related to an upset of the Flue Gas Scrubber (FGS) at our Benicia Refinery, and a draft Consent from Solano County related to the FGS incident proposing penalties of $242,840. In our quarterly report on Form 10-Q for the quarter ended September 30, 2019, we reported that we had resolved the matter with Solano County. We continue to work with the BAAQMD on a final resolution of the remaining VNs.

BAAQMD (Benicia Refinery). In our annual report on Form 10-K for the year ended December 31, 2018, we reported that we had multiple outstanding VNs issued by the BAAQMD. These VNs are for various alleged air regulation and air permit violations at our Benicia Refinery and asphalt plant. We continue to work with the BAAQMD to resolve these VNs.

South Coast Air Quality Management District (SCAQMD) (Wilmington Refinery). In our annual report on Form 10-K for the year ended December 31, 2018, we reported that we had outstanding Notices of Violation (NOVs) issued by the SCAQMD. These NOVs are for alleged reporting violations and excess emissions at our Wilmington Refinery. We are working with the SCAQMD to resolve these NOVs.

TCEQ (Port Arthur). In our annual report on Form 10-K for the year ended December 31, 2018, we reported that we had an outstanding 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.

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, 2020, there were 5,082 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 2019.

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 2019	332,704	$ 88.06	98,396	234,308	$1.6 billion
November 2019	1,565,500	$ 99.21	107,914	1,457,586	$1.5 billion
December 2019	393,694	$ 94.61	6,984	386,710	$1.5 billion
Total	2,291,898	$ 96.80	213,294	2,078,604	$1.5 billion

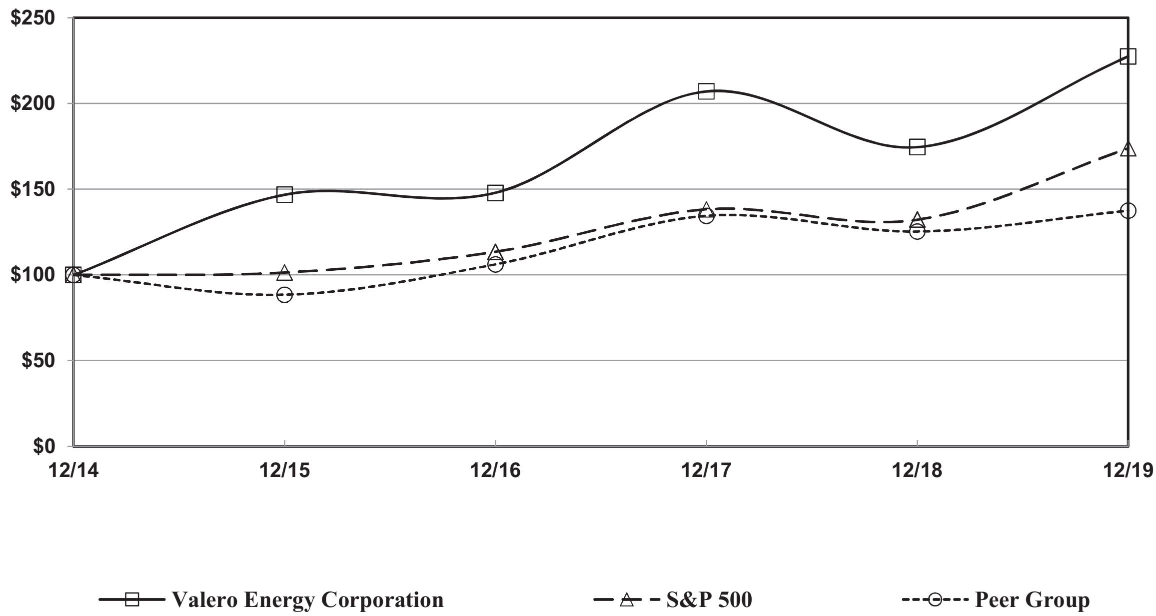
(a) The shares reported in this column represent purchases settled in the fourth quarter of 2019 relating to (i) our purchases of shares in open-market transactions to meet our obligations under stock-based compensation plans and (ii) our purchases of shares from our employees and non-employee directors in connection with the exercise of stock options, the vesting of restricted stock, and other stock compensation transactions in accordance with the terms of our stock-based compensation plans.

(b) On 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. As of December 31, 2019, we had $1.5 billion remaining available for purchase under the 2018 Program.

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, 2014 and ending December 31, 2019. 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,					
	2014	2015	2016	2017	2018	2019
Valero Common Stock	$ 100.00	$ 146.79	$ 147.94	$ 207.10	$ 174.54	$ 227.53
S&P 500	100.00	101.38	113.51	138.29	132.23	173.86
Peer Group	100.00	88.46	106.16	134.53	125.35	137.49

(a) Assumes that an investment in Valero common stock and each index was $100 on December 31, 2014. "Cumulative total return" is based on share price appreciation plus reinvestment of dividends from December 31, 2014 through December 31, 2019.

ITEM 6. SELECTED FINANCIAL DATA

The selected financial data for the five-year period ended December 31, 2019 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,				
	2019	**2018**	**2017 (a)**	**2016 (b)**	**2015 (c)**
Revenues	$ 108,324	$ 117,033	$ 93,980	$ 75,659	$ 87,804
Net income	2,784	3,353	4,156	2,417	4,101
Earnings per common share – assuming dilution	5.84	7.29	9.16	4.94	7.99
Dividends per common share	3.60	3.20	2.80	2.40	1.70
Total assets	53,864	50,155	50,158	46,173	44,227
Debt and finance lease obligations, less current portion	9,178	8,871	8,750	7,886	7,208

(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.

(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.

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," "guidance," "target," "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;
- future renewable diesel 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 turnaround and catalyst cost expenditures, 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 renewable diesel 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, and petrochemicals), ethanol, and renewable diesel;
- demand for, and supplies of, crude oil and other feedstocks;

- the ability of the members of the Organization of Petroleum Exporting Countries to agree on and to maintain crude oil price and production controls;
- the level of consumer demand, including seasonal fluctuations;
- refinery overcapacity or undercapacity;
- our ability to successfully integrate any acquired businesses into our operations;
- the actions taken by competitors, including both pricing and adjustments to refining capacity in response to market conditions;
- the level of competitors' imports into markets that we supply;
- accidents, unscheduled shutdowns, or other catastrophes affecting our refineries, machinery, pipelines, equipment, and information systems, or those of our suppliers or customers;
- changes in the cost or availability of transportation for feedstocks and refined 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, refined petroleum products, ethanol, and renewable diesel;
- 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 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.

NON-GAAP FINANCIAL MEASURES

The discussions in "OVERVIEW AND OUTLOOK" and "RESULTS OF OPERATIONS" below include references to financial measures that are not defined under U.S. generally accepted accounting principles (GAAP). These non-GAAP financial measures include adjusted operating income (including adjusted operating income for each of our reportable segments) and refining, ethanol, and renewable diesel segment margin. We have included these non-GAAP financial measures to help facilitate the comparison of operating results between years. See the tables in note (f) beginning on page 39 for reconciliations of these non-GAAP financial measures to their most directly comparable U.S. GAAP financial measures. Also in note (f), we disclose the reasons why we believe our use of the non-GAAP financial measures provides useful information.

OVERVIEW AND OUTLOOK

Overview

For 2019, we reported net income attributable to Valero stockholders of $2.4 billion compared to $3.1 billion for 2018, which represents a decrease of $700 million. This decrease is the result of a $569 million decrease in net income and a $131 million increase in net income attributable to noncontrolling interests. The increase in net income attributable to noncontrolling interests is primarily due to a $279 million pre-tax increase in blender's tax credits recognized in 2019 compared to 2018, of which 50 percent is attributable to the holder of the noncontrolling interest, as described in note (a) on page 38. The decrease in net income is primarily due to a decrease of $736 million in operating income between the periods, net of the resulting $177 million decrease in income tax expense.

While operating income decreased by $736 million in 2019 compared to 2018, adjusted operating income decreased by $1.0 billion. Adjusted operating income excludes adjustments reflected in the table in note (f) on page 42.

The $1.0 billion decrease in adjusted operating income is primarily due to the following:

- *Refining segment.* Refining segment adjusted operating income decreased by $1.1 billion primarily due to weaker discounts on crude oils and other feedstocks and lower throughput volumes, partially offset by improved distillate margins. This is more fully described on pages 31 and 32.

- *Ethanol segment.* Ethanol segment adjusted operating income decreased by $78 million primarily due to higher corn prices and higher operating expenses (excluding depreciation and amortization expense), partially offset by higher ethanol prices. This is more fully described on page 33.

- *Renewable diesel segment.* Renewable diesel segment adjusted operating income increased by $259 million primarily due to an increase in renewable diesel sales volumes and an increase in the benefit from the blender's tax credit resulting from an increase in the volume of renewable diesel blended with petroleum-based diesel in 2019 compared to 2018. This is more fully described on pages 34 and 35.

Outlook

Below are several factors that have impacted or may impact our results of operations during the first quarter of 2020:

- Distillate margins are expected to begin improving due to an anticipated increase in global demand as trade war tensions ease and markets comply with the International Maritime Organization's lower bunker fuel sulfur specifications, which were effective January 1, 2020. Gasoline margins are expected to remain near current levels.

- Discounts for medium and heavy sour crude oils are expected to remain near current levels as compliance with the new bunker fuel sulfur specifications noted above is expected to reduce demand for high sulfur fuel oils, which compete with sour crude oils as a refining feedstock.

- Ethanol margins are expected to decline as domestic inventory levels rise.

- Renewable diesel segment margins are expected to remain near current levels.

- Our refining operations in the U.K. could be adversely affected by Brexit, which formally occurred on January 31, 2020. Although the legal relationship between the U.K. and the EU has changed, their ongoing relationship will continue to follow the EU's rules during a transition period that is set to expire on December 31, 2020. During the transition period, the U.K. and the EU are expected to negotiate a new free trade agreement, which could negatively impact the operations of our Pembroke Refinery and our marketing operations in the U.K. and Ireland, as could the failure to reach any agreement. The ultimate effect of Brexit will depend on whether an agreement is reached, or on the specific terms of any agreement that is reached by the U.K. and the EU. See Item 1A "RISK FACTORS"—*Changes in the U.K.'s economic and other relationships with the EU could adversely affect us*.

- Global concern about the coronavirus outbreak could result in lower demand for and consumption of transportation fuels, which would have a negative impact on our results of operations.

RESULTS OF OPERATIONS

The following tables, including the reconciliations of non-GAAP financial measures to their most directly comparable U.S. GAAP financial measures in note (f) beginning on page 39, highlight our results of operations, our operating performance, and market reference prices that directly impact our operations.

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 DGD, which were transferred from the refining 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 described 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. Our prior period segment information has been retrospectively adjusted to reflect our current segment presentation.

2019 Compared to 2018

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

	Year Ended December 31, 2019				
	Refining	Ethanol	Renewable Diesel	Corporate and Eliminations	Total
Revenues:					
Revenues from external customers	$ 103,746	$ 3,606	$ 970	$ 2	$ 108,324
Intersegment revenues	18	231	247	(496)	—
Total revenues	103,764	3,837	1,217	(494)	108,324
Cost of sales:					
Cost of materials and other (a)	93,371	3,239	360	(494)	96,476
Operating expenses (excluding depreciation and amortization expense reflected below)	4,289	504	75	—	4,868
Depreciation and amortization expense	2,062	90	50	—	2,202
Total cost of sales	99,722	3,833	485	(494)	103,546
Other operating expenses (b)	20	1	—	—	21
General and administrative expenses (excluding depreciation and amortization expense reflected below)	—	—	—	868	868
Depreciation and amortization expense	—	—	—	53	53
Operating income by segment	$ 4,022	$ 3	$ 732	$ (921)	3,836
Other income, net (d)					104
Interest and debt expense, net of capitalized interest					(454)
Income before income tax expense					3,486
Income tax expense					702
Net income					2,784
Less: Net income attributable to noncontrolling interests (a)					362
Net income attributable to Valero Energy Corporation stockholders					$ 2,422

See note references on pages 38 through 42.

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

	Year Ended December 31, 2018				
	Refining	**Ethanol**	**Renewable Diesel**	**Corporate and Eliminations**	**Total**
Revenues:					
Revenues from external customers	$ 113,093	$ 3,428	$ 508	$ 4	$ 117,033
Intersegment revenues	25	210	170	(405)	—
Total revenues	113,118	3,638	678	(401)	117,033
Cost of sales:					
Cost of materials and other (a)	101,866	3,008	262	(404)	104,732
Operating expenses (excluding depreciation and amortization expense reflected below)	4,154	470	66	—	4,690
Depreciation and amortization expense	1,910	78	29	—	2,017
Total cost of sales	107,930	3,556	357	(404)	111,439
Other operating expenses (b)	45	—	—	—	45
General and administrative expenses (excluding depreciation and amortization expense reflected below) (c)	—	—	—	925	925
Depreciation and amortization expense	—	—	—	52	52
Operating income by segment	$ 5,143	$ 82	$ 321	$ (974)	4,572
Other income, net (d)					130
Interest and debt expense, net of capitalized interest					(470)
Income before income tax expense					4,232
Income tax expense (e)					879
Net income					3,353
Less: Net income attributable to noncontrolling interests (a)					231
Net income attributable to Valero Energy Corporation stockholders					$ 3,122

See note references on pages 38 through 42.

Average Market Reference Prices and Differentials

	Year Ended December 31,		
	2019	2018	Change
Refining			
Feedstocks (dollars per barrel)			
Brent crude oil	$ 64.18	$ 71.62	$ (7.44)
Brent less West Texas Intermediate (WTI) crude oil	7.15	6.71	0.44
Brent less Alaska North Slope (ANS) crude oil	(0.86)	0.31	(1.17)
Brent less LLS crude oil	1.47	1.72	(0.25)
Brent less Argus Sour Crude Index (ASCI) crude oil	3.56	5.20	(1.64)
Brent less Maya crude oil	6.57	9.22	(2.65)
LLS crude oil	62.71	69.90	(7.19)
LLS less ASCI crude oil	2.09	3.48	(1.39)
LLS less Maya crude oil	5.10	7.50	(2.40)
WTI crude oil	57.03	64.91	(7.88)
Natural gas (dollars per million British Thermal Units (MMBtu))	2.47	3.23	(0.76)
Products (dollars per barrel)			
U.S. Gulf Coast:			
Conventional Blendstock of Oxygenate Blending (CBOB) gasoline less Brent	4.37	4.81	(0.44)
Ultra-low-sulfur (ULS) diesel less Brent	14.90	14.02	0.88
Propylene less Brent	(22.31)	(2.86)	(19.45)
CBOB gasoline less LLS	5.84	6.53	(0.69)
ULS diesel less LLS	16.37	15.74	0.63
Propylene less LLS	(20.84)	(1.14)	(19.70)
U.S. Mid-Continent:			
CBOB gasoline less WTI	13.62	13.70	(0.08)
ULS diesel less WTI	22.77	22.82	(0.05)
North Atlantic:			
CBOB gasoline less Brent	7.20	7.59	(0.39)
ULS diesel less Brent	17.22	16.29	0.93
U.S. West Coast:			
CARBOB 87 gasoline less ANS	16.28	13.05	3.23
CARB diesel less ANS	19.30	18.13	1.17
CARBOB 87 gasoline less WTI	24.29	19.45	4.84
CARB diesel less WTI	27.31	24.53	2.78

Average Market Reference Prices and Differentials, (continued)

	Year Ended December 31,		
	2019	2018	Change
Ethanol			
Chicago Board of Trade (CBOT) corn (dollars per bushel)	$ 3.84	$ 3.68	$ 0.16
New York Harbor (NYH) ethanol (dollars per gallon)	1.53	1.48	0.05
Renewable diesel			
New York Mercantile Exchange ULS diesel (dollars per gallon)	1.94	2.09	(0.15)
Biodiesel RIN (dollars per RIN)	0.48	0.53	(0.05)
California Low-Carbon Fuel Standard (dollars per metric ton)	196.82	168.24	28.58
CBOT soybean oil (dollars per pound)	0.29	0.30	(0.01)

Total Company, Corporate, and Other

The following table includes selected financial data for the total company, corporate, and other for 2019 and 2018. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 27 and 28, unless otherwise noted.

	Year Ended December 31,		
	2019	2018	Change
Revenues	$ 108,324	$ 117,033	$ (8,709)
Cost of sales	103,546	111,439	(7,893)
General and administrative expenses (excluding depreciation and amortization expense)	868	925	(57)
Operating income	3,836	4,572	(736)
Adjusted operating income (see note (f) on page 42)	3,699	4,713	(1,014)
Other income, net	104	130	(26)
Income tax expense	702	879	(177)
Net income attributable to noncontrolling interests	362	231	131

Revenues decreased by $8.7 billion in 2019 compared to 2018 primarily due to decreases in refined petroleum product prices associated with sales made by our refining segment. This decline in revenues was partially offset by lower cost of sales of $7.9 billion primarily due to decreases in crude oil and other feedstock costs and a decrease of $57 million in general and administrative expenses (excluding depreciation and amortization expense), resulting in a decrease in operating income of $736 million in 2019 compared to 2018.

General and administrative expenses (excluding depreciation and amortization expense) decreased by $57 million in 2019 compared to 2018. This decrease was primarily due to environmental reserve adjustments of $108 million associated with certain non-operating sites in 2018, partially offset by increases in legal and other environmental reserves of $24 million and $12 million, respectively, as well as higher taxes other than income taxes of $8 million and expenses associated with the Merger Transaction with VLP of $7 million.

Adjusted operating income was $3.7 billion in 2019 compared to $4.7 billion in 2018. Details regarding the $1.0 billion decrease in adjusted operating income between the years are discussed by segment below.

"Other income, net" decreased by $26 million in 2019 compared to 2018. This decrease was primarily due to lower interest income of $30 million and higher foreign currency transaction losses of $14 million, partially offset by the favorable effect of a $16 million lower charge for the early redemption of debt between the periods. As described in note (d) on page 39, we redeemed debt in both 2019 and 2018 and incurred early redemption charges of $22 million and $38 million, respectively.

Income tax expense decreased by $177 million in 2019 compared to 2018 primarily as a result of lower income before income tax expense. Our effective tax rate was 20 percent for 2019 compared to 21 percent for 2018.

Net income attributable to noncontrolling interests increased by $131 million in 2019 compared to 2018 primarily due to a $279 million increase in blender's tax credits recognized in 2019 compared to 2018, of which 50 percent is attributable to the holder of the noncontrolling interest, as described in note (a) on page 38.

Refining Segment Results

The following table includes selected financial and operating data of our refining segment for 2019 and 2018. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 27 and 28, respectively, unless otherwise noted.

	Year Ended December 31,		
	2019	**2018**	**Change**
Revenues	$ 103,764	$ 113,118	$ (9,354)
Cost of sales	99,722	107,930	(8,208)
Operating income	4,022	5,143	(1,121)
Adjusted operating income (see note (f) on page 41)	4,040	5,180	(1,140)
Margin (see note (f) on page 40)	10,391	11,244	(853)
Operating expenses (excluding depreciation and amortization expense reflected below)	4,289	4,154	135
Depreciation and amortization expense	2,062	1,910	152
Throughput volumes (thousand BPD) (see note (g) on page 42)	2,952	2,986	(34)

Refining segment revenues decreased by $9.3 billion in 2019 compared to 2018 primarily due to decreases in refined petroleum product prices. This decline in refining segment revenues was partially offset by lower cost of sales of $8.2 billion primarily due to decreases in crude oil and other feedstock costs, resulting in a decrease in refining segment operating income of $1.1 billion in 2019 compared to 2018.

Refining segment adjusted operating income also decreased by $1.1 billion in 2019 compared to 2018. The components of this decrease, along with the reasons for the changes in these components, are outlined below.

- Refining segment margin is primarily affected by refined petroleum product prices and the cost of crude oil and other feedstocks. The market prices for refined petroleum products generally track the price of benchmark crude oils, such as Brent, WTI, and ANS. An increase in the differential between the market price of the refined petroleum products that we sell and the cost of the reference benchmark crude oil has a favorable impact on our refining segment margin, while a decline in this differential has a negative impact on our refining segment margin. Additionally, our refining segment margin is affected by our ability to purchase and process crude oils and other feedstocks that are priced at a discount to Brent and other benchmark crude oils. While we benefit when we process these types of crude oils and other feedstocks, that benefit will vary as the discount widens or narrows. Improvement in these discounts has a favorable impact on our refining segment margin as it lowers our cost of materials; whereas lower discounts result in higher cost of materials, which has a negative impact on our refining segment margin. The table on page 29 reflects market reference prices and differentials that we believe had a material impact on the change in our refining segment margin in 2019 compared to 2018. Refining segment margin decreased by $853 million in 2019 compared to 2018 primarily due to the following:

    - Lower discounts on crude oils had an unfavorable impact to our refining segment margin of approximately $628 million.

    - Lower discounts on feedstocks other than crude oils, such as natural gas and residuals, had an unfavorable impact to our refining segment margin of approximately $360 million.

    - A decrease in throughput volumes of 34,000 BPD had an unfavorable impact to our refining segment margin of approximately $128 million.

    - A decrease in the cost of biofuel credits (primarily RINs in the U.S.) had a favorable impact on our refining segment margin of $218 million. See Note 20 of Notes to Consolidated Financial Statements for additional information on our government and regulatory compliance programs.

    - An increase in distillate margins throughout most of our regions had a favorable impact to our refining segment margin of approximately $202 million.

- Refining segment operating expenses (excluding depreciation and amortization expense) increased by $135 million primarily due to higher maintenance costs of $86 million, along with the effect of favorable property tax settlements of $20 million and sales and use tax refunds of $17 million received in 2018 that did not recur in 2019.

- Refining segment depreciation and amortization expense associated with our cost of sales increased by $152 million primarily due to higher refinery turnaround and catalyst amortization expense of $82 million and an increase in depreciation expense of $79 million associated with capital projects that were completed and finance leases that commenced in the latter part of 2018 and early 2019, partially offset by the write-off of assets that were idled or demolished in 2018 of $15 million.

Ethanol Segment Results

The following table includes selected financial and operating data of our ethanol segment for 2019 and 2018. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 27 and 28, respectively, unless otherwise noted.

	Year Ended December 31,		
	2019	2018	Change
Revenues	$ 3,837	$ 3,638	$ 199
Cost of sales	3,833	3,556	277
Operating income	3	82	(79)
Adjusted operating income (see note (f) on page 41)	4	82	(78)
Margin (see note (f) on page 40)	598	630	(32)
Operating expenses (excluding depreciation and amortization expense reflected below)	504	470	34
Depreciation and amortization expense	90	78	12
Production volumes (thousand gallons per day) (see note (g) on page 42)	4,269	4,109	160

Ethanol segment revenues increased by $199 million in 2019 compared to 2018 primarily due to an increase in ethanol prices. This improvement in ethanol segment revenue was outweighed by higher cost of sales of $277 million, resulting in a decrease in ethanol segment operating income of $79 million in 2019 compared to 2018.

Ethanol segment adjusted operating income decreased by $78 million. The components of this decrease, along with the reasons for the changes in these components, are outlined below.

- Ethanol segment margin is primarily affected by ethanol and corn related co-product prices and the cost of corn. The table on page 30 reflects market reference prices that we believe had a material impact on the change in our ethanol segment margin in 2019 compared to 2018. Ethanol segment margin decreased by $32 million in 2019 compared to 2018 primarily due to the following:

    - Higher corn prices had an unfavorable impact to our ethanol segment margin of approximately $166 million.

    - Higher ethanol prices had a favorable impact to our ethanol segment margin of approximately $123 million.

- Ethanol segment operating expenses (excluding depreciation and amortization expense) increased by $34 million primarily due to costs to operate the three plants acquired from Green Plains, Inc. (Green Plains) in November 2018 of $79 million, partially offset by lower energy costs of $29 million and lower chemicals and catalyst costs of $12 million incurred by our other ethanol plants.

- Ethanol segment depreciation and amortization expense associated with our cost of sales increased by $12 million primarily due to depreciation expense associated with the three plants acquired from Green Plains in November 2018.

Renewable Diesel Segment Results

The following table includes selected financial and operating data of our renewable diesel segment for 2019 and 2018. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 27 and 28, respectively, unless otherwise noted.

	Year Ended December 31,		
	2019	2018	Change
Revenues	$ 1,217	$ 678	$ 539
Cost of sales	485	357	128
Operating income	732	321	411
Adjusted operating income (see note (f) on page 42)	576	317	259
Margin (see note (f) on page 41)	701	412	289
Operating expenses (excluding depreciation and amortization expense reflected below)	75	66	9
Depreciation and amortization expense	50	29	21
Sales volumes (thousand gallons per day) (see note (g) on page 42)	760	431	329

Renewable diesel segment revenues increased by $539 million in 2019 compared to 2018 primarily due to an increase in renewable diesel sales volumes. This improvement in renewable diesel segment revenues was partially offset by higher cost of sales of $128 million, resulting in an increase in renewable diesel segment operating income of $411 million.

Renewable diesel segment adjusted operating income increased by $259 million in 2019 compared to 2018. The components of this increase, along with the reasons for the changes in these components, are outlined below.

- Renewable diesel segment margin increased by $289 million in 2019 compared to 2018 primarily due to the following:

    - An increase in sales volumes of 329,000 gallons per day, which is primarily due to the additional production capacity resulting from the expansion of the DGD Plant completed in the third quarter of 2018, had a favorable impact to our renewable diesel segment margin of $162 million.

    - An increase in the benefit for the blender's tax credit attributable to volumes blended during 2019 compared to 2018 had a favorable impact to our renewable diesel segment margin of $119 million. As more fully described in note (a) on page 38, blender's tax credits of $275 million and $156 million were attributable to volumes blended during 2019 and 2018, respectively.

- Renewable diesel segment operating expenses (excluding depreciation and amortization expense) increased by $9 million, which is primarily attributable to increased costs resulting from the expansion of the DGD Plant completed in the third quarter of 2018.

- Renewable diesel segment depreciation and amortization expense associated with our cost of sales increased by $21 million primarily due to higher turnaround and catalyst amortization expense of $13 million and depreciation expense associated with the expansion of the DGD Plant completed in the third quarter of 2018 of $5 million.

2018 Compared to 2017

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

	Year Ended December 31, 2018				
	Refining	**Ethanol**	**Renewable Diesel**	**Corporate and Eliminations**	**Total**
Revenues:					
Revenues from external customers	$ 113,093	$ 3,428	$ 508	$ 4	$ 117,033
Intersegment revenues	25	210	170	(405)	—
Total revenues	113,118	3,638	678	(401)	117,033
Cost of sales:					
Cost of materials and other (a)	101,866	3,008	262	(404)	104,732
Operating expenses (excluding depreciation and amortization expense reflected below)	4,154	470	66	—	4,690
Depreciation and amortization expense	1,910	78	29	—	2,017
Total cost of sales	107,930	3,556	357	(404)	111,439
Other operating expenses (b)	45	—	—	—	45
General and administrative expenses (excluding depreciation and amortization expense reflected below) (c)	—	—	—	925	925
Depreciation and amortization expense	—	—	—	52	52
Operating income by segment	$ 5,143	$ 82	$ 321	$ (974)	4,572
Other income, net (d)					130
Interest and debt expense, net of capitalized interest					(470)
Income before income tax expense					4,232
Income tax expense (e)					879
Net income					3,353
Less: Net income attributable to noncontrolling interests (a)					231
Net income attributable to Valero Energy Corporation stockholders					$ 3,122

See note references on pages 38 through 42.

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

	Year Ended December 31, 2017				
	Refining	**Ethanol**	**Renewable Diesel**	**Corporate and Eliminations**	**Total**
Revenues:					
Revenues from external customers	$ 90,258	$ 3,324	$ 393	$ 5	$ 93,980
Intersegment revenues	8	176	241	(425)	—
Total revenues	90,266	3,500	634	(420)	93,980
Cost of sales:					
Cost of materials and other	80,160	2,804	498	(425)	83,037
Operating expenses (excluding depreciation and amortization expense reflected below)	4,014	443	47	—	4,504
Depreciation and amortization expense	1,824	81	29	—	1,934
Total cost of sales	85,998	3,328	574	(425)	89,475
Other operating expenses (b)	61	—	—	—	61
General and administrative expenses (excluding depreciation and amortization expense reflected below)	—	—	—	829	829
Depreciation and amortization expense	—	—	—	52	52
Operating income by segment	$ 4,207	$ 172	$ 60	$ (876)	3,563
Other income, net					112
Interest and debt expense, net of capitalized interest					(468)
Income before income tax expense					3,207
Income tax benefit (e)					(949)
Net income					4,156
Less: Net income attributable to noncontrolling interests					91
Net income attributable to Valero Energy Corporation stockholders					$ 4,065

See note references on pages 38 through 42.

Average Market Reference Prices and Differentials

	Year Ended December 31,		
	2018	2017	Change
Refining			
Feedstocks (dollars per barrel)			
Brent crude oil	$ 71.62	$ 54.82	$ 16.80
Brent less WTI crude oil	6.71	3.92	2.79
Brent less ANS crude oil	0.31	0.26	0.05
Brent less LLS crude oil	1.72	0.69	1.03
Brent less ASCI crude oil	5.20	4.18	1.02
Brent less Maya crude oil	9.22	7.74	1.48
LLS crude oil	69.90	54.13	15.77
LLS less ASCI crude oil	3.48	3.49	(0.01)
LLS less Maya crude oil	7.50	7.05	0.45
WTI crude oil	64.91	50.90	14.01
Natural gas (dollars per MMBtu)	3.23	2.98	0.25
Products (dollars per barrel)			
U.S. Gulf Coast:			
CBOB gasoline less Brent	4.81	10.50	(5.69)
ULS diesel less Brent	14.02	13.26	0.76
Propylene less Brent	(2.86)	0.48	(3.34)
CBOB gasoline less LLS	6.53	11.19	(4.66)
ULS diesel less LLS	15.74	13.95	1.79
Propylene less LLS	(1.14)	1.17	(2.31)
U.S. Mid-Continent:			
CBOB gasoline less WTI	13.70	15.65	(1.95)
ULS diesel less WTI	22.82	18.50	4.32
North Atlantic:			
CBOB gasoline less Brent	7.59	12.57	(4.98)
ULS diesel less Brent	16.29	14.75	1.54
U.S. West Coast:			
CARBOB 87 gasoline less ANS	13.05	18.12	(5.07)
CARB diesel less ANS	18.13	17.11	1.02
CARBOB 87 gasoline less WTI	19.45	21.78	(2.33)
CARB diesel less WTI	24.53	20.77	3.76

Average Market Reference Prices and Differentials, (continued)

	Year Ended December 31,		
	2018	2017	Change
Ethanol			
CBOT corn (dollars per bushel)	$ 3.68	$ 3.59	$ 0.09
NYH ethanol (dollars per gallon)	1.48	1.56	(0.08)
Renewable diesel			
New York Mercantile Exchange ULS diesel (dollars per gallon)	2.09	1.66	0.43
Biodiesel RIN (dollars per RIN)	0.53	1.01	(0.48)
California Low-Carbon Fuel Standard (dollars per metric ton)	168.24	89.26	78.98
CBOT soybean oil (dollars per pound)	0.30	0.33	(0.03)

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The following notes relate to references on pages 25 through 36 and pages 43 through 46.

(a) Cost of materials and other for the years ended December 31, 2019 and 2018 includes a benefit of $449 million and $170 million, respectively, for the blender's tax credit. The benefit recognized in 2019 is attributable to volumes blended during 2019 and 2018 and was recognized in December 2019 because the U.S legislation authorizing the credit was passed and signed into law in that month. The benefit recognized in 2018 is attributable to volumes blended during 2017 and was recognized in February 2018 because the U.S. legislation authorizing the credit was passed and signed into law in that month.

The $449 million and $170 million pre-tax benefits are attributable to volumes blended during the three years and are reflected in our reportable segments as follows (in millions):

	Refining	Renewable Diesel	Total
Periods to which blender's tax credit is attributable			
2019 blender's tax credit	$ 16	$ 275	$ 291
2018 blender's tax credit	2	156	158
Total recognized in 2019	$ 18	$ 431	$ 449
2017 blender's tax credit	$ 10	$ 160	$ 170
Total recognized in 2018	$ 10	$ 160	$ 170

Adjustments to reflect the blender's tax credits in the period during which the volumes were blended are as follows (in millions):

	Year Ended December 31,		
	2019	2018	2017
Refining segment			
Total blender's tax credit recognized in period presented	$ 18	$ 10	$ —
Less: Amount properly reflected in the period associated with volumes blended	16	2	10
Adjustment to reflect blender's tax credit in proper period for the refining segment (see note (f))	2	8	(10)
Renewable diesel segment			
Total blender's tax credit recognized in period presented	431	160	—
Less: Amount properly reflected in the period associated with volumes blended	275	156	160
Adjustment to reflect blender's tax credit in proper period for the renewable diesel segment (see note (f))	156	4	(160)
Total adjustment to reflect blender's tax credit in proper period (see note (f))	$ 158	$ 12	$ (170)

Of the $449 million pre-tax benefit recognized in 2019, $215 million is attributable to noncontrolling interest and $234 million is attributable to Valero stockholders. Of the $170 million pre-tax benefit recognized in 2018, $80 million is attributable to noncontrolling interest and $90 million is attributable to Valero stockholders.

(b) Other operating expenses reflects expenses that are not associated with our cost of sales and primarily includes costs to repair, remediate, and restore our facilities to normal operations following a non-operating event, such as a natural disaster or a major unplanned outage.

(c) General and administrative expenses (excluding depreciation and amortization expense) for the year ended December 31, 2018 includes a charge of $108 million for environmental reserve adjustments associated with certain non-operating sites.

(d) "Other income, net" for the years ended December 31, 2019 and 2018 includes a $22 million charge from the early redemption of $850 million of our 6.125 percent senior notes due February 1, 2020 and a $38 million charge from the early redemption of $750 million of our 9.375 percent senior notes due March 15, 2019, respectively.

(e) On December 22, 2017, Tax Reform was enacted, and we recognized an income tax benefit of $1.9 billion in December 2017 that represented our initial estimate of the impact of Tax Reform. We finalized our estimates during the year ended December 31, 2018 and recorded an income tax benefit of $12 million during the period.

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

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

Non-GAAP financial measures are as follows:

◦ **Refining margin** is defined as refining operating income adjusted to reflect the blender's tax credit in the proper period, and excluding operating expenses (excluding depreciation and amortization expense), depreciation and amortization expense, and other operating expenses, as reflected in the table below.

	Year Ended December 31,		
	2019	2018	2017
Reconciliation of refining operating income to refining margin			
Refining operating income	$ 4,022	$ 5,143	$ 4,207
Exclude:			
Blender's tax credit (see note (a))	2	8	(10)
Operating expenses (excluding depreciation and amortization expense)	(4,289)	(4,154)	(4,014)
Depreciation and amortization expense	(2,062)	(1,910)	(1,824)
Other operating expenses (see note (b))	(20)	(45)	(61)
Refining margin	$ 10,391	$ 11,244	$ 10,116

◦ **Ethanol margin** is defined as ethanol operating income excluding operating expenses (excluding depreciation and amortization expense), depreciation and amortization expense, and other operating expenses, as reflected in the table below.

	Year Ended December 31,		
	2019	2018	2017
Reconciliation of ethanol operating income to ethanol margin			
Ethanol operating income	$ 3	$ 82	$ 172
Exclude:			
Operating expenses (excluding depreciation and amortization expense)	(504)	(470)	(443)
Depreciation and amortization expense	(90)	(78)	(81)
Other operating expenses (see note (b))	(1)	—	—
Ethanol margin	$ 598	$ 630	$ 696

- **Renewable diesel margin** is defined as renewable diesel operating income adjusted to reflect the blender's tax credit in the proper period, and excluding operating expenses (excluding depreciation and amortization expense) and depreciation and amortization expense, as reflected in the table below.

	Year Ended December 31,		
	2019	2018	2017
Reconciliation of renewable diesel operating income to renewable diesel margin			
Renewable diesel operating income	$ 732	$ 321	$ 60
Exclude:			
Blender's tax credit (see note (a))	156	4	(160)
Operating expenses (excluding depreciation and amortization expense)	(75)	(66)	(47)
Depreciation and amortization expense	(50)	(29)	(29)
Renewable diesel margin	$ 701	$ 412	$ 296

- **Adjusted refining operating income** is defined as refining segment operating income adjusted to reflect the blender's tax credit in the proper period and excluding other operating expenses, as reflected in the table below.

	Year Ended December 31,		
	2019	2018	2017
Reconciliation of refining operating income to adjusted refining operating income			
Refining operating income	$ 4,022	$ 5,143	$ 4,207
Exclude:			
Blender's tax credit (see note (a))	2	8	(10)
Other operating expenses (see note (b))	(20)	(45)	(61)
Adjusted refining operating income	$ 4,040	$ 5,180	$ 4,278

- **Adjusted ethanol operating income** is defined as ethanol segment operating income excluding other operating expenses as reflected in the table below.

	Year Ended December 31,		
	2019	2018	2017
Reconciliation of ethanol operating income to adjusted ethanol operating income			
Ethanol operating income	$ 3	$ 82	$ 172
Exclude:			
Other operating expenses (see note (b))	(1)	—	—
Adjusted ethanol operating income	$ 4	$ 82	$ 172

- **Adjusted renewable diesel operating income** is defined as renewable diesel segment operating income adjusted to reflect the blender's tax credit in the proper period, as reflected in the table below.

	Year Ended December 31,		
	2019	2018	2017
Reconciliation of renewable diesel operating income to adjusted renewable diesel operating income			
Renewable diesel operating income	$ 732	$ 321	$ 60
Exclude:			
Blender's tax credit (see note (a))	156	4	(160)
Adjusted renewable diesel operating income	$ 576	$ 317	$ 220

- **Adjusted operating income** is defined as total company operating income adjusted to reflect the blender's tax credit in the proper period, and excluding other operating expenses and environmental reserve adjustments associated with certain non-operating sites, as reflected in the table below.

	Year Ended December 31,		
	2019	2018	2017
Reconciliation of total company operating income to adjusted operating income			
Total company operating income	$ 3,836	$ 4,572	$ 3,563
Exclude:			
Blender's tax credit (see note (a))	158	12	(170)
Other operating expenses (see note (b))	(21)	(45)	(61)
Environmental reserve adjustments (see note (c))	—	(108)	—
Adjusted operating income	$ 3,699	$ 4,713	$ 3,794

(g) We use throughput volumes, production volumes, and sales volumes for the refining segment, ethanol segment, and renewable diesel segment, respectively, due to their general use by others who operate facilities similar to those included in our segments.

Total Company, Corporate, and Other

The following table includes selected financial data for the total company, corporate, and other for 2018 and 2017. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 35 and 36, unless otherwise noted.

	Year Ended December 31,		
	2018	2017	Change
Revenues	$ 117,033	$ 93,980	$ 23,053
Cost of sales	111,439	89,475	21,964
General and administrative expenses (excluding depreciation and amortization expense)	925	829	96
Operating income	4,572	3,563	1,009
Adjusted operating income (see note (f) on page 42)	4,713	3,794	919
Other income, net	130	112	18
Income tax expense (benefit)	879	(949)	1,828
Net income attributable to noncontrolling interests	231	91	140

Revenues increased by $23.1 billion in 2018 compared to 2017 primarily due to increases in refined petroleum product prices associated with sales made by our refining segment. This improvement in revenues was partially offset by higher cost of sales of $22.0 billion primarily due to increases in crude oil and other feedstock costs, and an increase of $96 million in general and administrative expenses (excluding depreciation and amortization expense), resulting in an increase in operating income of $1.0 billion in 2018 compared to 2017.

General and administrative expenses (excluding depreciation and amortization expense) increased by $96 million in 2018 compared to 2017. This increase was primarily due to environmental reserve adjustments of $108 million associated with certain non-operating sites in 2018, partially offset by expenses incurred in 2017 associated with the termination of the acquisition of certain assets from Plains All American Pipeline, L.P. of $16 million.

Adjusted operating income was $4.7 billion in 2018 compared to $3.8 billion in 2017. Details regarding the $919 million increase in adjusted operating income between the years are discussed by segment below.

"Other income, net" increased by $18 million in 2018 compared to 2017. This increase was primarily due to higher equity in earnings associated with our Diamond pipeline joint venture of $39 million and higher interest income of $29 million, partially offset by a $38 million charge for the early redemption of debt as described in note (d) on page 39.

Income tax expense increased by $1.8 billion in 2018 compared to 2017 primarily due to the effect from a $1.9 billion income tax benefit in 2017 resulting from Tax Reform, as described in note (e) on page 39. Excluding the effect of Tax Reform from 2017, the effective tax rate for 2017 was 28 percent compared to 21 percent for 2018. The decrease in our effective tax rate is primarily due to the reduction in the U.S. statutory income tax rate from 35 percent to 21 percent effective January 1, 2018 as a result of Tax Reform.

Net income attributable to noncontrolling interests increased by $140 million in 2018 compared to 2017 primarily due to higher earnings associated with DGD, which includes a benefit for the blender's tax credit of which $80 million is attributable to the holder of the noncontrolling interest, as described in note (a) on page 38.

Refining Segment Results

The following table includes selected financial and operating data of our refining segment for 2018 and 2017. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 35 and 36, respectively, unless otherwise noted.

	Year Ended December 31,		
	2018	**2017**	**Change**
Revenues	$ 113,118	$ 90,266	$ 22,852
Cost of sales	107,930	85,998	21,932
Operating income	5,143	4,207	936
Adjusted operating income (see note (f) on page 41)	5,180	4,278	902
Margin (see note (f) on page 40)	11,244	10,116	1,128
Operating expenses (excluding depreciation and amortization expense reflected below)	4,154	4,014	140
Depreciation and amortization expense	1,910	1,824	86
Throughput volumes (thousand BPD) (see note (g) on page 42)	2,986	2,940	46

Refining segment revenues increased by $22.9 billion in 2018 compared to 2017 primarily due to increases in refined petroleum product prices. This improvement in refining segment revenues was partially offset by higher cost of sales of $21.9 billion primarily due to increases in crude oil and other feedstock costs, resulting in an increase in refining segment operating income of $936 million in 2018 compared to 2017.

Refining segment adjusted operating income increased by $902 million in 2018 compared to 2017. The components of this increase, along with the reasons for the changes in these components, are outlined below.

- Refining segment margin is primarily affected by refined petroleum product prices and the cost of crude oil and other feedstocks. The market prices for refined petroleum products generally track the price of benchmark crude oils, such as Brent, WTI, and ANS. An increase in the differential between the market price of the refined petroleum products that we sell and the cost of the reference benchmark crude oil has a favorable impact on our refining segment margin, while a decline in this differential has a negative impact on our refining segment margin. Additionally, our refining segment margin is affected by our ability to purchase and process crude oils and other feedstocks that are priced at a discount to Brent and other benchmark crude oils. While we benefit when we process these types of crude oils and other feedstocks, that benefit will vary as the discount widens or narrows. Improvement in these discounts has a favorable impact on our refining segment margin as it lowers our cost of materials; whereas lower discounts result in higher cost of materials, which has a negative impact on our refining segment margin. The table on page 37 reflects market reference prices and differentials that we believe had a material impact on the change in our refining segment margin in 2018 compared to 2017. Refining segment margin increased by $1.1 billion in 2018 compared to 2017, primarily due to the following:

    - An increase in distillate margins throughout all of our regions had a favorable impact to our refining segment margin of approximately $1.3 billion.

- Higher discounts on crude oils had a favorable impact to our refining segment margin of approximately $561 million.

- A decrease in the cost of biofuel credits (primarily RINs in the U.S.) had a favorable impact to our refining segment margin of $406 million. See Note 20 of Notes to Consolidated Financial Statements for additional information on our government and regulatory compliance programs.

- An increase in throughput volumes of 46,000 BPD had a favorable impact to our refining segment margin of approximately $153 million.

- A decrease in gasoline margins throughout all of our regions had an unfavorable impact to our refining segment margin of approximately $1.3 billion.

• Refining segment operating expenses (excluding depreciation and amortization expense) increased by $140 million primarily due to higher employee-related expenses of $33 million, an increase in energy costs of $28 million, the effect of a favorable insurance settlement of $20 million in 2017 for our McKee Refinery, higher maintenance expense of $17 million, and higher chemicals and catalyst costs of $15 million.

• Refining segment depreciation and amortization expense associated with our cost of sales increased by $86 million primarily due to an increase in depreciation expense of $44 million associated with capital projects that were completed in the latter part of 2017 and early 2018 and higher refinery turnaround and catalyst amortization expense of $35 million, along with the write-off of assets that were idled or demolished in 2018 of $15 million.

Ethanol Segment Results

The following table includes selected financial and operating data of our ethanol segment for 2018 and 2017. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 35 and 36, respectively, unless otherwise noted.

	Year Ended December 31,		
	2018	**2017**	**Change**
Revenues	$ 3,638	$ 3,500	$ 138
Cost of sales	3,556	3,328	228
Operating income	82	172	(90)
Margin (see note (f) on page 40)	630	696	(66)
Operating expenses (excluding depreciation and amortization expense reflected below)	470	443	27
Depreciation and amortization expense	78	81	(3)
Production volumes (thousand gallons per day) (see note (g) on page 42)	4,109	3,972	137

Ethanol segment revenues increased by $138 million in 2018 compared to 2017 primarily due to an increase in ethanol sales volumes. This improvement in ethanol segment revenue was outweighed by higher cost of sales of $228 million, resulting in a decrease in ethanol segment operating income of $90 million in 2018 compared to 2017. The components of this decrease, along with the reasons for the changes in these components, are outlined below.

- Ethanol segment margin is primarily affected by ethanol and corn related co-product prices and the cost of corn. The table on page 38 reflects market reference prices that we believe had a material impact on the change in our ethanol segment margin in 2018 compared to 2017. Ethanol segment margin decreased by $66 million in 2018 compared to 2017 primarily due to the following:
  - Lower ethanol prices had an unfavorable impact to our ethanol segment margin of approximately $159 million.
  - Higher corn prices had an unfavorable impact to our ethanol segment margin of approximately $36 million.
  - Higher prices of the corn related co-products that we produced had a favorable impact to our ethanol segment margin of approximately $101 million.
  - Higher production volumes of 137,000 gallons per day had a favorable impact to our ethanol segment margin of approximately $26 million.
- Ethanol segment operating expenses (excluding depreciation and amortization expense) increased by $27 million primarily due to costs to operate the three plants acquired from Green Plains in November 2018 of $14 million and higher chemicals and catalysts costs of $8 million incurred by our other ethanol plants.

Renewable Diesel Segment Results

The following table includes selected financial and operating data of our renewable diesel segment for 2018 and 2017. The selected financial data is derived from the Financial Highlights by Segment and Total Company tables on pages 35 and 36, respectively, unless otherwise noted.

	Year Ended December 31,		
	2018	2017	Change
Revenues	$ 678	$ 634	$ 44
Cost of sales	357	574	(217)
Operating income	321	60	261
Adjusted operating income (see note (f) on page 42)	317	220	97
Margin (see note (f) on page 41)	412	296	116
Operating expenses (excluding depreciation and amortization expense reflected below)	66	47	19
Depreciation and amortization expense	29	29	—
Sales volumes (thousand gallons per day) (see note (g) on page 42)	431	440	(9)

Renewable diesel segment revenues increased by $44 million in 2018 compared to 2017 primarily due to higher renewable diesel sales prices. This improvement in renewable diesel segment revenues, along with a decrease in total cost of sales of $217 million, resulted in an increase in renewable diesel segment operating income of $261 million.

Renewable diesel segment adjusted operating income increased by $97 million in 2018 compared to 2017. The components of this increase, along with the reasons for the changes in these components are outlined below.

- Renewable diesel segment margin increased by $116 million in 2018 compared to 2017 primarily due to the following:
    - An increase in renewable diesel prices in 2018 had a favorable impact to our renewable diesel segment margin of $60 million.
    - Price risk management activities had a favorable impact to our renewable diesel segment margin of $40 million. We recognized a hedge gain of $29 million in 2018 from commodity derivative instruments associated with our price risk management activities compared to a loss of $11 million in 2017.
- Renewable diesel segment operating expenses (excluding depreciation and amortization expense) increased by $19 million primarily attributable to higher chemical and catalyst costs of $10 million and increased costs resulting from the expansion of the DGD Plant completed in the third quarter of 2018 of $3 million.

LIQUIDITY AND CAPITAL RESOURCES

Overview

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

Our liquidity consisted of the following as of December 31, 2019 (in millions):

Available borrowing capacity from committed facilities:	
Valero Revolver	$ 3,966
Canadian Revolver	112
Accounts receivable sales facility	1,200
Letter of credit facility	50
Total available borrowing capacity	5,328
Cash and cash equivalents (a)	2,473
Total liquidity	$ 7,801

(a) Excludes $110 million of cash and cash equivalents related to our variable interest entities (VIEs) that is available for use only by our VIEs.

Information about our outstanding borrowings, letters of credit issued, and availability under our credit facilities is reflected in Note 9 of Notes to Consolidated Financial Statements.

Cash Flows

Components of our cash flows are set forth below (in millions):

	Year Ended December 31,		
	2019	2018	2017
Cash flows provided by (used in):			
Operating activities	$ 5,531	$ 4,371	$ 5,482
Investing activities	(3,001)	(3,928)	(2,382)
Financing activities	(2,997)	(3,168)	(2,272)
Effect of foreign exchange rate changes on cash	68	(143)	206
Net increase (decrease) in cash and cash equivalents	$ (399)	$ (2,868)	$ 1,034

Cash Flows for the Year Ended December 31, 2019

Our operations generated $5.5 billion of cash in 2019, driven primarily by net income of $2.8 billion, noncash charges to income of $2.5 billion, and a positive change in working capital of $294 million. Noncash charges included $2.3 billion of depreciation and amortization expense and $234 million of deferred income tax expense. See "RESULTS OF OPERATIONS" for further discussion of our operations. The change in our working capital is detailed in Note 18 of Notes to Consolidated Financial Statements. The source of cash resulting from the $294 million change in working capital was mainly due to:

- an increase of $1.5 billion in accounts payable due to an increase in commodity prices in December 2019 compared to December 2018 combined with an increase in crude oil volumes purchased and the timing of payments of invoices;
- a decrease of $427 million in prepaid expenses and other mainly due to a decrease in income taxes receivable resulting from a refund of $348 million, including interest, associated with the settlement of the combined audit related to our U.S. federal income tax returns for 2010 and 2011;
- an increase of $153 million in income taxes payable primarily resulting from higher pre-tax income in the fourth quarter of 2019; partially offset by
- an increase of $1.5 billion in receivables resulting from (i) an increase in commodity prices in December 2019 compared to December 2018 combined with an increase in sales volumes, and (ii) a receivable of $449 million for the blender's tax credit attributable to volumes blended during 2019 and 2018; and
- an increase of $385 million in inventories due to an increase in commodity prices in December 2019 compared to December 2018 combined with higher inventory levels.

The $5.5 billion of cash generated by our operations, along with (i) $992 million of proceeds from debt issuances related to our 4.00 percent Senior Notes, (ii) $239 million of proceeds from borrowings of VIEs, and (iii) $399 million from available cash on hand, were used mainly to:

- fund $2.7 billion in capital investments, as defined in "*Capital Investments*" on page 50, of which $160 million related to self-funded capital investments by DGD;
- fund $225 million of capital expenditures of VIEs other than DGD;
- acquire undivided interests in pipeline and terminal assets for $72 million;
- redeem our 6.125 percent Senior Notes for $871 million (or 102.48 percent of stated value);
- purchase common stock for treasury of $777 million;

- pay common stock dividends of $1.5 billion;
- acquire all of the outstanding publicly held common units of VLP for $950 million; and
- pay distributions to noncontrolling interests of $70 million.

In addition, during the year ended December 31, 2019, we sold and repaid $900 million of eligible receivables under our accounts receivable sales facility.

Cash Flows for the Year Ended December 31, 2018

Our operations generated $4.4 billion of cash in 2018, driven primarily by net income of $3.4 billion and noncash charges to income of $2.3 billion, partially offset by a negative change in working capital of $1.3 billion. Noncash charges included $2.1 billion of depreciation and amortization expense and $203 million of deferred income tax expense. See "RESULTS OF OPERATIONS" for further discussion of our operations. The change in our working capital is detailed in Note 18 of Notes to Consolidated Financial Statements. The use of cash resulting from the $1.3 billion change in working capital was mainly due to:

- an increase of $457 million in receivables resulting from an increase in sales volumes, partially offset by a decrease in commodity prices;
- an increase of $197 million in inventory primarily due to higher inventory levels;
- a decrease of $684 million in income taxes payable primarily resulting from (i) $527 million of payments in early 2018 related to 2017 tax liabilities and (ii) $181 million of payments in late 2018 that will be applied to 2019 tax liabilities;
- a decrease of $113 million in accrued expenses mainly due to the timing of payments on our environmental compliance program obligations; partially offset by
- an increase of $304 million in accounts payable due to an increase in crude oil and other feedstock volumes purchased, partially offset by a decrease in commodity prices.

The $4.4 billion of cash generated by our operations, along with (i) $1.3 billion of proceeds from debt issuances and borrowings, (ii) $109 million of proceeds from borrowings of VIEs, and (iii) $2.9 billion from available cash on hand, were used mainly to:

- fund $2.7 billion in capital investments, of which $192 million related to self-funded capital investments by DGD;
- fund $124 million of capital expenditures of VIEs other than DGD;
- fund (i) $468 million for the Peru Acquisition (as defined and discussed in Note 2 of Notes to Consolidated Financial Statements) in May 2018; (ii) $320 million for the acquisition of three ethanol plants in November 2018; and (iii) $88 million for other minor acquisitions;
- acquire undivided interests in pipeline and terminal assets for $212 million;
- redeem our 9.375 percent Senior Notes for $787 million (or 104.9 percent of stated value);
- make payments on debt and finance lease obligations of $435 million, of which $410 million related to the repayment of all outstanding borrowings under VLP's $750 million senior unsecured revolving credit facility (the VLP Revolver);
- retire $137 million of debt assumed in connection with the Peru Acquisition;
- purchase common stock for treasury of $1.7 billion;
- pay common stock dividends of $1.4 billion; and
- pay distributions to noncontrolling interests of $116 million.

Cash Flows for the Year Ended December 31, 2017

Our operations generated $5.5 billion of cash in 2017. Net income of $4.2 billion, net of the $1.9 billion noncash benefit from Tax Reform and other noncash charges of $2.1 billion, and a positive change in working capital of $1.3 billion were the primary drivers of the cash generated by our operations in 2017. Other noncash charges included $2.0 billion of depreciation and amortization expense. See “RESULTS OF OPERATIONS” for further discussion of our operations. The Tax Reform benefit and the change in our working capital are detailed in Notes 15 and 18, respectively, of Notes to Consolidated Financial Statements. The source of cash resulting from the $1.3 billion change in working capital was mainly due to:

- an increase of $1.8 billion in accounts payable primarily as a result of an increase in commodity prices;
- an increase of $489 million in income taxes payable resulting from deferring the payment of our fourth quarter 2017 estimated taxes to January 2018, as allowed by tax relief authorization from the IRS; partially offset by
- an increase of $870 million in receivables primarily as a result of an increase in commodity prices; and
- an increase of $516 million in inventory due to higher volumes held combined with an increase in commodity prices.

The $5.5 billion of cash generated by our operations, along with borrowings of $380 million under the VLP Revolver, were used mainly to:

- fund $2.3 billion in capital investments, of which $88 million related to self-funded capital investments by DGD;
- fund $26 million of capital expenditures of VIEs other than DGD;
- acquire an undivided interest in crude system assets for $72 million;
- purchase common stock for treasury of $1.4 billion;
- pay common stock dividends of $1.2 billion;
- pay distributions to noncontrolling interests of $67 million; and
- increase available cash on hand by $1.0 billion.

Capital Investments

Our operations, especially those of our refining segment, are highly capital intensive. Each of our refineries comprises a large base of property assets, consisting of a series of interconnected, highly integrated and interdependent crude oil processing facilities and supporting logistical infrastructure (Units), and these Units are improved continuously. The cost of improvements, which consist of the addition of new Units and betterments of existing Units, can be significant. We have historically acquired our refineries at amounts significantly below their replacement costs, whereas our improvements are made at full replacement value. As such, the costs for improving our refinery assets increase over time and are significant in relation to the amounts we paid to acquire our refineries. We plan for these improvements by developing a multi-year capital program that is updated and revised based on changing internal and external factors.

We make improvements to our refineries in order to maintain and enhance their operating reliability, to meet environmental obligations with respect to reducing emissions and removing prohibited elements from the products we produce, or to enhance their profitability. Reliability and environmental improvements generally do not increase the throughput capacities of our refineries. Improvements that enhance refinery profitability may increase throughput capacity, but many of these improvements allow our refineries to process different types of crude oil and to refine crude oil into products with higher market values. Therefore, many of our improvements do not increase throughput capacity significantly.

We consider capital investments to include the following:

- Capital expenditures for purchases of, additions to, and improvements in our property, plant, and equipment, including those made by DGD but excluding other VIEs;
- Deferred turnaround and catalyst cost expenditures, including those made by DGD; and
- Investments in unconsolidated joint ventures.

We include DGD's capital expenditures and deferred turnaround and catalyst cost expenditures in capital investments because we, as operator of DGD, manage its capital projects and expenditures. We do not include the capital expenditures of our other consolidated VIEs in capital investments because we do not operate those VIEs. In addition, we do not include expenditures for acquisitions and acquisitions of undivided interests in capital investments.

We expect to make capital investments of approximately $2.5 billion in 2020. Approximately 60 percent of those investments are for sustaining the business and 40 percent are for growth strategies. However, we continuously evaluate our capital budget and make changes as conditions warrant. This capital investment estimate excludes potential strategic acquisitions, including acquisitions of undivided interests.

Other Matters Impacting Liquidity and Capital Resources

Stock Purchase Program

On January 23, 2018, our board of directors authorized the 2018 Program for the purchase of our outstanding common stock. As of December 31, 2019, we had $1.5 billion remaining available for purchase under the 2018 Program with no expiration date. We have no obligation to make purchases under this program.

Pension Plan Funding

We plan to contribute approximately $140 million to our pension plans and $21 million to our other postretirement benefit plans during 2020. See Note 13 of Notes to Consolidated Financial Statements for a discussion of our employee benefit plans.

Environmental Matters

Our operations are subject to extensive environmental regulations by governmental authorities relating to the discharge of materials into the environment, waste management, pollution prevention measures, GHG emissions, and characteristics and composition of gasolines and distillates. Because environmental laws and regulations are becoming more complex and stringent and new environmental laws and regulations are continuously being enacted or proposed, the level of future expenditures required for environmental matters could increase in the future. In addition, any major upgrades in any of our operating facilities could require material additional expenditures to comply with environmental laws and regulations. See Note 8 of Notes to Consolidated Financial Statements for disclosure of our environmental liabilities.

Tax Matters

We take tax positions in our tax returns from time to time that may not be ultimately allowed by the relevant taxing authority. When we take such positions, we evaluate the likelihood of sustaining those positions and determine the amount of tax benefit arising from such positions, if any, that should be recognized in our financial statements. Tax benefits not recognized by us are recorded as a liability for unrecognized tax benefits, which represents our potential future obligation to various taxing authorities if the tax positions are not sustained.

As of December 31, 2019, our liability for unrecognized tax benefits, excluding related interest and penalties, was $868 million. Of this amount, $525 million is associated with refund claims associated with taxes paid on incentive payments received from the U.S. federal government for blending biofuels into refined petroleum products. We recorded a tax refund receivable of $525 million in connection with our refund claims, but we also recorded a liability for unrecognized tax benefits of $525 million due to the complexity of this matter and uncertainties with respect to sustaining these refund claims. Therefore, our financial position, results of operations, and liquidity will not be negatively impacted if we are unsuccessful in sustaining these refund claims. The remaining liability for unrecognized tax benefits, excluding related interest and penalties, of $343 million represents our potential future obligations to various taxing authorities if the tax positions associated with that liability are not sustained.

Details about our liability for unrecognized tax benefits, along with other information about our unrecognized tax benefits, are included in Note 15 of Notes to Consolidated Financial Statements.

Cash Held by Our International Subsidiaries

As of December 31, 2019, $1.5 billion of our cash and cash equivalents was held by our international subsidiaries. Cash held by our international subsidiaries can be repatriated to us without any U.S. federal income tax consequences as a result of the deemed repatriation provisions of Tax Reform, but certain other taxes may apply, including, but not limited to, withholding taxes imposed by certain international jurisdictions and U.S. state income taxes. Therefore, there is a cost to repatriate cash held by certain of our international subsidiaries to us, but we believe that such amount is not material to our financial position or liquidity.

Concentration of Customers

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

OFF-BALANCE SHEET ARRANGEMENTS

We have not entered into any transactions, agreements, or other contractual arrangements that would result in off-balance sheet liabilities.

CONTRACTUAL OBLIGATIONS

Our contractual obligations as of December 31, 2019 are summarized below (in millions).

	Payments Due by Year						
	2020	2021	2022	2023	2024	Thereafter	Total
Debt and finance lease obligations (a)	$ 541	$ 103	$ 93	$ 110	$ 82	$ 9,485	$ 10,414
Debt obligations – interest payments	464	462	455	449	449	3,947	6,226
Operating lease liabilities (b)	376	250	194	160	125	498	1,603
Purchase obligations	14,284	1,906	1,644	1,565	1,519	3,558	24,476
Other long-term liabilities (c)	—	160	168	200	215	2,185	2,928
Total	$ 15,665	$ 2,881	$ 2,554	$ 2,484	$ 2,390	$ 19,673	$ 45,647

(a) Debt obligations exclude amounts related to unamortized discounts and debt issuance costs. Finance lease obligations include related interest expense. Debt obligations due in 2020 include $348 million associated with borrowings under the IEnova Revolver (as defined and described in Note 9 of Notes to Consolidated Financial Statements) for the construction of terminals in Mexico by Central Mexico Terminals (as defined and described in Note 12 of Notes to Consolidated Financial Statements). The IEnova Revolver is only available to the operations of Central Mexico Terminals, and its creditors do not have recourse against us.

(b) Operating lease liabilities include related interest expense.

(c) Other long-term liabilities exclude amounts related to the long-term portion of operating lease liabilities that are separately presented above.

Debt and Finance Lease Obligations

Our debt and finance lease obligations are described in Notes 9 and 5, respectively, of Notes to Consolidated Financial Statements.

Our debt and financing agreements do not have rating agency triggers that would automatically require us to post additional collateral. However, in the event of certain downgrades of our senior unsecured debt by the ratings agencies, the cost of borrowings under some of our bank credit facilities and other arrangements may increase. As of December 31, 2019, all of our ratings on our senior unsecured debt, including debt guaranteed by us, are at or above investment grade level as follows:

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

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

Debt Obligations – Interest Payments

Interest payments for our debt obligations as described in Note 9 of Notes to Consolidated Financial Statements are the expected payments based on information available as of December 31, 2019.

Operating Lease Liabilities
Our operating lease liabilities arise from leasing arrangements for the right to use various classes of underlying assets as described in Note 5 of Notes to Consolidated Financial Statements. Operating lease liabilities are recognized for leasing arrangements with terms greater than one year and are not reduced by minimum lease payments to be received by us under subleases.

Purchase Obligations
A purchase obligation is an enforceable and legally binding agreement to purchase goods or services that specifies significant terms, including (i) fixed or minimum quantities to be purchased, (ii) fixed, minimum, or variable price provisions, and (iii) the approximate timing of the transaction. We have various purchase obligations under certain crude oil and other feedstock supply arrangements, industrial gas supply arrangements (such as hydrogen supply arrangements), natural gas supply arrangements, and various throughput, transportation and terminaling agreements. We enter into these contracts to ensure an adequate supply of feedstock and utilities and adequate storage capacity to operate our refineries and ethanol plants. Substantially all of our purchase obligations are based on market prices or adjustments based on market indices. Certain of these purchase obligations include fixed or minimum volume requirements, while others are based on our usage requirements. The purchase obligation amounts shown in the preceding table include both short- and long-term obligations and are based on (i) fixed or minimum quantities to be purchased and (ii) fixed or estimated prices to be paid based on current market conditions.

Other Long-Term Liabilities
Our other long-term liabilities are described in Note 8 of Notes to Consolidated Financial Statements. For purposes of reflecting amounts for other long-term liabilities in the preceding table, we made our best estimate of expected payments for each type of liability based on information available as of December 31, 2019.

NEW ACCOUNTING PRONOUNCEMENTS

As discussed in Note 1 of Notes to Consolidated Financial Statements, certain new financial accounting pronouncements became effective January 1, 2020, or will become effective in the future. The effect on our financial statements upon adoption of these pronouncements is discussed in the above-referenced note.

CRITICAL ACCOUNTING POLICIES INVOLVING CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements in accordance with U.S. GAAP requires us to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates. The following summary provides further information about our critical accounting policies that involve critical accounting estimates, and should be read in conjunction with Note 1 of Notes to Consolidated Financial Statements, which summarizes our significant accounting policies. The following accounting policies involve estimates that are considered critical due to the level of subjectivity and judgment involved, as well as the impact on our financial position and results of operations. We believe that all of our estimates are reasonable. Unless otherwise noted, estimates of the sensitivity to earnings that would result from changes in the assumptions used in determining our estimates is not practicable due to the number of assumptions and contingencies involved, and the wide range of possible outcomes.

Unrecognized Tax Benefits
We take tax positions in our tax returns from time to time that may not be ultimately allowed by the relevant taxing authority. When we take such positions, we evaluate the likelihood of sustaining those positions and determine the amount of tax benefit arising from such positions, if any, that should be recognized in our financial statements. Tax benefits not recognized by us are recorded as a liability for unrecognized tax

benefits, which represents our potential future obligation to various taxing authorities if the tax positions are not sustained.

The evaluation of tax positions and the determination of the benefit arising from such positions that are recognized in our financial statements requires us to make significant judgments and estimates based on an analysis of complex tax laws and regulations and related interpretations. These judgments and estimates are subject to change due to many factors, including the progress of ongoing tax audits, case law, and changes in legislation.

Details of our liability for unrecognized tax benefits, along with other information about our unrecognized tax benefits, are included in Note 15 of Notes to Consolidated Financial Statements.

Environmental Matters

Our operations are subject to extensive environmental regulations by governmental authorities relating primarily to the discharge of materials into the environment, waste management, and pollution prevention measures. Future legislative action and regulatory initiatives could result in changes to required operating permits, additional remedial actions, or increased capital expenditures and operating costs that cannot be assessed with certainty at this time.

Accruals for environmental liabilities are based on best estimates of probable undiscounted future costs over a 20-year time period using currently available technology and applying current regulations, as well as our own internal environmental policies. However, environmental liabilities are difficult to assess and estimate due to uncertainties related to the magnitude of possible remediation, the timing of such remediation, and the determination of our obligation in proportion to other parties. Such estimates are subject to change due to many factors, including the identification of new sites requiring remediation, changes in environmental laws and regulations and their interpretation, additional information related to the extent and nature of remediation efforts, and potential improvements in remediation technologies.

The amount of our accruals for environmental matters are included in Note 8 of Notes to Consolidated Financial Statements.

Pension and Other Postretirement Benefit Obligations

We have significant pension and other postretirement benefit liabilities and costs that are developed from actuarial valuations. Inherent in these valuations are key assumptions including discount rates, expected return on plan assets, future compensation increases, and health care cost trend rates. These assumptions are disclosed and described in Note 13 of Notes to Consolidated Financial Statements. Changes in these assumptions are primarily influenced by factors outside of our control. For example, the discount rate assumption represents a yield curve comprised of various long-term bonds that have an average rating of double-A when averaging all available ratings by the recognized rating agencies, while the expected return on plan assets is based on a compounded return calculated assuming an asset allocation that is representative of the asset mix in our pension plans. To determine the expected return on plan assets, we utilized a forward-looking model of asset returns. The historical geometric average return over the 10 years prior to December 31, 2019 was 9.41 percent. The actual return on assets for the years ended December 31, 2019, 2018, and 2017 was 23.44 percent, (5.53) percent, and 19.31 percent, respectively. These assumptions can have a significant effect on the amounts reported in our financial statements.

The following sensitivity analysis shows the effects on the projected benefit obligation as of December 31, 2019 and net periodic benefit cost for the year ending December 31, 2020 (in millions):

	Pension Benefits	Other Postretirement Benefits
Increase in projected benefit obligation resulting from:		
Discount rate decrease of 0.25%	$ 134	$ 10
Compensation rate increase of 0.25%	17	n/a
Increase in expense resulting from:		
Discount rate decrease of 0.25%	12	—
Expected return on plan assets decrease of 0.25%	6	n/a
Compensation rate increase of 0.25%	4	n/a

Our net periodic benefit cost is determined using the spot-rate approach. Under this approach, our net periodic benefit cost is impacted by the spot rates of the corporate bond yield curve used to calculate our liability discount rate. If the yield curve were to flatten entirely and our liability discount rate remained unchanged, our net periodic benefit cost would increase by $16 million for pension benefits and $2 million for other postretirement benefits in 2020.

See Note 13 of Notes to Consolidated Financial Statements for a discussion of our pension and other postretirement benefit obligations.

Inventory Valuation

The cost of our inventories is principally determined under the last-in, first-out (LIFO) method using the dollar-value LIFO approach. Our LIFO inventories are carried at the lower of cost or market value and our non-LIFO inventories are carried at the lower of cost or net realizable value. The market value of our LIFO inventories is determined based on the net realizable value of the inventories.

We compare the market value of inventories to their cost on an aggregate basis, excluding materials and supplies. In determining the market value of our inventories, we assume that feedstocks are converted into refined products, which requires us to make estimates regarding the refined products expected to be produced from those feedstocks and the conversion costs required to convert those feedstocks into refined products. We also estimate the usual and customary transportation costs required to move the inventory from our plants to the appropriate points of sale. We then apply an estimated selling price to our inventories. If the aggregate market value is less than cost, we recognize a loss for the difference in our statements of income.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

COMMODITY PRICE RISK

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

- inventories and firm commitments to purchase inventories generally for amounts by which our current year inventory levels (determined on a LIFO basis) differ from our previous year-end LIFO inventory levels; and

- forecasted feedstock and refined petroleum product purchases, refined petroleum product sales, renewable diesel sales, or natural gas purchases to lock in the price of those forecasted transactions at existing market prices that we deem favorable.

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

The following sensitivity analysis includes all of our derivative instruments entered into for purposes other than trading with which we have market risk (in millions):

	December 31,	
	2019	**2018**
Gain (loss) in fair value resulting from:		
10% increase in underlying commodity prices	$ (39)	$ 2
10% decrease in underlying commodity prices	38	(6)

See Note 20 of Notes to Consolidated Financial Statements for notional volumes associated with these derivative contracts as of December 31, 2019.

COMPLIANCE PROGRAM PRICE RISK

We are exposed to market risk related to the volatility in the price of credits needed to comply with various governmental and regulatory environmental compliance programs. To manage this risk, we enter into contracts to purchase these credits when prices are deemed favorable. Some of these contracts are derivative instruments; however, we elect the normal purchase exception and do not record these contracts at their fair values. As of December 31, 2019 and 2018, the amount of gain or loss in the fair value of derivative instruments that would have resulted from a 10 percent increase or decrease in the underlying price of the contracts was not material. See Note 20 of Notes to Consolidated Financial Statements for a discussion about these compliance programs.

INTEREST RATE RISK

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

	December 31, 2019							
	Expected Maturity Dates							
	2020 (a)	2021	2022	2023	2024	There-after	Total (b)	Fair Value
Fixed rate	$ —	$ 11	$ —	$ —	$ —	$ 8,474	$ 8,485	$ 10,099
Average interest rate	—%	5.0%	—%	—%	—%	5.2%	5.2%	
Floating rate (c)	$ 453	$ 6	$ 6	$ 19	$ —	$ —	$ 484	$ 484
Average interest rate	5.0%	4.5%	4.5%	4.5%	—%	—%	5.0%	

	December 31, 2018							
	Expected Maturity Dates							
	2019 (a)	2020	2021	2022	2023	There-after	Total (b)	Fair Value
Fixed rate	$ —	$ 850	$ 10	$ —	$ —	$ 7,474	$ 8,334	$ 8,737
Average interest rate	—%	6.1%	5.0%	—%	—%	5.4%	5.5%	
Floating rate (c)	$ 214	$ 5	$ 5	$ 5	$ 20	$ —	$ 249	$ 249
Average interest rate	4.6%	4.7%	4.7%	4.7%	4.7%	—%	4.6%	

(a) As of December 31, 2019 and 2018, our floating rate debt due in 2020 and 2019 includes $348 million and $109 million, respectively, associated with borrowings under the IEnova Revolver for the construction of terminals in Mexico by Central Mexico Terminals. The IEnova Revolver is only available to the operations of Central Mexico Terminals, and its creditors do not have recourse against us.
(b) Excludes unamortized discounts and debt issuance costs.
(c) As of December 31, 2019 and 2018, we had an interest rate swap associated with $36 million and $40 million, respectively, of our floating rate debt resulting in an effective interest rate of 3.85 percent as of each of those reporting dates. The fair value of the swap was immaterial for all periods presented.

FOREIGN CURRENCY RISK

As of December 31, 2019, we had foreign currency contracts to purchase $739 million of U.S. dollars and $2.3 billion of U.S. dollar equivalent Canadian dollars. Our market risk was minimal on these contracts, as all of them matured on or before February 15, 2020.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

MANAGEMENT'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Our management is responsible for establishing and maintaining adequate "internal control over financial reporting" (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934) for Valero Energy Corporation. Our management evaluated the effectiveness of Valero's internal control over financial reporting as of December 31, 2019. In its evaluation, management used the criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Management believes that as of December 31, 2019, our internal control over financial reporting was effective based on those criteria.

Our independent registered public accounting firm has issued an attestation report on the effectiveness of our internal control over financial reporting, which begins on page 62 of this report.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders
Valero Energy Corporation:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Valero Energy Corporation and subsidiaries (the Company) as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2019 and 2018, and the results of its operations and its cash flows for each of the years in the three-year period ended December 31, 2019, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, and our report dated February 26, 2020 expressed an unqualified opinion on the effectiveness of the Company's internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgment. The communication of a critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Assessment of gross unrecognized tax benefits

As discussed in Note 15 to the consolidated financial statements, as of December 31, 2019, the Company has gross unrecognized tax benefits, excluding related interest and penalties, of $897 million. The Company's tax positions are subject to examination by local taxing authorities and the resolution of such examinations may span multiple years. Due to the complexities inherent in the interpretation of income tax laws in domestic and international jurisdictions, it is uncertain whether some of the Company's income tax positions will be sustained upon examination.

We identified the assessment of the Company's gross unrecognized tax benefits as a critical audit matter because complex auditor judgment was required in evaluating the Company's interpretation of income tax laws and assessing the Company's estimate of the ultimate resolution of its income tax positions.

The primary procedures we performed to address this critical audit matter included the following. We tested certain internal controls over the Company's income tax process, including controls to evaluate which of the Company's income tax positions may not be sustained upon examination and estimate the gross unrecognized tax benefits.

We involved domestic and international income tax professionals with specialized skills and knowledge, who assisted in:

- Obtaining an understanding and evaluating the Company's income tax positions as filed or intended to be filed;
- Evaluating the Company's interpretation of income tax laws by developing an independent assessment of the Company's income tax positions and comparing the results to the Company's assessment;
- Inspecting settlements with applicable taxing authorities; and
- Assessing the expiration of applicable statutes of limitations.

In addition, we evaluated the Company's ability to estimate its gross unrecognized tax benefits by comparing historical uncertain income tax positions, including the gross unrecognized tax benefits, to actual results upon conclusion of tax examinations.

/s/ KPMG LLP

We have served as the Company's auditor since 2004.

San Antonio, Texas
February 26, 2020

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

The Board of Directors and Stockholders
Valero Energy Corporation:

Opinion on Internal Control Over Financial Reporting

We have audited Valero Energy Corporation's and subsidiaries' (the Company) internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2019, based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2019 and 2018, the related consolidated statements of income, comprehensive income, equity, and cash flows for each of the years in the three-year period ended December 31, 2019, and the related notes (collectively, the consolidated financial statements), and our report dated February 26, 2020 expressed an unqualified opinion on those consolidated financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audit also included performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

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

/s/ KPMG LLP

San Antonio, Texas
February 26, 2020

VALERO ENERGY CORPORATION
CONSOLIDATED BALANCE SHEETS
(millions of dollars, except par value)

	December 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 2,583	$ 2,982
Receivables, net	8,904	7,345
Inventories	7,013	6,532
Prepaid expenses and other	469	816
Total current assets	18,969	17,675
Property, plant, and equipment, at cost	44,294	42,473
Accumulated depreciation	(15,030)	(13,625)
Property, plant, and equipment, net	29,264	28,848
Deferred charges and other assets, net	5,631	3,632
Total assets	$ 53,864	$ 50,155
LIABILITIES AND EQUITY		
Current liabilities:		
Current portion of debt and finance lease obligations	$ 494	$ 238
Accounts payable	10,205	8,594
Accrued expenses	949	630
Taxes other than income taxes payable	1,304	1,213
Income taxes payable	208	49
Total current liabilities	13,160	10,724
Debt and finance lease obligations, less current portion	9,178	8,871
Deferred income tax liabilities	5,103	4,962
Other long-term liabilities	3,887	2,867
Commitments and contingencies		
Equity:		
Valero Energy Corporation stockholders' equity:		
Common stock, $0.01 par value; 1,200,000,000 shares authorized; 673,501,593 and 673,501,593 shares issued	7	7
Additional paid-in capital	6,821	7,048
Treasury stock, at cost; 264,209,742 and 255,905,051 common shares	(15,648)	(14,925)
Retained earnings	31,974	31,044
Accumulated other comprehensive loss	(1,351)	(1,507)
Total Valero Energy Corporation stockholders' equity	21,803	21,667
Noncontrolling interests	733	1,064
Total equity	22,536	22,731
Total liabilities and equity	$ 53,864	$ 50,155

See Notes to Consolidated Financial Statements.

VALERO ENERGY CORPORATION
CONSOLIDATED STATEMENTS OF INCOME
(millions of dollars, except per share amounts)

	Year Ended December 31,		
	2019	**2018**	**2017**
Revenues (a)	$ 108,324	$ 117,033	$ 93,980
Cost of sales:			
Cost of materials and other	96,476	104,732	83,037
Operating expenses (excluding depreciation and amortization expense reflected below)	4,868	4,690	4,504
Depreciation and amortization expense	2,202	2,017	1,934
Total cost of sales	103,546	111,439	89,475
Other operating expenses	21	45	61
General and administrative expenses (excluding depreciation and amortization expense reflected below)	868	925	829
Depreciation and amortization expense	53	52	52
Operating income	3,836	4,572	3,563
Other income, net	104	130	112
Interest and debt expense, net of capitalized interest	(454)	(470)	(468)
Income before income tax expense (benefit)	3,486	4,232	3,207
Income tax expense (benefit)	702	879	(949)
Net income	2,784	3,353	4,156
Less: Net income attributable to noncontrolling interests	362	231	91
Net income attributable to Valero Energy Corporation stockholders	$ 2,422	$ 3,122	$ 4,065
Earnings per common share	$ 5.84	$ 7.30	$ 9.17
Weighted-average common shares outstanding (in millions)	413	426	442
Earnings per common share – assuming dilution	$ 5.84	$ 7.29	$ 9.16
Weighted-average common shares outstanding – assuming dilution (in millions)	414	428	444

Supplemental information:			
(a) Includes excise taxes on sales by certain of our international operations	$ 5,595	$ 5,626	$ 5,573

See Notes to Consolidated Financial Statements.

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

	Year Ended December 31,		
	2019	**2018**	**2017**
Net income	$ 2,784	$ 3,353	$ 4,156
Other comprehensive income (loss):			
Foreign currency translation adjustment	349	(517)	514
Net gain (loss) on pension and other postretirement benefits	(234)	49	(65)
Net loss on cash flow hedges	(8)	—	—
Other comprehensive income (loss) before income tax expense (benefit)	107	(468)	449
Income tax expense (benefit) related to items of other comprehensive income (loss)	(48)	10	(21)
Other comprehensive income (loss)	155	(478)	470
Comprehensive income	2,939	2,875	4,626
Less: Comprehensive income attributable to noncontrolling interests	361	229	91
Comprehensive income attributable to Valero Energy Corporation stockholders	$ 2,578	$ 2,646	$ 4,535

See Notes to Consolidated Financial Statements.

VALERO ENERGY CORPORATION
CONSOLIDATED STATEMENTS OF EQUITY
(millions of dollars)

	Valero Energy Corporation Stockholders' Equity							
	Common Stock	Additional Paid-in Capital	Treasury Stock	Retained Earnings	Accumulated Other Comprehensive Loss	Total	Non-controlling Interests	Total Equity
Balance as of December 31, 2016	$ 7	$ 7,088	$ (12,027)	$ 26,366	$ (1,410)	$ 20,024	$ 830	$ 20,854
Net income	—	—	—	4,065	—	4,065	91	4,156
Dividends on common stock ($2.80 per share)	—	—	—	(1,242)	—	(1,242)	—	(1,242)
Stock-based compensation expense	—	68	—	—	—	68	—	68
Transactions in connection with stock-based compensation plans	—	(82)	19	—	—	(63)	—	(63)
Stock purchases under purchase programs	—	—	(1,307)	—	—	(1,307)	—	(1,307)
Issuance of Valero Energy Partners LP common units	—	—	—	—	—	—	33	33
Contributions from noncontrolling interests	—	—	—	—	—	—	30	30
Distributions to noncontrolling interests	—	—	—	—	—	—	(67)	(67)
Other	—	(35)	—	11	—	(24)	(8)	(32)
Other comprehensive income	—	—	—	—	470	470	—	470
Balance as of December 31, 2017	7	7,039	(13,315)	29,200	(940)	21,991	909	22,900
Reclassification of stranded income tax effects	—	—	—	91	(91)	—	—	—
Net income	—	—	—	3,122	—	3,122	231	3,353
Dividends on common stock ($3.20 per share)	—	—	—	(1,369)	—	(1,369)	—	(1,369)
Stock-based compensation expense	—	82	—	—	—	82	—	82
Transactions in connection with stock-based compensation plans	—	(70)	(99)	—	—	(169)	—	(169)
Stock purchases under purchase programs	—	—	(1,511)	—	—	(1,511)	—	(1,511)
Contributions from noncontrolling interests	—	—	—	—	—	—	32	32
Distributions to noncontrolling interests	—	—	—	—	—	—	(116)	(116)
Other	—	(3)	—	—	—	(3)	10	7
Other comprehensive loss	—	—	—	—	(476)	(476)	(2)	(478)
Balance as of December 31, 2018	7	7,048	(14,925)	31,044	(1,507)	21,667	1,064	22,731
Net income	—	—	—	2,422	—	2,422	362	2,784
Dividends on common stock ($3.60 per share)	—	—	—	(1,492)	—	(1,492)	—	(1,492)
Stock-based compensation expense	—	77	—	—	—	77	—	77
Transactions in connection with stock-based compensation plans	—	(50)	30	—	—	(20)	—	(20)
Stock purchases under purchase program	—	—	(753)	—	—	(753)	—	(753)
Acquisition of Valero Energy Partners LP publicly held common units	—	(328)	—	—	—	(328)	(622)	(950)
Distributions to noncontrolling interests	—	—	—	—	—	—	(70)	(70)
Other	—	74	—	—	—	74	—	74
Other comprehensive income (loss)	—	—	—	—	156	156	(1)	155
Balance as of December 31, 2019	$ 7	$ 6,821	$ (15,648)	$ 31,974	$ (1,351)	$ 21,803	$ 733	$ 22,536

See Notes to Consolidated Financial Statements.

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

	Year Ended December 31,		
	2019	2018	2017
Cash flows from operating activities:			
Net income	$ 2,784	$ 3,353	$ 4,156
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization expense	2,255	2,069	1,986
Deferred income tax expense (benefit)	234	203	(2,543)
Changes in current assets and current liabilities	294	(1,297)	1,289
Changes in deferred charges and credits and other operating activities, net	(36)	43	594
Net cash provided by operating activities	5,531	4,371	5,482
Cash flows from investing activities:			
Capital expenditures (excluding variable interest entities (VIEs))	(1,627)	(1,463)	(1,269)
Capital expenditures of VIEs:			
Diamond Green Diesel Holdings LLC (DGD)	(142)	(165)	(84)
Other VIEs	(225)	(124)	(26)
Deferred turnaround and catalyst cost expenditures (excluding VIEs)	(762)	(888)	(519)
Deferred turnaround and catalyst cost expenditures of DGD	(18)	(27)	(4)
Investments in unconsolidated joint ventures	(164)	(181)	(406)
Peru Acquisition, net of cash acquired	—	(468)	—
Acquisition of ethanol plants	(3)	(320)	—
Acquisitions of undivided interests	(72)	(212)	(72)
Minor acquisitions	—	(88)	—
Other investing activities, net	12	8	(2)
Net cash used in investing activities	(3,001)	(3,928)	(2,382)
Cash flows from financing activities:			
Proceeds from debt issuances and borrowings (excluding VIEs)	1,892	1,258	380
Proceeds from borrowings of VIEs	239	109	—
Repayments of debt and finance lease obligations (excluding VIEs)	(1,805)	(1,353)	(15)
Repayments of debt of VIEs	(6)	(6)	(6)
Purchases of common stock for treasury	(777)	(1,708)	(1,372)
Common stock dividends	(1,492)	(1,369)	(1,242)
Acquisition of Valero Energy Partners LP publicly held common units	(950)	—	—
Contributions from noncontrolling interests	—	32	30
Distributions to noncontrolling interests	(70)	(116)	(67)
Other financing activities, net	(28)	(15)	20
Net cash used in financing activities	(2,997)	(3,168)	(2,272)
Effect of foreign exchange rate changes on cash	68	(143)	206
Net increase (decrease) in cash and cash equivalents	(399)	(2,868)	1,034
Cash and cash equivalents at beginning of year	2,982	5,850	4,816
Cash and cash equivalents at end of year	$ 2,583	$ 2,982	$ 5,850

See Notes to Consolidated Financial Statements.

1. DESCRIPTION OF BUSINESS, BASIS OF PRESENTATION, AND SIGNIFICANT ACCOUNTING POLICIES

Description of Business

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

We are an international manufacturer and marketer of transportation fuels and petrochemical products. We own and operate 15 petroleum refineries with a combined throughput capacity of approximately 3.15 million barrels per day and 14 ethanol plants with a combined production capacity of approximately 1.73 billion gallons per year as of December 31, 2019. The petroleum refineries are located in the United States (U.S.), Canada, and the United Kingdom (U.K.), and the ethanol plants are located in the Mid-Continent region of the U.S. We are also a joint venture partner in DGD, which owns and operates a renewable diesel plant in Norco, Louisiana. We sell our products in the wholesale rack or bulk markets in the U.S., Canada, the U.K., Ireland, and Latin America. Approximately 7,000 outlets carry our brand names.

Basis of Presentation

General

These consolidated financial statements were prepared in accordance with U.S. generally accepted accounting principles (GAAP) and with the rules and regulations of the U.S. Securities and Exchange Commission (SEC).

Reclassifications

Effective January 1, 2019, we revised our reportable segments to reflect a new reportable segment — renewable diesel. The renewable diesel segment includes the operations of DGD, our consolidated joint venture as discussed in Note 12, that were transferred from the refining segment. Also effective January 1, 2019, we no longer have a VLP segment, and we now include the operations of Valero Energy Partners LP and its consolidated subsidiaries (VLP) in our refining segment. Our prior period segment information has been retrospectively adjusted to reflect our current segment presentation. See Note 2 regarding our merger with VLP, which occurred on January 10, 2019, and Note 17 for segment information.

Prior year amounts for capital expenditures and deferred turnaround and catalyst cost expenditures in the consolidated statements of cash flows have been reclassified to conform to the 2019 presentation to separately provide these expenditures for us and our consolidated VIEs.

Significant Accounting Policies

Principles of Consolidation

These financial statements include those of Valero, our wholly owned subsidiaries, and VIEs in which we have a controlling financial interest. Our VIEs are described in Note 12. The ownership interests held by others in the VIEs are recorded as noncontrolling interests. Intercompany items and transactions have been eliminated in consolidation. Investments in less than wholly owned entities where we have significant influence are accounted for using the equity method.

Use of Estimates

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

Cash Equivalents

Our cash equivalents are short-term, highly liquid investments that are readily convertible to known amounts of cash and have a maturity of three months or less when acquired.

Receivables

Trade receivables are carried at original invoice amount. We maintain an allowance for doubtful accounts, which is adjusted based on management's assessment of our customers' historical collection experience, known credit risks, and industry and economic conditions.

Inventories

The cost of refinery feedstocks and refined petroleum products, grain and ethanol, and renewable diesel feedstocks (animal fats, used cooking oils, and other vegetable oils) and renewable diesel is determined under the last-in, first-out (LIFO) method using the dollar-value LIFO approach, with any increments valued based on average purchase prices during the year. Our LIFO inventories are carried at the lower of cost or market. The cost of products purchased for resale and the cost of materials and supplies are determined principally under the weighted-average cost method. Our non-LIFO inventories are carried at the lower of cost or net realizable value. If the aggregate market value of our LIFO inventories or the aggregate net realizable value of our non-LIFO inventories is less than the related aggregate cost, we recognize a loss for the difference in our statements of income.

Property, Plant, and Equipment

The cost of property, plant, and equipment (property assets) purchased or constructed, including betterments of property assets, is capitalized. However, the cost of repairs to and normal maintenance of property assets is expensed as incurred. Betterments of property assets are those that extend the useful life, increase the capacity or improve the operating efficiency of the asset, or improve the safety of our operations. The cost of property assets constructed includes interest and certain overhead costs allocable to the construction activities.

Our operations, especially those of our refining segment, are highly capital intensive. Each of our refineries comprises a large base of property assets, consisting of a series of interconnected, highly integrated and interdependent crude oil processing facilities and supporting logistical infrastructure (Units), and these Units are continuously improved. Improvements consist of the addition of new Units and betterments of existing Units. We plan for these improvements by developing a multi-year capital program that is updated and revised based on changing internal and external factors.

Depreciation of property assets used in our refining and renewable diesel segments is recorded on a straight-line basis over the estimated useful lives of these assets primarily using the composite method of depreciation. We maintain a separate composite group of property assets for each of our refineries and our renewable diesel plant. We estimate the useful life of each group based on an evaluation of the property assets comprising the group, and such evaluations consist of, but are not limited to, the physical inspection of the assets to determine their condition, consideration of the manner in which the assets are maintained, assessment of the need to replace assets, and evaluation of the manner in which improvements impact the useful life of the group. The estimated useful lives of our composite groups range primarily from 20 to 30 years.

Under the composite method of depreciation, the cost of an improvement is added to the composite group to which it relates and is depreciated over that group's estimated useful life. We design improvements to our refineries and renewable diesel plant in accordance with engineering specifications, design standards, and practices accepted in our industry, and these improvements have design lives consistent with our estimated useful lives. Therefore, we believe the use of the group life to depreciate the cost of improvements made to the group is reasonable because the estimated useful life of each improvement is consistent with that of the group.

Also under the composite method of depreciation, the historical cost of a minor property asset (net of salvage value) that is retired or replaced is charged to accumulated depreciation and no gain or loss is recognized in income. However, a gain or loss is recognized in income for a major property asset that is retired, replaced, sold, or for an abnormal disposition of a property asset (primarily involuntary conversions). Gains and losses are reflected in depreciation and amortization expense, unless such amounts are reported separately due to materiality.

Depreciation of property assets used in our ethanol segment is recorded on a straight-line basis over the estimated useful lives of the related assets. The estimated useful life of our grain processing equipment is 20 years.

Leasehold improvements are amortized on a straight-line basis over the shorter of the lease term or the estimated useful life of the related asset. Finance lease ROU (defined below) assets are amortized as discussed in "Leases" below.

Deferred Charges and Other Assets

"Deferred charges and other assets, net" primarily include the following:

- turnaround costs, which are incurred in connection with planned major maintenance activities at our refineries, ethanol plants, and renewable diesel plant, are deferred when incurred and amortized on a straight-line basis over the period of time estimated to lapse until the next turnaround occurs;
- fixed-bed catalyst costs, representing the cost of catalyst that is changed out at periodic intervals when the quality of the catalyst has deteriorated beyond its prescribed function, are deferred when incurred and amortized on a straight-line basis over the estimated useful life of the specific catalyst;
- operating lease ROU (defined below) assets, which are amortized as discussed in "Leases" below;
- investments in unconsolidated joint ventures;
- income taxes receivable;
- intangible assets, which are amortized over their estimated useful lives; and
- goodwill.

Leases

We evaluate if a contract is or contains a lease at inception of the contract. If we determine that a contract is or contains a lease, we recognize a right-of-use (ROU) asset and lease liability at the commencement date of the lease based on the present value of lease payments over the lease term. The present value of the lease payments is determined by using the implicit rate when readily determinable. If not determinable, our centrally managed treasury group provides an incremental borrowing rate based on quoted interest rates obtained from financial institutions. The rate used is for a term similar to the duration of the lease based on information available at the commencement date. Lease terms include options to extend or terminate the lease when it is reasonably certain that we will exercise those options.

We recognize ROU assets and lease liabilities for leasing arrangements with terms greater than one year. Except for the marine transportation asset class, we account for lease and non-lease components in a contract as a single lease component for all classes of underlying assets. Our marine transportation contracts include non-lease components, such as maintenance and crew costs. We allocate the consideration in these contracts based on pricing information provided by the third-party broker.

Expense for an operating lease is recognized as a single lease cost on a straight-line basis over the lease term and is reflected in the appropriate income statement line item based on the leased asset's function. Amortization expense of a finance lease ROU asset is recognized on a straight-line basis over the lesser of the useful life of the leased asset or the lease term. However, if the lease transfers ownership of the finance lease ROU asset to us at the end of the lease term, the finance lease ROU asset is amortized over the useful life of the leased asset. Amortization expense is reflected in "depreciation and amortization expense." Interest expense is incurred based on the carrying value of the lease liability and is reflected in "interest and debt expense, net of capitalized interest."

Impairment of Assets

Long-lived assets are tested for recoverability whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. A long-lived asset is not recoverable if its carrying amount exceeds the sum of the undiscounted cash flows expected to result from its use and eventual disposition. If a long-lived asset is not recoverable, an impairment loss is recognized for the amount by which the carrying amount of the long-lived asset exceeds its fair value, with fair value determined based on discounted estimated net cash flows or other appropriate methods.

We evaluate our equity method investments for impairment when there is evidence that we may not be able to recover the carrying amount of our investments or the investee is unable to sustain an earnings capacity that justifies the carrying amount. A loss in the value of an investment that is other than a temporary decline is recognized currently in income based on the difference between the estimated current fair value of the investment and its carrying amount.

Asset Retirement Obligations

We record a liability, which is referred to as an asset retirement obligation, at fair value for the estimated cost to retire a tangible long-lived asset at the time we incur that liability, which is generally when the asset is purchased, constructed, or leased. We record the liability when we have a legal obligation to incur costs to retire the asset and when a reasonable estimate of the fair value of the liability can be made. If a reasonable estimate cannot be made at the time the liability is incurred, we record the liability when sufficient information is available to estimate the liability's fair value.

We have obligations with respect to certain of our assets related to our refining and ethanol segments to clean and/or dispose of various component parts of the assets at the time they are retired. However, these component parts can be used for extended and indeterminate periods of time as long as they are properly maintained and/or upgraded. It is our practice and current intent to maintain all our assets and continue making improvements to those assets based on technological advances. As a result, we believe that our assets related to our refining and ethanol segments have indeterminate lives for purposes of estimating asset retirement obligations because dates or ranges of dates upon which we would retire such assets cannot reasonably be estimated at this time. We will recognize a liability at such time when sufficient information exists to estimate a date or range of potential settlement dates that is needed to employ a present value technique to estimate fair value.

Environmental Matters

Liabilities for future remediation costs are recorded when environmental assessments and/or remedial efforts are probable and the costs can be reasonably estimated. Other than for assessments, the timing and magnitude of these accruals generally are based on the completion of investigations or other studies or a commitment to a formal plan of action. Amounts recorded for environmental liabilities have not been reduced by possible recoveries from third parties and have not been measured on a discounted basis.

Legal Contingencies

We are subject to legal proceedings, claims, and liabilities that arise in the ordinary course of business. We accrue losses associated with legal claims when such losses are probable and reasonably estimable. If we determine that a loss is probable and cannot estimate a specific amount for that loss but can estimate a range of loss, the best estimate within the range is accrued. If no amount within the range is a better estimate than any other, the minimum amount of the range is accrued. Estimates are adjusted as additional information becomes available or circumstances change. Legal defense costs associated with loss contingencies are expensed in the period incurred.

Foreign Currency Translation

Generally, our international subsidiaries use their local currency as their functional currency. Balance sheet amounts are translated into U.S. dollars using exchange rates in effect as of the balance sheet date. Income statement amounts are translated into U.S. dollars using the exchange rates in effect at the time the underlying transactions occur. Foreign currency translation adjustments are recorded as a component of accumulated other comprehensive loss.

Revenue Recognition

Our revenues are primarily generated from contracts with customers. We generate revenue from contracts with customers from the sale of products by our refining, ethanol, and renewable diesel segments. Revenues are recognized when we satisfy our performance obligation to transfer products to our customers, which typically occurs at a point in time upon shipment or delivery of the products, and for an amount that reflects the transaction price that is allocated to the performance obligation.

The customer is able to direct the use of, and obtain substantially all of the benefits from, the products at the point of shipment or delivery. As a result, we consider control to have transferred upon shipment or delivery because we have a present right to payment at that time, the customer has legal title to the asset, we have transferred physical possession of the asset, and the customer has significant risks and rewards of ownership of the asset.

Our contracts with customers state the final terms of the sale, including the description, quantity, and price for goods sold. Payment is typically due in full within two to ten days of delivery. In the normal course of business, we generally do not accept product returns.

The transaction price is the consideration that we expect to be entitled to in exchange for our products. The transaction price for substantially all of our contracts is generally based on commodity market pricing (i.e., variable consideration). As such, this market pricing may be constrained (i.e., not estimable) at the inception of the contract but will be recognized based on the applicable market pricing, which will be known upon transfer of the goods to the customer. Some of our contracts also contain variable consideration in the form of sales incentives to our customers, such as discounts and rebates. For contracts that include variable consideration, we estimate the factors that determine the variable consideration in order to establish the transaction price.

We have elected to exclude from the measurement of the transaction price all taxes assessed by governmental authorities that are both imposed on and concurrent with a specific revenue-producing transaction and collected by us from a customer (e.g., sales tax, use tax, value-added tax, etc.). We continue to include in the transaction price excise taxes that are imposed on certain inventories in our international operations. The amount of such taxes is provided in supplemental information in a footnote on the statements of income.

There are instances where we provide shipping services in relation to the goods sold to our customer. Shipping and handling costs that occur before the customer obtains control of the goods are deemed to be fulfillment activities and are included in cost of materials and other. We have elected to account for shipping and handling activities that occur after the customer has obtained control of a good as fulfillment activities rather than as a promised service and we have included these activities in cost of materials and other.

We enter into certain purchase and sale arrangements with the same counterparty that are deemed to be made in contemplation of one another. We combine these transactions and present the net effect in cost of materials and other. We also enter into refined petroleum product exchange transactions to fulfill sales contracts with our customers by accessing refined petroleum products in markets where we do not operate our own refineries. These refined petroleum product exchanges are accounted for as exchanges of nonmonetary assets, and no revenues are recorded on these transactions.

Cost Classifications

"Cost of materials and other" primarily includes the cost of materials that are a component of our products sold. These costs include (i) the direct cost of materials (such as crude oil and other refinery feedstocks, refined petroleum products and blendstocks, and ethanol feedstocks and products) that are a component of our products sold; (ii) costs related to the delivery (such as shipping and handling costs) of products sold; (iii) costs related to our environmental credit obligations to comply with various governmental and regulatory programs (such as the cost of Renewable Identification Numbers (RINs) as required by the U.S. Environmental Protection Agency's (EPA) Renewable Fuel Standard, emission credits under various cap-and-trade systems, as defined in Note 19); (iv) the blender's tax credit recognized on qualified biodiesel mixtures; (v) gains and losses on our commodity derivative instruments; and (vi) certain excise taxes.

"Operating expenses (excluding depreciation and amortization expense)" include costs to operate our refineries, ethanol plants, and logistics assets, except for depreciation and amortization expense. These costs primarily include employee-related expenses, energy and utility costs, catalysts and chemical costs, and repair and maintenance expenses.

"Depreciation and amortization expense" associated with our operations is separately presented in our statement of income as a component of cost of sales and general and administrative expenses and is disclosed by reportable segment in Note 17.

"Other operating expenses" include costs, if any, incurred by our reportable segments that are not associated with our cost of sales.

Environmental Compliance Program Costs

We purchase credits in the open market to meet our obligations under various environmental compliance programs. We purchase biofuel credits (primarily RINs in the U.S.) to comply with government regulations that require us to blend a certain percentage of biofuels into the products we produce. To the degree that we are unable to blend biofuels at the required percentage, we must purchase biofuel credits to meet our obligation. We purchase greenhouse gas (GHG) emission credits to comply with government regulations concerning various GHG emission programs, including cap-and-trade systems. These programs are described in Note 20 under "Environmental Compliance Program Price Risk."

The costs of purchased biofuel credits and GHG emission credits are charged to cost of materials and other as such credits are needed to satisfy our obligation. To the extent we have not purchased enough credits to satisfy our obligation as of the balance sheet date, we charge cost of materials and other for such deficiency based on the market price of the credits as of the balance sheet date, and we record a liability for our obligation to purchase those credits. See Note 19 for disclosure of our fair value liability.

Stock-Based Compensation

Compensation expense for our share-based compensation plans is based on the fair value of the awards granted and is recognized in income on a straight-line basis over the shorter of (i) the requisite service period of each award or (ii) the period from the grant date to the date retirement eligibility is achieved if that date is expected to occur during the vesting period established in the award.

Income Taxes

Income taxes are accounted for under the asset and liability method. Under this method, deferred tax assets and liabilities are recognized for the future tax consequences attributable to differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred amounts are measured using enacted tax rates expected to apply to taxable income in the year those temporary differences are expected to be recovered or settled. Deferred tax assets are reduced by unrecognized tax benefits, if such items may be available to offset the unrecognized tax benefit. Stranded income tax effects are released from accumulated other comprehensive loss to retained earnings on an individual item basis as those items are reclassified into income.

We have elected to classify any interest expense and penalties related to the underpayment of income taxes in income tax expense.

We have elected to treat the global intangible low-taxed income (GILTI) tax as a period expense.

Earnings per Common Share

Earnings per common share is computed by dividing net income attributable to Valero stockholders by the weighted-average number of common shares outstanding for the year. Participating securities are included in the computation of basic earnings per share using the two-class method. Earnings per common share – assuming dilution is computed by dividing net income attributable to Valero stockholders by the weighted-average number of common shares outstanding for the year increased by the effect of dilutive securities. Potentially dilutive securities are excluded from the computation of earnings per common share – assuming dilution when the effect of including such shares would be antidilutive.

Financial Instruments

Our financial instruments include cash and cash equivalents, receivables, payables, debt, operating and finance lease obligations, commodity derivative contracts, and foreign currency derivative contracts. The estimated fair values of these financial instruments approximate their carrying amounts, except for certain debt as discussed in Note 19.

Derivatives and Hedging

All derivative instruments, not designated as normal purchases or sales, are recorded in the balance sheet as either assets or liabilities measured at their fair values with changes in fair value recognized currently in income. To manage commodity price risk, we primarily use cash flow hedges and economic hedges, and we also use fair value hedges from time to time. The cash flow effects of all of our derivative instruments are reflected in operating activities in the consolidated statements of cash flows.

Accounting Pronouncements Adopted During 2019

Topic 842

We adopted the provisions of Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) Topic 842, "Leases," (Topic 842) on January 1, 2019. Topic 842 increases the transparency and comparability among organizations by recognizing lease assets and lease liabilities on the balance sheet and disclosing key information about leasing arrangements. Topic 842 supersedes previous lease accounting requirements under FASB ASC Topic 840, "Leases," (Topic 840). We adopted Topic 842 using the optional transition method that permits us to record a cumulative-effect adjustment and apply the new disclosure requirements beginning in 2019 and continue to present comparative period information as required under Topic 840; however, we did not have a cumulative-effect adjustment to the opening balance of retained earnings at the date of adoption.

In addition, we elected the transition practical expedient package that permits us to not reassess our prior conclusions about lease identification, lease classification, and initial direct costs under the new standard, as well as the practical expedient that permits us to not assess existing land easements under the new standard. See "Leases" above for a discussion of our revised accounting policy and also see Note 5 for information on our leases.

In preparation for the adoption of Topic 842, we enhanced our contracting and lease evaluation systems and related processes, and we developed a new lease accounting system to capture our leases and support the required disclosures. We integrated our lease accounting system with our general ledger and modified our related procurement and payment processes.

Adoption of this standard resulted in (i) the recognition of ROU assets and lease liabilities for our operating leases of $1.3 billion, (ii) the derecognition of existing assets under construction of $539 million related to a build-to-suit lease arrangement with respect to the MVP Terminal (see Note 10 under "*Contractual Capital Commitments*—MVP Terminal"), and (iii) the presentation of new disclosures about our leasing activities beginning in the first quarter of 2019. Adoption of this standard did not impact our results of operations or liquidity, and our accounting for finance leases is substantially unchanged.

Other

In addition to the adoption of Topic 842 discussed above, we adopted the following Accounting Standards Update (ASU) on January 1, 2019. Our adoption of this ASU did not affect our financial statements or related disclosures.

ASU		Basis of Adoption
2017-12	Derivatives and Hedging (Topic 815): Targeted Improvements to Accounting for Hedging Activities	Cumulative effect

Accounting Pronouncements Adopted on January 1, 2020

The following ASUs were adopted on January 1, 2020, and our adoption did not have a material impact on our financial statements or related disclosures.

ASU		Basis of Adoption
2016-13	Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments (including codification improvements in ASUs 2018-19 and 2019-11 and ASU 2020-02—Financial Instruments—Credit Losses (Topic 326): Amendments to SEC Paragraphs Pursuant to SEC Staff Accounting Bulletin No. 119)	Cumulative effect
2018-15	Intangibles—Goodwill and Other—Internal-Use Software (Subtopic 350-40): Customer's Accounting for Implementation Costs Incurred in a Cloud Computing Arrangement That Is a Service Contract	Prospectively
2019-12	Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes	Prospectively

2. MERGER AND ACQUISITIONS

Merger with VLP

On January 10, 2019, we completed our acquisition of all of the outstanding publicly held common units of VLP pursuant to a definitive Agreement and Plan of Merger (Merger Agreement, and together with the transactions contemplated thereby, the Merger Transaction) with VLP. Upon completion of the Merger Transaction, each outstanding publicly held common unit was converted into the right to receive $42.25 per common unit in cash without any interest thereon, and all such publicly traded common units were automatically canceled and ceased to exist. Upon completion of the Merger Transaction, we paid aggregate merger consideration of $950 million, which was funded with available cash on hand.

Prior to the completion of the Merger Transaction, we consolidated the financial statements of VLP (see Note 12) and reflected noncontrolling interests on our balance sheet for the portion of VLP's partners' capital held by VLP's public common unitholders. Upon completion of the Merger Transaction, VLP became our indirect wholly owned subsidiary and, as a result, we no longer reflect noncontrolling interests on our balance sheet with respect to VLP. In addition, we no longer attribute a portion of VLP's net income to noncontrolling interests. Because we had a controlling financial interest in VLP before the Merger Transaction and retained our controlling financial interest in VLP after the Merger Transaction, the change in our ownership interest in VLP as a result of the merger was accounted for as an equity transaction. Accordingly, we did not recognize a gain or loss on the Merger Transaction.

Acquisition of Ethanol Plants

On November 15, 2018, we acquired three ethanol plants from two subsidiaries of Green Plains Inc. for total cash consideration of $320 million including working capital of $20 million. The ethanol plants are located in Bluffton, Indiana; Lakota, Iowa; and Riga, Michigan with a combined ethanol production capacity of 280 million gallons per year. This acquisition was accounted for as an asset acquisition.

Peru Acquisition

On May 14, 2018, we acquired 100 percent of the issued and outstanding equity interests in Pure Biofuels del Peru S.A.C. (now known as Valero Peru S.A.C.) (Valero Peru) from Pegasus Capital Advisors L.P. and various minority equity holders. Valero Peru markets refined petroleum products through its logistics assets in Peru. Valero Peru owns a terminal at the Port of Callao, near Lima, with approximately 1 million barrels of storage capacity for refined petroleum and renewable products. Through one of its subsidiaries, Valero Peru also owns a 180,000-barrel storage terminal in Paita, in northern Peru, which is scheduled to commence operations in the second quarter of 2020, pending regulatory approvals. This acquisition, which is referred to as the Peru Acquisition, was consistent with our general business strategy and broadens the geographic diversity of our refining segment. This acquisition was accounted for as a business combination.

The following table summarizes the fair values of the assets acquired and liabilities assumed at the acquisition date, based on an independent appraisal that was completed in the fourth quarter of 2018 (in millions). We paid $468 million from available cash on hand, of which $132 million was for working capital. During the third and fourth quarters of 2018, we recognized immaterial adjustments to the preliminary amounts recorded for the Peru Acquisition with a corresponding adjustment to goodwill due to the completion of the independent appraisal. These adjustments did not have a material effect on our results of operations for the year ended December 31, 2018.

Current assets, net of cash acquired	$ 158
Property, plant, and equipment	102
Deferred charges and other assets	466
Current liabilities, excluding current portion of debt	(26)
Debt assumed, including current portion	(137)
Deferred income tax liabilities	(62)
Other long-term liabilities	(27)
Noncontrolling interest	(6)
Total consideration, net of cash acquired	$ 468

Deferred charges and other assets primarily include identifiable intangible assets of $200 million and goodwill of $260 million. Identifiable intangible assets, which consist of customer contracts and relationships, are amortized on a straight-line basis over ten years. Goodwill is calculated as the excess of the consideration transferred over the estimated fair values of the underlying tangible and identifiable intangible assets acquired and liabilities assumed. Goodwill represents the future economic benefits expected to be recognized from our expansion into the Latin American refined petroleum products markets arising from other assets acquired that were not individually identified and separately recognized. We determined that the entire balance of goodwill is related to the refining segment. None of the goodwill is deductible for tax purposes.

Our statements of income include the results of operations of Valero Peru since the date of acquisition, and such results are reflected in the refining segment. Results of operations since the date of acquisition, supplemental pro forma financial information, and acquisition-related costs have not been presented for the Peru Acquisition as such information is not material to our results of operations.

3. RECEIVABLES

Receivables consisted of the following (in millions):

	December 31, 2019	December 31, 2018
Receivables from contracts with customers	$ 5,610	$ 4,673
Receivables from certain purchase and sale arrangements	2,484	2,311
Commodity derivative and foreign currency contract receivables	116	229
Other receivables	730	166
Total receivables	8,940	7,379
Allowance for doubtful accounts	(36)	(34)
Receivables, net	$ 8,904	$ 7,345

There were no significant changes in our allowance for doubtful accounts during the years ended December 31, 2019, 2018, and 2017.

4. INVENTORIES

Inventories consisted of the following (in millions):

	December 31, 2019	December 31, 2018
Refinery feedstocks	$ 2,399	$ 2,265
Refined petroleum products and blendstocks	4,034	3,653
Ethanol feedstocks and products	260	298
Renewable diesel feedstocks and products	46	52
Materials and supplies	274	264
Inventories	$ 7,013	$ 6,532

As of December 31, 2019 and 2018, the replacement cost (market value) of LIFO inventories exceeded their LIFO carrying amounts by $2.5 billion and $1.5 billion, respectively. Our non-LIFO inventories accounted for $1.4 billion and $1.1 billion of our total inventories as of December 31, 2019 and 2018, respectively.

5. LEASES

General

We have entered into long-term leasing arrangements for the right to use various classes of underlying assets as follows:

- *Pipelines, Terminals, and Tanks* includes facilities and equipment used in the storage, transportation, production, and sale of refinery feedstock, refined petroleum product, and corn inventories;

- *Marine Transportation* includes time charters for ocean-going tankers and coastal vessels;

- *Rail Transportation* includes railcars and related storage facilities;

- *Feedstock Processing Equipment* includes machinery, equipment, and various facilities used in our refining, ethanol, and renewable diesel operations;

- *Energy and Gases* includes facilities and equipment related to industrial gases and power used in our operations;

- *Real Estate* includes land and rights-of-way associated with our refineries and pipelines, as well as office facilities; and

- *Other* includes equipment primarily used at our corporate offices, such as printers and copiers.

In addition to fixed lease payments, some arrangements contain provisions for variable lease payments. Certain leases for pipelines, terminals, and tanks provide for variable lease payments based on, among other things, throughput volumes in excess of a base amount. Certain marine transportation leases contain provisions for payments that are contingent on usage. Additionally, if the rental increases are not scheduled in the lease, such as an increase based on subsequent changes in the index or rate, those rents are considered variable lease payments. In all instances, variable lease payments are recognized in the period in which the obligation for those payments is incurred.

Lease Costs and Other Supplemental Information

In accordance with Topic 842, our total lease cost comprises costs that are included in our income statement, as well as costs capitalized as part of an item of property, plant, and equipment or inventory. Total lease cost by class of underlying asset was as follows (in millions):

	Year Ended December 31, 2019							
	Pipelines, Terminals, and Tanks	Transportation		Feedstock Processing Equipment	Energy and Gases	Real Estate	Other	Total
		Marine	Rail					
Finance lease cost:								
Amortization of ROU assets	$ 44	$ —	$ —	$ 7	$ 3	$ —	$ —	$ 54
Interest on lease liabilities	47	—	—	1	2	—	—	50
Operating lease cost	182	145	52	20	9	27	4	439
Variable lease cost	66	35	—	1	—	1	—	103
Short-term lease cost	9	53	—	29	—	—	—	91
Sublease income	—	(27)	—	—	—	(3)	—	(30)
Total lease cost	$ 348	$ 206	$ 52	$ 58	$ 14	$ 25	$ 4	$ 707

In accordance with Topic 840, "rental expense, net of sublease rental income" was as follows (in millions):

	Year Ended December 31,	
	2018	2017
Minimum rental expense	$ 515	$ 691
Contingent rental expense	19	21
Total rental expense	534	712
Less: Sublease rental income	31	54
Rental expense, net of sublease rental income	$ 503	$ 658

The following table presents additional information related to our operating and finance leases (in millions, except for lease terms and discount rates):

	December 31, 2019	
	Operating Leases	Finance Leases
Supplemental balance sheet information		
ROU assets, net reflected in the following balance sheet line items:		
Property, plant, and equipment, net	$ —	$ 790
Deferred charges and other assets, net	1,329	—
Total ROU assets, net	$ 1,329	$ 790
Current lease liabilities reflected in the following balance sheet line items:		
Current portion of debt and finance lease obligations	$ —	$ 41
Accrued expenses	331	—
Noncurrent lease liabilities reflected in the following balance sheet line items:		
Debt and finance lease obligations, less current portion	—	750
Other long-term liabilities	959	—
Total lease liabilities	$ 1,290	$ 791
Other supplemental information		
Weighted-average remaining lease term	7.7 years	19.7 years
Weighted-average discount rate	4.9%	5.2%

Supplemental cash flow information related to our operating and finance leases is presented in Note 18.

Maturity Analysis

The remaining minimum lease payments due under our long-term leases were as follows (in millions):

	December 31, 2019		December 31, 2018	
	Operating Leases	Finance Leases	Operating Leases	Capital Leases
2019	n/a	n/a	$ 359	$ 69
2020	$ 376	$ 88	245	65
2021	250	86	178	62
2022	194	87	146	64
2023	160	91	123	65
2024	125	82	n/a	n/a
Thereafter	498	1,011	514	957
Total undiscounted lease payments	1,603	1,445	$ 1,565	1,282
Less: Amount associated with discounting	313	654		676
Total lease liabilities	$ 1,290	$ 791		$ 606

Future Lease Commencement

As described and defined in Note 10, we have a terminaling agreement with MVP to utilize certain assets at the MVP Terminal upon completion of construction, which is expected to occur during the first quarter of 2020. We expect to recognize a finance lease ROU asset and related liability of approximately $1.5 billion in 2020 in connection with this agreement.

6. PROPERTY, PLANT, AND EQUIPMENT

Major classes of property, plant, and equipment, including assets held under finance leases, consisted of the following (in millions):

	December 31, 2019	December 31, 2018
Land	$ 476	$ 416
Crude oil processing facilities	32,047	30,721
Transportation and terminaling facilities	5,179	4,935
Grain processing equipment	1,201	1,212
Administrative buildings	1,015	953
Finance lease ROU assets (see Note 5)	944	711
Other	1,701	1,565
Construction in progress	1,731	1,960
Property, plant, and equipment, at cost	44,294	42,473
Accumulated depreciation	(15,030)	(13,625)
Property, plant, and equipment, net	$ 29,264	$ 28,848

Capital lease assets, as determined in accordance with Topic 840, are presented as "Finance lease ROU assets" as of December 31, 2018. Effective January 1, 2019, in connection with our adoption of Topic 842, these assets are considered finance lease ROU assets and are presented as "Finance lease ROU assets." As further described in Note 5, our finance lease ROU assets arise from leasing arrangements for the right to use various classes of underlying assets including (i) pipelines, terminals, and tanks, (ii) marine and rail transportation, and (iii) feedstock processing equipment.

Accumulated amortization on the assets presented as "Finance lease ROU assets" was $155 million and $106 million as of December 31, 2019 and 2018, respectively.

Depreciation expense for the years ended December 31, 2019, 2018, and 2017 was $1.5 billion, $1.4 billion, and $1.3 billion, respectively.

7. DEFERRED CHARGES AND OTHER ASSETS

"Deferred charges and other assets, net" consisted of the following (in millions):

	December 31,	
	2019	2018
Deferred turnaround and catalyst costs, net	$ 1,778	$ 1,749
Operating lease ROU assets, net (see Note 5)	1,329	—
Investments in unconsolidated joint ventures	942	542
Income taxes receivable	525	343
Intangible assets, net	283	307
Goodwill	260	260
Other	514	431
Deferred charges and other assets, net	$ 5,631	$ 3,632

Amortization expense for deferred turnaround and catalyst costs and intangible assets was $759 million, $668 million, and $650 million for the years ended December 31, 2019, 2018, and 2017, respectively.

8. ACCRUED EXPENSES AND OTHER LONG-TERM LIABILITIES

Accrued expenses and other long-term liabilities consisted of the following (in millions):

	Accrued Expenses		Other Long-Term Liabilities	
	December 31,		December 31,	
	2019	2018	2019	2018
Operating lease liabilities (see Note 5)	$ 331	$ —	$ 959	$ —
Liability for unrecognized tax benefits (see Note 15)	—	—	954	721
Defined benefit plan liabilities (see Note 13)	37	43	834	654
Repatriation tax liability (see Note 15) (a)	—	—	508	603
Environmental liabilities	27	29	319	327
Wage and other employee-related liabilities	292	302	121	109
Accrued interest expense	83	93	—	—
Contract liabilities from contracts with customers (see Note 17)	55	31	—	—
Environmental credit obligations (see Note 19)	31	34	—	—
Other accrued liabilities	93	98	192	453
Accrued expenses and other long-term liabilities	$ 949	$ 630	$ 3,887	$ 2,867

(a) The current portion of repatriation tax liability is included in income taxes payable. As of December 31, 2019, the current portion of repatriation tax liability was $54 million. There was no current portion of repatriation tax liability as of December 31, 2018.

9. DEBT AND FINANCE LEASE OBLIGATIONS

Debt, at stated values, and finance lease obligations consisted of the following (in millions):

	Final Maturity	December 31, 2019	December 31, 2018
Credit facilities:			
Valero Revolver	2024	$ —	$ —
IEnova Revolver	2028	348	109
Canadian Revolver	2020	—	—
Accounts receivable sales facility	2020	100	100
Public debt:			
Valero Senior Notes			
6.625%	2037	1,500	1,500
3.4%	2026	1,250	1,250
4.0%	2029	1,000	—
6.125%	2020	—	850
4.35%	2028	750	750
7.5%	2032	750	750
4.9%	2045	650	650
3.65%	2025	600	600
10.5%	2039	250	250
8.75%	2030	200	200
7.45%	2097	100	100
6.75%	2037	24	24
VLP Senior Notes			
4.375%	2026	500	500
4.5%	2028	500	500
Gulf Opportunity Zone Revenue Bonds, Series 2010, 4.0%	2040	300	300
Debenture, 7.65%	2026	100	100
Other debt	Various	47	50
Net unamortized debt issuance costs and other		(88)	(80)
Total debt		8,881	8,503
Finance lease obligations (see Note 5)		791	606
Total debt and finance lease obligations		9,672	9,109
Less: Current portion		494	238
Debt and finance lease obligations, less current portion		$ 9,178	$ 8,871

Credit Facilities

Valero Revolver

In March 2019, we amended our revolving credit facility (the Valero Revolver) to increase the borrowing capacity from $3 billion to $4 billion and to extend the maturity date from November 2020 to March 2024. The Valero Revolver also provides for the issuance of letters of credit of up to $2.4 billion.

Outstanding borrowings under the Valero Revolver bear interest, at our option, at either (i) the adjusted LIBO rate (as defined in the Valero Revolver) for the applicable interest period in effect from time to time plus the applicable margin or (ii) the alternate base rate (as defined in the Valero Revolver) plus the applicable margin. The Valero Revolver also requires payments for customary fees, including facility fees, letter of credit participation fees, and administrative agent fees. The interest rate and facility fees under the Valero Revolver are subject to adjustment based upon the credit ratings assigned to our senior unsecured debt.

We had no borrowings or repayments under the Valero Revolver during the years ended December 31, 2019, 2018, and 2017.

VLP Revolver

As of December 31, 2018, VLP had a $750 million senior unsecured revolving credit facility (the VLP Revolver) with a group of lenders that was scheduled to mature in November 2020. However, on January 10, 2019, in connection with the completion of the Merger Transaction as described in Note 2, the VLP Revolver was terminated.

During the year ended December 31, 2018, VLP repaid the outstanding balance of $410 million on the VLP Revolver using proceeds from its public offering of $500 million 4.5 percent Senior Notes as described in *"Public Debt"* below. During the year ended December 31, 2017, VLP borrowed $380 million under the revolver and made no repayments.

IEnova Revolver

In February 2018, Central Mexico Terminals (as described in Note 12) entered into a combined $340 million unsecured revolving credit facility (IEnova Revolver) with IEnova (defined in Note 12) that matures in February 2028. In November 2019, the IEnova Revolver was increased to $491 million. IEnova may terminate this revolver at any time and demand repayment of all outstanding amounts; therefore, all outstanding borrowings are reflected in current portion of debt. The IEnova Revolver is available only to the operations of Central Mexico Terminals, and the creditors of Central Mexico Terminals do not have recourse against us.

Outstanding borrowings under this revolver bear interest at the three-month LIBO rate for the applicable interest period in effect from time to time plus the applicable margin. The interest rate under this revolver is subject to adjustment, with agreement by both parties, based upon changes in market conditions. As of December 31, 2019 and 2018, the variable rate was 5.749 percent and 6.046 percent, respectively.

During the year ended December 31, 2019 and 2018, Central Mexico Terminals borrowed $239 million and $109 million, respectively, and had no repayments under this revolver.

Canadian Revolver

In November 2019, one of our Canadian subsidiaries amended its committed revolving credit facility (the Canadian Revolver) of C$150 million, under which it may borrow and obtain letters of credit, to extend the maturity date from November 2019 to November 2020.

We had no borrowings or repayments under this revolver during the years ended December 31, 2019, 2018, and 2017.

Accounts Receivable Sales Facility

We have an accounts receivable sales facility with a group of third-party entities and financial institutions to sell up to $1.3 billion of eligible trade receivables on a revolving basis. In July 2019, we amended our agreement to extend the maturity date to July 2020. Under this program, one of our marketing subsidiaries (Valero Marketing) sells eligible receivables, without recourse, to another of our subsidiaries (Valero Capital), whereupon the receivables are no longer owned by Valero Marketing. Valero Capital, in turn, sells an undivided percentage ownership interest in the eligible receivables, without recourse, to the third-party entities and financial institutions. To the extent that Valero Capital retains an ownership interest in the receivables it has purchased from Valero Marketing, such interest is included in our financial statements solely as a result of the consolidation of the financial statements of Valero Capital with those of Valero Energy Corporation; the receivables are not available to satisfy the claims of the creditors of Valero Marketing or Valero Energy Corporation.

As of December 31, 2019 and 2018, $2.2 billion and $1.8 billion, respectively, of our accounts receivable composed the designated pool of accounts receivable included in the program. All amounts outstanding under the accounts receivable sales facility are reflected as debt on our balance sheets and proceeds and repayments are reflected as cash flows from financing activities on the statements of cash flows. As of December 31, 2019 and 2018, the variable interest rate on the accounts receivable sales facility was 2.3866 percent and 3.0618 percent, respectively. During the year ended December 31, 2019, we sold and repaid $900 million of eligible receivables under the accounts receivable sales facility. During the years ended December 31, 2018 and 2017, we had no proceeds from or repayments under the accounts receivable sales facility.

Summary of Credit Facilities

We had outstanding borrowings, letters of credit issued, and availability under our credit facilities as follows (amounts in millions and currency in U.S. dollars, except as noted):

			December 31, 2019		
	Facility Amount	Maturity Date	Outstanding Borrowings	Letters of Credit Issued (a)	Availability
Committed facilities:					
Valero Revolver	$ 4,000	March 2024	$ —	$ 34	$ 3,966
Canadian Revolver	C$ 150	November 2020	C$ —	C$ 5	C$ 145
Accounts receivable sales facility	$ 1,300	July 2020	$ 100	n/a	$ 1,200
Letter of credit facility (b)	$ 50	November 2020	n/a	$ —	$ 50
Committed facility of VIE (c):					
IEnova Revolver	$ 491	February 2028	$ 348	n/a	$ 143
Uncommitted facilities:					
Letter of credit facilities	n/a	n/a	n/a	$ 121	n/a

(a) Letters of credit issued as of December 31, 2019 expire at various times in 2020 through 2021.

(b) The letter of credit facility was amended to reduce the facility from $100 million to $50 million and to extend the maturity date from November 2019 to November 2020.

(c) Creditors of our VIE do not have recourse against us.

We are charged letter of credit issuance fees under our various uncommitted short-term bank credit facilities. These uncommitted credit facilities have no commitment fees or compensating balance requirements.

Public Debt

During the year ended December 31, 2019, the following activity occurred:

- We issued $1.0 billion of 4.00 percent Senior Notes due April 1, 2029 (4.00 percent Senior Notes). Proceeds from this debt issuance totaled $992 million before deducting the underwriting discount and other debt issuance costs. The proceeds were used to redeem our 6.125 percent Senior Notes due February 1, 2020 (6.125 percent Senior Notes) for $871 million, or 102.48 percent of stated value, which includes an early redemption fee of $21 million that is reflected in “other income, net” in our statement of income for the year ended December 31, 2019.

- In connection with the completion of the Merger Transaction as described in Note 2, Valero entered into a guarantee agreement to fully and unconditionally guarantee the prompt payment, when due, of any amount owed to the holders of VLP’s 4.375 percent Senior Notes due December 15, 2026 and 4.5 percent Senior Notes due March 15, 2028. See Note 21 for condensed consolidating financial statements.

During the year ended December 31, 2018, the following activity occurred:

- We issued $750 million of 4.35 percent Senior Notes due June 1, 2028. Proceeds from this debt issuance totaled $749 million before deducting the underwriting discount and other debt issuance costs. The proceeds were used to redeem our 9.375 percent Senior Notes due March 15, 2019 for $787 million, or 104.9 percent of stated value, which includes an early redemption fee of $37 million that is reflected in "other income, net" in our statement of income for the year ended December 31, 2018.

- VLP issued $500 million of 4.5 percent Senior Notes due March 15, 2028. Proceeds from this debt issuance totaled $498 million before deducting the underwriting discount and other debt issuance costs. The proceeds were available only to the operations of VLP and were used to repay the outstanding balance of $410 million on the VLP Revolver and $85 million on its notes payable to us, which is eliminated in consolidation.

During the year ended December 31, 2017, there was no issuance or redemption activity related to our public debt.

Other Debt
During the year ended December 31, 2018, we retired $137 million of debt assumed in connection with the Peru Acquisition with available cash on hand.

Other Disclosures
"Interest and debt expense, net of capitalized interest" is comprised as follows (in millions):

	Year Ended December 31,		
	2019	2018	2017
Interest and debt expense	$ 544	$ 557	$ 539
Less: Capitalized interest	90	87	71
Interest and debt expense, net of capitalized interest	$ 454	$ 470	$ 468

Our credit facilities and other debt arrangements contain various customary restrictive covenants, including cross-default and cross-acceleration clauses.

Principal maturities for our debt obligations as of December 31, 2019 were as follows (in millions):

2020 (a)	$	453
2021		17
2022		6
2023		19
2024		—
Thereafter		8,474
Net unamortized debt issuance costs and other		(88)
Total debt	$	8,881

(a) As of December 31, 2019, our debt obligations due in 2020 include $348 million associated with borrowings under the IEnova Revolver.

10. COMMITMENTS AND CONTINGENCIES

Purchase Obligations

We have various purchase obligations under certain crude oil and other feedstock supply arrangements, industrial gas supply arrangements (such as hydrogen supply arrangements), natural gas supply arrangements, and various throughput, transportation and terminaling agreements. We enter into these contracts to ensure an adequate supply of feedstock and utilities and adequate storage capacity to operate our refineries and ethanol plants. Substantially all of our purchase obligations are based on market prices or adjustments based on market indices. Certain of these purchase obligations include fixed or minimum volume requirements, while others are based on our usage requirements. None of these obligations is associated with suppliers' financing arrangements. These purchase obligations are not reflected as liabilities.

Contractual Capital Commitments

MVP Terminal

We have a 50 percent membership interest in MVP Terminalling, LLC (MVP), a Delaware limited liability company formed in September 2017 with a subsidiary of Magellan Midstream Partners LP (Magellan), to construct, own, and operate the Magellan Valero Pasadena marine terminal (MVP Terminal) located adjacent to the Houston Ship Channel in Pasadena, Texas. The MVP Terminal contains (i) approximately 5 million barrels of storage capacity, (ii) a dock with two ship berths, and (iii) a three-bay truck rack facility. In connection with our terminaling agreement with MVP, described below, we will have dedicated use of (i) approximately 4 million barrels of storage, (ii) one ship berth, and (iii) the three-bay truck rack facility. Construction of phases one and two of the project began in 2017 with a total cost of $840 million, of which we have committed to contribute 50 percent ($420 million). The project could expand up to four phases with a total project cost of approximately $1.4 billion if warranted by additional demand and agreed to by Magellan and us. Since inception, we have contributed $404 million to MVP, of which $157 million was contributed during the year ended December 31, 2019.

Concurrent with the formation of MVP, we entered into a terminaling agreement with MVP to utilize the MVP Terminal upon completion of the majority of phase two, which is expected to occur in the first quarter of 2020. The terminaling agreement has an initial term of 12 years with two five-year automatic renewals, and year-to-year renewals thereafter.

Prior to our adoption of Topic 842 as described in Note 1, we were considered the accounting owner of the MVP Terminal during the construction period due to our membership interest in MVP and because we determined that the terminaling agreement was a capital lease. Accordingly, as of December 31, 2018, we had recorded an asset of $539 million in property, plant, and equipment representing 100 percent of the construction costs incurred by MVP, as well as capitalized interest incurred by us, and a long-term liability of $292 million payable to Magellan. The amounts recorded for the portion of the construction costs associated with the payable to Magellan were noncash investing and financing items, respectively.

On January 1, 2019, as a result of our adoption of Topic 842, we derecognized the asset and liability related to MVP discussed above and recorded our equity investment in MVP of $247 million, which is included in "deferred charges and other assets, net." The amounts derecognized are noncash investing and financing items, respectively. As of December 31, 2019, the carrying value of our equity investment in MVP was $401 million.

Central Texas Pipeline

We committed to a 40 percent undivided interest in a project with a subsidiary of Magellan to jointly build a 135-mile, 20-inch refined petroleum products pipeline with a capacity of up to 150,000 barrels per day from Houston to Hearne, Texas. The pipeline was placed in service in the third quarter of 2019. The cost of our 40 percent undivided interest in the pipeline was $160 million, of which $80 million was spent during the year ended December 31, 2019.

Self-Insurance

We are self-insured for certain medical and dental, workers' compensation, automobile liability, general liability, and property liability claims up to applicable retention limits. Liabilities are accrued for self-insured claims, or when estimated losses exceed coverage limits, and when sufficient information is available to reasonably estimate the amount of the loss. These liabilities are included in accrued expenses and other long-term liabilities.

11. EQUITY

Share Activity

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

	Common Stock	Treasury Stock
Balance as of December 31, 2016	673	(222)
Transactions in connection with stock-based compensation plans	—	1
Stock purchases under purchase programs	—	(19)
Balance as of December 31, 2017	673	(240)
Stock purchases under purchase programs	—	(16)
Balance as of December 31, 2018	673	(256)
Transactions in connection with stock-based compensation plans	—	1
Stock purchases under purchase program	—	(9)
Balance as of December 31, 2019	673	(264)

Preferred Stock

We have 20 million shares of preferred stock authorized with a par value of $0.01 per share. No shares of preferred stock were outstanding as of December 31, 2019 or 2018.

Treasury Stock

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

On July 13, 2015, our board of directors authorized us to purchase $2.5 billion of our outstanding common stock with no expiration date, and we completed that program during 2017. On September 21, 2016, our board of directors authorized our purchase of up to an additional $2.5 billion with no expiration date, and we completed that program during 2018. On January 23, 2018, our board of directors authorized our purchase of up to an additional $2.5 billion (the 2018 Program) with no expiration date. During the years ended December 31, 2019, 2018, and 2017, we purchased $752 million, $1.5 billion, and $1.3 billion, respectively, of our common stock under our programs. As of December 31, 2019, we have approval under the 2018 Program to purchase approximately $1.5 billion of our common stock.

Common Stock Dividends

On January 23, 2020, our board of directors declared a quarterly cash dividend of $0.98 per common share payable on March 4, 2020 to holders of record at the close of business on February 12, 2020.

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

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

	Before-Tax Amount	Tax Expense (Benefit)	Net Amount
Year ended December 31, 2019			
Foreign currency translation adjustment	$ 349	$ —	$ 349
Pension and other postretirement benefits:			
Loss arising during the year related to:			
Net actuarial loss	(245)	(54)	(191)
Prior service cost	(3)	(1)	(2)
Miscellaneous loss	—	4	(4)
Amounts reclassified into income related to:			
Net actuarial loss	38	9	29
Prior service credit	(28)	(6)	(22)
Curtailment and settlement loss	4	1	3
Net loss on pension and other postretirement benefits	(234)	(47)	(187)
Derivative instruments designated and qualifying as cash flow hedges:			
Net loss arising during the year	(6)	(1)	(5)
Net gain reclassified into income	(2)	—	(2)
Net loss on cash flow hedges	(8)	(1)	(7)
Other comprehensive income	$ 107	$ (48)	$ 155

	Before-Tax Amount	Tax Expense (Benefit)	Net Amount
Year ended December 31, 2018			
Foreign currency translation adjustment	$ (517)	$ —	$ (517)
Pension and other postretirement benefits:			
Gain arising during the year related to:			
Net actuarial gain	1	—	1
Prior service credit	7	1	6
Amounts reclassified into income related to:			
Net actuarial loss	63	14	49
Prior service credit	(29)	(7)	(22)
Curtailment and settlement loss	7	2	5
Net gain on pension and other postretirement benefits	49	10	39
Other comprehensive loss	$ (468)	$ 10	$ (478)
Year ended December 31, 2017			
Foreign currency translation adjustment	$ 514	$ —	$ 514
Pension and other postretirement benefits:			
Loss arising during the year related to:			
Net actuarial loss	(79)	(29)	(50)
Prior service cost	(4)	(1)	(3)
Miscellaneous loss	—	3	(3)
Amounts reclassified into income related to:			
Net actuarial loss	50	18	32
Prior service credit	(36)	(13)	(23)
Curtailment and settlement loss	4	1	3
Net loss on pension and other postretirement benefits	(65)	(21)	(44)
Other comprehensive income	$ 449	$ (21)	$ 470

Accumulated Other Comprehensive Loss

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

	Foreign Currency Translation Adjustment	Defined Benefit Plans Items	Losses on Cash Flow Hedges	Total
Balance as of December 31, 2016	$ (1,021)	$ (389)	$ —	$ (1,410)
Other comprehensive income (loss) before reclassifications	514	(56)	—	458
Amounts reclassified from accumulated other comprehensive loss	—	12	—	12
Other comprehensive income (loss)	514	(44)	—	470
Balance as of December 31, 2017	(507)	(433)	—	(940)
Other comprehensive income (loss) before reclassifications	(515)	7	—	(508)
Amounts reclassified from accumulated other comprehensive loss	—	32	—	32
Other comprehensive income (loss)	(515)	39	—	(476)
Reclassification of stranded income tax effects	—	(91)	—	(91)
Balance as of December 31, 2018	(1,022)	(485)	—	(1,507)
Other comprehensive income (loss) before reclassifications	346	(197)	(2)	147
Amounts reclassified from accumulated other comprehensive loss	—	10	(1)	9
Other comprehensive income (loss)	346	(187)	(3)	156
Balance as of December 31, 2019	$ (676)	$ (672)	$ (3)	$ (1,351)

Gains (losses) reclassified out of accumulated other comprehensive loss and into net income were as follows (in millions):

Details about Accumulated Other Comprehensive Loss Components	Year Ended December 31, 2019	2018	2017	Affected Line Item in the Statement of Income
Amortization of items related to defined benefit pension plans:				
Net actuarial loss	$ (38)	$ (63)	$ (50)	(a) Other income, net
Prior service credit	28	29	36	(a) Other income, net
Curtailment and settlement	(4)	(7)	(4)	(a) Other income, net
	(14)	(41)	(18)	Total before tax
	4	9	6	Tax benefit
	$ (10)	$ (32)	$ (12)	Net of tax
Gains on cash flow hedges:				
Commodity contracts	$ 2	$ —	$ —	Revenues
	$ 2	$ —	$ —	Net of tax
Total reclassifications for the year	$ (8)	$ (32)	$ (12)	Net of tax

(a) These accumulated other comprehensive loss components are included in the computation of net periodic benefit cost (credit), as discussed in Note 13.

12. VARIABLE INTEREST ENTITIES

Consolidated VIEs

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

The following discussion summarizes our involvement with our VIEs:

- DGD is a joint venture with a subsidiary of Darling Ingredients Inc. that owns and operates a plant that processes animal fats, used cooking oils, and other vegetable oils into renewable diesel. The plant is located in Norco, Louisiana next to our St. Charles Refinery. Our significant agreements with DGD include an operations agreement that outlines our responsibilities as operator of the plant and a marketing agreement.

As operator, we operate the plant and perform certain day-to-day operating and management functions for DGD as an independent contractor. The operations agreement provides us (as operator) with certain power to direct the activities that most significantly impact DGD's economic performance. Because this agreement conveys such power to us and is separate from our ownership rights, we determined that DGD was a VIE. For this reason and because we hold a 50 percent ownership interest that provides us with significant economic rights and obligations, we determined that we are the primary beneficiary of DGD. DGD has risk associated with its operations because it generates revenues from third-party customers.

- Central Mexico Terminals is a collective group of three subsidiaries of Infraestructura Energetica Nova, S.A.B. de C.V. (IEnova), a Mexican company and subsidiary of Sempra Energy, a U.S. public company. We have terminaling agreements with Central Mexico Terminals that represent variable interests because we have determined them to be finance leases due to our exclusive use of the terminals. Although we do not have an ownership interest in the entities that own each of the three terminals, the finance leases convey to us (i) the power to direct the activities that most significantly impact the economic performance of all three terminals and (ii) the ability to influence the benefits received or the losses incurred by the terminals because of our use of the terminals. As a result, we determined each of the entities was a VIE and that we are the primary beneficiary of each. Substantially all of Central Mexico Terminals' revenues will be derived from us; therefore, there is limited risk to us associated with Central Mexico Terminals' operations.

- We also have financial interests in other entities that have been determined to be VIEs because the entities' contractual arrangements transfer the power to us to direct the activities that most significantly impact their economic performance or reduce the exposure to operational variability and risk of loss created by the entity that otherwise would be held exclusively by the equity owners. Furthermore, we determined that we are the primary beneficiary of these VIEs because (i) certain contractual arrangements (exclusive of our ownership rights) provide us with the power to direct the activities that most significantly impact the economic performance of these entities and/or (ii) our 50 percent ownership interests provide us with significant economic rights and obligations.

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

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

	December 31, 2019			
	DGD	Central Mexico Terminals	Other	Total
Assets				
Cash and cash equivalents	$ 85	$ —	$ 25	$ 110
Other current assets	567	33	89	689
Property, plant, and equipment, net	706	381	105	1,192
Liabilities				
Current liabilities, including current portion of debt and finance lease obligations	$ 66	$ 409	$ 8	$ 483
Debt and finance lease obligations, less current portion	—	—	31	31

	December 31, 2018				
	VLP (a)	DGD	Central Mexico Terminals	Other	Total
Assets					
Cash and cash equivalents	$ 152	$ 65	$ —	$ 18	$ 235
Other current assets	2	112	20	64	198
Property, plant, and equipment, net	1,409	576	156	113	2,254
Liabilities					
Current liabilities, including current portion of debt and finance lease obligations	$ 27	$ 28	$ 118	$ 9	$ 182
Debt and finance lease obligations, less current portion	990	—	—	34	1,024

(a) Prior to the completion of the Merger Transaction with VLP on January 10, 2019 as discussed in Note 2, VLP was a publicly traded master limited partnership that we had determined was a VIE. VLP was formed by us to own, operate, develop, and acquire crude oil and refined petroleum products pipelines, terminals, and other transportation and logistics assets. As of December 31, 2018, we owned a 66.2 percent limited partner interest and a 2.0 percent general partner interest in VLP, and public unitholders owned a 31.8 percent limited partner interest. Upon completion of the Merger Transaction, VLP became our indirect wholly owned subsidiary and, as a result, was no longer a VIE.

Non-Consolidated VIEs

We hold variable interests in VIEs that have not been consolidated because we are not considered the primary beneficiary. These non-consolidated VIEs are not material to our financial position or results of operations and are accounted for as equity investments.

13. EMPLOYEE BENEFIT PLANS

Defined Benefit Plans

We have defined benefit pension plans, some of which are subject to collective bargaining agreements, that cover most of our employees. These plans provide eligible employees with retirement income based primarily on years of service and compensation during specific periods under final average pay and cash balance formulas. We fund our pension plans as required by local regulations. In the U.S., all qualified pension plans are subject to the Employee Retirement Income Security Act's minimum funding standard. We typically do not fund or fully fund U.S. nonqualified and certain international pension plans that are not subject to funding requirements because contributions to these pension plans may be less economic and investment returns may be less attractive than our other investment alternatives.

We also provide health care and life insurance benefits for certain retired employees through our postretirement benefit plans. Most of our employees become eligible for these benefits if, while still working for us, they reach normal retirement age or take early retirement. These plans are unfunded, and retired employees share the cost with us. Individuals who became our employees as a result of an acquisition became eligible for postretirement benefits under our plans as determined by the terms of the relevant acquisition agreement.

The changes in benefit obligation related to all of our defined benefit plans, the changes in fair value of plan assets[(a)], and the funded status of our defined benefit plans as of and for the years ended were as follows (in millions):

	Pension Plans		Other Postretirement Benefit Plans	
	December 31,		December 31,	
	2019	2018	2019	2018
Changes in benefit obligation				
Benefit obligation as of beginning of year	$ 2,639	$ 2,926	$ 292	$ 306
Service cost	119	133	5	6
Interest cost	98	91	11	10
Participant contributions	—	—	11	10
Benefits paid	(154)	(207)	(29)	(28)
Actuarial (gain) loss	528	(285)	41	(9)
Other	9	(19)	5	(3)
Benefit obligation as of end of year	$ 3,239	$ 2,639	$ 336	$ 292
Changes in plan assets (a)				
Fair value of plan assets as of beginning of year	$ 2,236	$ 2,428	$ —	$ —
Actual return on plan assets	490	(130)	—	—
Valero contributions	128	156	18	18
Participant contributions	—	—	11	10
Benefits paid	(154)	(207)	(29)	(28)
Other	9	(11)	—	—
Fair value of plan assets as of end of year	$ 2,709	$ 2,236	$ —	$ —
Reconciliation of funded status (a)				
Fair value of plan assets as of end of year	$ 2,709	$ 2,236	$ —	$ —
Less: Benefit obligation as of end of year	3,239	2,639	336	292
Funded status as of end of year	$ (530)	$ (403)	$ (336)	$ (292)
Accumulated benefit obligation	$ 3,039	$ 2,492	n/a	n/a

(a) Plan assets include only the assets associated with pension plans subject to legal minimum funding standards. Plan assets associated with U.S. nonqualified pension plans are not included here because they are not protected from our creditors and therefore cannot be reflected as a reduction from our obligations under the pension plans. As a result, the reconciliation of funded status does not reflect the effect of plan assets that exist for all of our defined benefit plans. See Note 19 for the assets associated with certain U.S. nonqualified pension plans.

The actuarial loss for the year ended December 31, 2019 primarily resulted from a decrease in the discount rates used to determine our benefit obligations for our pension plans from 4.25 percent in 2018 to 3.14 percent in 2019. The actuarial gain for the year ended December 31, 2018 primarily resulted from an increase in the discount rates used to determine our benefit obligations for our pension plans from 3.58 percent in 2017 to 4.25 percent in 2018.

The fair value of our plan assets as of December 31, 2019 was favorably impacted by the return on plan assets resulting primarily from an improvement in equity market prices for the year. The fair value of our plan assets as of December 31, 2018 was unfavorably impacted by the negative return on plan assets resulting primarily from a significant decline in equity market prices for the year.

Amounts recognized in our balance sheet for our pension and other postretirement benefits plans include (in millions):

	Pension Plans		Other Postretirement Benefit Plans	
	December 31,		December 31,	
	2019	2018	2019	2018
Deferred charges and other assets, net	$ 5	$ 2	$ —	$ —
Accrued expenses	(17)	(22)	(20)	(21)
Other long-term liabilities	(518)	(383)	(316)	(271)
	$ (530)	$ (403)	$ (336)	$ (292)

The following table presents information for our pension plans with projected benefit obligations in excess of plan assets (in millions).

	December 31,	
	2019	2018
Projected benefit obligation	$ 3,182	$ 2,564
Fair value of plan assets	2,647	2,160

The following table presents information for our pension plans with accumulated benefit obligations in excess of plan assets (in millions).

	December 31,	
	2019	2018
Accumulated benefit obligation	$ 2,760	$ 2,253
Fair value of plan assets	2,402	1,974

Benefit payments that we expect to pay, including amounts related to expected future services that we expect to receive, are as follows for the years ending December 31 (in millions):

	Pension Benefits	Other Postretirement Benefits
2020	$ 179	$ 21
2021	219	20
2022	190	20
2023	204	19
2024	205	19
2025-2029	1,105	88

We plan to contribute approximately $140 million to our pension plans and $21 million to our other postretirement benefit plans during 2020.

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

	Pension Plans			Other Postretirement Benefit Plans		
	Year Ended December 31,			Year Ended December 31,		
	2019	2018	2017	2019	2018	2017
Service cost	$ 119	$ 133	$ 123	$ 5	$ 6	$ 6
Interest cost	98	91	86	11	10	10
Expected return on plan assets	(166)	(163)	(150)	—	—	—
Amortization of:						
Net actuarial (gain) loss	41	65	53	(3)	(2)	(3)
Prior service credit	(19)	(18)	(20)	(9)	(11)	(16)
Special charges	4	7	4	1	—	—
Net periodic benefit cost (credit)	$ 77	$ 115	$ 96	$ 5	$ 3	$ (3)

The components of net periodic benefit cost (credit) other than the service cost component (i.e., the non-service cost components) are included in "other income, net" in the statements of income.

Amortization of prior service credit shown in the preceding table was based on a straight-line amortization of the cost over the average remaining service period of employees expected to receive benefits under each respective plan. Amortization of the net actuarial (gain) loss shown in the preceding table was based on the straight-line amortization of the excess of the unrecognized (gain) loss over 10 percent of the greater of the projected benefit obligation or market-related value of plan assets (smoothed asset value) over the average remaining service period of active employees expected to receive benefits under each respective plan.

Pre-tax amounts recognized in other comprehensive income (loss) were as follows (in millions):

	Pension Plans			Other Postretirement Benefit Plans		
	Year Ended December 31,			Year Ended December 31,		
	2019	2018	2017	2019	2018	2017
Net gain (loss) arising during the year:						
Net actuarial gain (loss)	$ (204)	$ (8)	$ (73)	$ (41)	$ 9	$ (6)
Prior service (cost) credit	—	7	(4)	(3)	—	—
Net (gain) loss reclassified into income:						
Net actuarial (gain) loss	41	65	53	(3)	(2)	(3)
Prior service credit	(19)	(18)	(20)	(9)	(11)	(16)
Curtailment and settlement loss	4	7	4	—	—	—
Total changes in other comprehensive income (loss)	$ (178)	$ 53	$ (40)	$ (56)	$ (4)	$ (25)

The pre-tax amounts in accumulated other comprehensive loss that have not yet been recognized as components of net periodic benefit cost (credit) were as follows (in millions):

	Pension Plans		Other Postretirement Benefit Plans	
	December 31,		December 31,	
	2019	2018	2019	2018
Net actuarial (gain) loss	$ 988	$ 828	$ (20)	$ (64)
Prior service credit	(90)	(108)	(19)	(31)
Total	$ 898	$ 720	$ (39)	$ (95)

The weighted-average assumptions used to determine the benefit obligations were as follows:

	Pension Plans		Other Postretirement Benefit Plans	
	December 31,		December 31,	
	2019	2018	2019	2018
Discount rate	3.14%	4.25%	3.32%	4.40%
Rate of compensation increase	3.75%	3.78%	n/a	n/a
Interest crediting rate for cash balance plans	3.03%	3.04%	n/a	n/a

The discount rate assumption used to determine the benefit obligations as of December 31, 2019 and 2018 for the majority of our pension plans and other postretirement benefit plans was based on the Aon AA Only Above Median yield curve and considered the timing of the projected cash outflows under our plans. This curve was designed by Aon to provide a means for plan sponsors to value the liabilities of their pension plans or postretirement benefit plans. It is a hypothetical double-A yield curve represented by a series of annualized individual discount rates with maturities from one-half year to 99 years. Each bond issue underlying the curve is required to have an average rating of double-A when averaging all available ratings by Moody's Investors Service, Standard & Poor's Ratings Services, and Fitch Ratings. Only the bonds representing the 50 percent highest yielding issuances among those with average ratings of double-A are included in this yield curve.

We based our discount rate assumption on the Aon AA Only Above Median yield curve because we believe it is representative of the types of bonds we would use to settle our pension and other postretirement benefit plan liabilities as of those dates. We believe that the yields associated with the bonds used to develop this yield curve reflect the current level of interest rates.

The weighted-average assumptions used to determine the net periodic benefit cost were as follows:

	Pension Plans			Other Postretirement Benefit Plans		
	Year Ended December 31,			Year Ended December 31,		
	2019	2018	2017	2019	2018	2017
Discount rate	4.24%	3.59%	4.08%	4.40%	3.72%	4.26%
Expected long-term rate of return on plan assets	7.22%	7.24%	7.29%	n/a	n/a	n/a
Rate of compensation increase	3.78%	3.86%	3.81%	n/a	n/a	n/a
Interest crediting rate for cash balance plans	3.04%	3.04%	3.04%	n/a	n/a	n/a

The assumed health care cost trend rates were as follows:

	December 31,	
	2019	2018
Health care cost trend rate assumed for the next year	7.32%	7.29%
Rate to which the cost trend rate was assumed to decline (the ultimate trend rate)	5.00%	5.00%
Year that the rate reaches the ultimate trend rate	2026	2026

The following tables present the fair values of the assets of our pension plans (in millions) as of December 31, 2019 and 2018 by level of the fair value hierarchy. Assets categorized in Level 1 of the hierarchy are measured at fair value using a market approach based on unadjusted quoted prices from national securities exchanges. Assets categorized in Level 2 of the hierarchy are measured at net asset value in a market that is not active. As previously noted, we do not fund or fully fund U.S. nonqualified and certain international pension plans that are not subject to funding requirements, and we do not fund our other postretirement benefit plans.

	Fair Value Hierarchy			Total as of December 31, 2019
	Level 1	Level 2	Level 3	
Equity securities:				
U.S. companies (a)	$ 622	$ —	$ —	$ 622
International companies	205	1	—	206
Preferred stock	4	—	—	4
Mutual funds:				
International growth	123	—	—	123
Index funds	90	—	—	90
Corporate debt instruments (a)	—	293	—	293
Government securities:				
U.S. Treasury securities	53	—	—	53
Other government securities	—	148	—	148
Common collective trusts (b)	—	751	—	751
Pooled separate accounts	—	250	—	250
Private funds	—	104	—	104
Insurance contract	—	17	—	17
Interest and dividends receivable	5	—	—	5
Cash and cash equivalents	59	—	—	59
Securities transactions payable, net	(16)	—	—	(16)
Total pension plan assets	$ 1,145	$ 1,564	$ —	$ 2,709

See notes on page 108.

	Fair Value Hierarchy			Total as of December 31, 2018
	Level 1	Level 2	Level 3	
Equity securities:				
U.S. companies (a)	$ 497	$ —	$ —	$ 497
International companies	159	1	—	160
Preferred stock	4	—	—	4
Mutual funds:				
International growth	97	—	—	97
Index funds	76	—	—	76
Corporate debt instruments (a)	—	284	—	284
Government securities:				
U.S. Treasury securities	45	—	—	45
Other government securities	—	138	—	138
Common collective trusts (b)	—	609	—	609
Pooled separate accounts	—	190	—	190
Private funds	—	87	—	87
Insurance contract	—	18	—	18
Interest and dividends receivable	5	—	—	5
Cash and cash equivalents	40	—	—	40
Securities transactions payable, net	(14)	—	—	(14)
Total pension plan assets	$ 909	$ 1,327	$ —	$ 2,236

(a) This class of securities is held in a wide range of industrial sectors.
(b) This class includes primarily investments in approximately 75 percent equities and 25 percent bonds as of December 31, 2019. As of December 31, 2018, this class included primarily investments in approximately 70 percent equities and 30 percent bonds.

The investment policies and strategies for the assets of our pension plans incorporate a well-diversified approach that is expected to earn long-term returns from capital appreciation and a growing stream of current income. This approach recognizes that assets are exposed to risk and the market value of the pension plans' assets may fluctuate from year to year. Risk tolerance is determined based on our financial ability to withstand risk within the investment program and the willingness to accept return volatility. In line with the investment return objective and risk parameters, the pension plans' mix of assets includes a diversified portfolio of equity and fixed-income investments. Equity securities include international stocks and a blend of U.S. growth and value stocks of various sizes of capitalization. Fixed income securities include bonds and notes issued by the U.S. government and its agencies, corporate bonds, and mortgage-backed securities. The aggregate asset allocation is reviewed on an annual basis. As of December 31, 2019, the target allocations for plan assets under our primary pension plan are 70 percent equity securities and 30 percent fixed income investments.

The expected long-term rate of return on plan assets is based on a forward-looking expected asset return model. This model derives an expected rate of return based on the target asset allocation of a plan's assets.

The underlying assumptions regarding expected rates of return for each asset class reflect Aon's best expectations for these asset classes. The model reflects the positive effect of periodic rebalancing among diversified asset classes. We select an expected asset return that is supported by this model.

Defined Contribution Plans

We have defined contribution plans that cover most of our employees. Our contributions to these plans are based on employees' compensation and/or a partial match of employee contributions to the plans. Our contributions to these defined contribution plans were $77 million, $74 million, and $70 million for the years ended December 31, 2019, 2018, and 2017, respectively.

14. STOCK-BASED COMPENSATION

Overview

Under our 2011 Omnibus Stock Incentive Plan (the OSIP), various stock and stock-based awards may be granted to employees and non-employee directors. Awards available under the OSIP include, but are not limited to, (i) restricted stock that vests over a period determined by our compensation committee, (ii) performance awards that vest upon the achievement of an objective performance goal, (iii) options to purchase shares of common stock, (iv) dividend equivalent rights, and (v) stock unit awards. The OSIP was approved by our stockholders on April 28, 2011 and re-approved by our stockholders on May 12, 2016. As of December 31, 2019, 7,740,665 shares of our common stock remained available to be awarded under the OSIP.

We also maintain another stock-based compensation plan under which previously granted equity awards remain outstanding. No additional grants may be awarded under this plan.

The following table reflects activity related to our stock-based compensation arrangements (in millions):

	Year Ended December 31,		
	2019	2018	2017
Stock-based compensation expense:			
Restricted stock	$ 64	$ 63	$ 58
Performance awards	23	22	19
Stock options and other awards	2	1	—
Total stock-based compensation expense	$ 89	$ 86	$ 77
Tax benefit recognized on stock-based compensation expense	$ 19	$ 18	$ 27
Tax benefit realized for tax deductions resulting from exercises and vestings	17	32	44
Effect of tax deductions in excess of recognized stock-based compensation expense	7	20	24

The following is a discussion of our significant stock-based compensation arrangement.

Restricted Stock

Restricted stock is granted to employees and non-employee directors. Restricted stock granted to employees vests in accordance with individual written agreements between the participants and us, usually in equal annual installments over a period of three years beginning one year after the date of grant. Restricted stock granted to our non-employee directors vests in equal annual installments over a period of three years beginning one year after the date of grant. The fair value of each restricted stock per share is equal to the market price of our common stock. A summary of the status of our restricted stock awards is presented in the following table.

	Number of Shares	Weighted-Average Grant-Date Fair Value Per Share
Nonvested shares as of January 1, 2019	1,176,578	$ 80.70
Granted	677,482	98.75
Vested	(757,217)	78.54
Forfeited	(4,989)	83.18
Nonvested shares as of December 31, 2019	1,091,854	93.38

As of December 31, 2019, there was $59 million of unrecognized compensation cost related to outstanding unvested restricted stock awards, which is expected to be recognized over a weighted-average period of approximately two years.

The following table reflects activity related to our restricted stock:

	Year Ended December 31,		
	2019	2018	2017
Weighted-average grant-date fair value per share of restricted stock granted	$ 98.75	$ 92.12	$ 79.32
Fair value of restricted stock vested (in millions)	74	80	71

15. INCOME TAXES

Income Statement Components

Income before income tax expense (benefit) was as follows (in millions):

	Year Ended December 31,		
	2019	2018	2017
U.S. operations	$ 2,496	$ 3,168	$ 2,283
International operations	990	1,064	924
Income before income tax expense (benefit)	$ 3,486	$ 4,232	$ 3,207

Statutory income tax rates applicable to the countries in which we operate were as follows:

	Year Ended December 31,		
	2019	2018	2017
U.S.	21%	21%	35%
Canada	15%	15%	15%
U.K.	19%	19%	19%
Ireland	13%	13%	13%
Peru	30%	30%	n/a
Mexico	30%	30%	n/a

The following is a reconciliation of income tax expense (benefit) computed by applying statutory income tax rates as reflected in the preceding table to actual income tax expense (benefit) (in millions):

	U.S.		International		Total	
	Amount	Percent	Amount	Percent	Amount	Percent
Year ended December 31, 2019						
Income tax expense at statutory rates	$ 524	21.0 %	$ 147	14.8 %	$ 671	19.2 %
U.S. state and Canadian provincial tax expense, net of federal income tax effect	16	0.7 %	88	8.9 %	104	3.0 %
Permanent differences	(36)	(1.5)%	10	1.0 %	(26)	(0.7)%
GILTI tax (a)	115	4.6 %	—	—	115	3.3 %
Foreign tax credits	(95)	(3.8)%	—	—	(95)	(2.7)%
Repatriation withholding tax	45	1.8 %	—	—	45	1.3 %
Tax effects of income associated with noncontrolling interests	(77)	(3.1)%	2	0.2 %	(75)	(2.2)%
Other, net	(36)	(1.4)%	(1)	(0.1)%	(37)	(1.1)%
Income tax expense	$ 456	18.3 %	$ 246	24.8 %	$ 702	20.1 %

(a) See note on page 112.

	U.S.		International		Total	
	Amount	Percent	Amount	Percent	Amount	Percent
Year ended December 31, 2018						
Income tax expense at statutory rates	$ 665	21.0 %	$ 163	15.3%	$ 828	19.6 %
U.S. state and Canadian provincial tax expense, net of federal income tax effect	44	1.4 %	80	7.5%	124	2.9 %
Permanent differences	(9)	(0.3)%	—	—	(9)	(0.2)%
GILTI tax (a)	67	2.1 %	—	—	67	1.6 %
Foreign tax credits	(50)	(1.6)%	—	—	(50)	(1.2)%
Effects of Tax Reform (a)	(12)	(0.4)%	—	—	(12)	(0.3)%
Tax effects of income associated with noncontrolling interests	(49)	(1.5)%	—	—	(49)	(1.2)%
Other, net	(23)	(0.7)%	3	0.3%	(20)	(0.5)%
Income tax expense	$ 633	20.0 %	$ 246	23.1%	$ 879	20.7 %
Year ended December 31, 2017						
Income tax expense at statutory rates	$ 799	35.0 %	$ 158	17.1%	$ 957	29.8 %
U.S. state and Canadian provincial tax expense, net of federal income tax effect	37	1.6 %	46	5.0%	83	2.6 %
Permanent differences:						
Manufacturing deduction	(42)	(1.8)%	—	—	(42)	(1.3)%
Other	(9)	(0.4)%	—	—	(9)	(0.3)%
Change in tax law (a)	(1,862)	(81.6)%	—	—	(1,862)	(58.1)%
Tax effects of income associated with noncontrolling interests	(31)	(1.4)%	—	—	(31)	(1.0)%
Other, net	(52)	(2.3)%	7	0.8%	(45)	(1.4)%
Income tax expense (benefit)	$ (1,160)	(50.9)%	$ 211	22.9%	$ (949)	(29.7)%

(a) See *"Tax Reform"* below for a discussion of the changes in tax law in the U.S. that were enacted in December 2017.

Components of income tax expense (benefit) were as follows (in millions):

	U.S.		International	Total
Year ended December 31, 2019				
Current:				
Country	$ 145		$ 186	$ 331
U.S. state / Canadian provincial	37		100	137
Total current	182		286	468
Deferred:				
Country	290		(28)	262
U.S. state / Canadian provincial	(16)		(12)	(28)
Total deferred	274		(40)	234
Income tax expense	$ 456		$ 246	$ 702
Year ended December 31, 2018				
Current:				
Country	$ 432		$ 141	$ 573
U.S. state / Canadian provincial	37		66	103
Total current	469	(a)	207	676
Deferred:				
Country	145		25	170
U.S. state / Canadian provincial	19		14	33
Total deferred	164	(b)	39	203
Income tax expense	$ 633		$ 246	$ 879
Year ended December 31, 2017				
Current:				
Country	$ 1,305		$ 194	$ 1,499
U.S. state / Canadian provincial	34		61	95
Total current	1,339	(a)	255	1,594
Deferred:				
Country	(2,522)		(29)	(2,551)
U.S. state / Canadian provincial	23		(15)	8
Total deferred	(2,499)	(b)	(44)	(2,543)
Income tax expense (benefit)	$ (1,160)		$ 211	$ (949)

(a) Current income tax expense includes a $21 million benefit and a $781 million expense related to our Tax Reform adjustment for the years ended December 31, 2018 and 2017, respectively, as described in *"Tax Reform"* below.

(b) Deferred income tax expense (benefit) includes a $9 million expense and a $2.6 billion benefit related to our Tax Reform adjustment for the years ended December 31, 2018 and 2017, respectively, as described in *"Tax Reform"* below.

Income Taxes Paid (Refunded)

Income taxes paid to (received from) U.S. and international taxing authorities were as follows (in millions):

	Year Ended December 31,		
	2019	2018	2017
U.S.	$ (298) (a)	$ 1,016	$ 239
International	182	345	171
Income taxes paid (refunded), net	$ (116)	$ 1,361	$ 410

(a) This amount includes a refund of $348 million, including interest, that we received related to the settlement of the combined audit of our U.S. federal income tax returns for 2010 and 2011. See "*Tax Returns Under Audit* – U.S. Federal" below.

Deferred Income Tax Assets and Liabilities

The tax effects of significant temporary differences representing deferred income tax assets and liabilities were as follows (in millions):

	December 31,	
	2019	2018
Deferred income tax assets:		
Tax credit carryforwards	$ 683	$ 644
Net operating losses (NOLs)	582	523
Inventories	141	101
Compensation and employee benefit liabilities	213	175
Environmental liabilities	69	71
Other	156	141
Total deferred income tax assets	1,844	1,655
Valuation allowance	(1,200)	(1,111)
Net deferred income tax assets	644	544
Deferred income tax liabilities:		
Property, plant, and equipment	4,924	4,589
Deferred turnaround costs	331	316
Inventories	217	287
Investments	122	142
Other	153	172
Total deferred income tax liabilities	5,747	5,506
Net deferred income tax liabilities	$ 5,103	$ 4,962

We had the following income tax credit and loss carryforwards as of December 31, 2019 (in millions):

	Amount	Expiration
U.S. state income tax credits (gross amount)	$ 89	2020 through 2033
U.S. state income tax credits (gross amount)	17	Unlimited
U.S. foreign tax credits	598	2027
U.S. state NOLs (gross amount)	10,913	2020 through 2039

We have recorded a valuation allowance as of December 31, 2019 and 2018 due to uncertainties related to our ability to utilize some of our deferred income tax assets associated with our U.S. foreign tax credits and certain U.S. state income tax credits and NOLs before they expire. The valuation allowance is based on our estimates of future taxable income in the various jurisdictions in which we operate and the period over which deferred income tax assets will be recoverable. The valuation allowance increased by $89 million in 2019 primarily due to an increase in excess U.S. foreign tax credits as well as U.S. state income tax NOLs.

As a part of completing our accounting for Tax Reform in 2018 as described in *"Tax Reform"* below, we assessed our ability to use our foreign tax credits to offset the tax on the deemed repatriation of the accumulated earnings and profits of our international subsidiaries and concluded that our foreign tax credit carryforwards were not more likely than not to be realized, and we recorded a full valuation allowance against the deferred income tax asset associated with those carryforwards.

As described in *"Tax Reform"* below, one of the most significant changes in Tax Reform was the shift from a worldwide system of taxation to a hybrid territorial system. The shift to a hybrid territorial system allows us to distribute cash via a dividend from our international subsidiaries with a full dividend received deduction in the U.S. As a result, we will not recognize U.S. federal deferred taxes for the future tax consequences attributable to undistributed earnings of our international subsidiaries. However, there may be a cost to repatriate the undistributed earnings of certain of our international subsidiaries to us, including, but not limited to, withholding taxes imposed by certain international jurisdictions and U.S. state income taxes. As of December 31, 2019, the cumulative undistributed earnings of these subsidiaries that is considered permanently reinvested in those countries were approximately $4.2 billion. It is not practicable to estimate the amount of additional tax that would be payable on those earnings, if distributed.

Unrecognized Tax Benefits

Change in Unrecognized Tax Benefits

The following is a reconciliation of the change in unrecognized tax benefits, excluding related interest and penalties, (in millions):

	Year Ended December 31,		
	2019	2018	2017
Balance as of beginning of year	$ 970	$ 941	$ 936
Additions for tax positions related to the current year	19	23	33
Additions for tax positions related to prior years	30	28	15
Reductions for tax positions related to prior years	(101)	(19)	(42)
Reductions for tax positions related to the lapse of applicable statute of limitations	(14)	(1)	(1)
Settlements	(7)	(2)	—
Balance as of end of year	$ 897	$ 970	$ 941

Liability for Unrecognized Tax Benefits

The following is a reconciliation of unrecognized tax benefits to our liability for unrecognized tax benefits presented in our balance sheets (in millions).

	December 31,	
	2019	2018
Unrecognized tax benefits	$ 897	$ 970
Tax refund claims not yet filed but that we intend to file	(29)	(277)
Interest and penalties	100	88
Liability for unrecognized tax benefits presented in our balance sheets	$ 968	$ 781

Our liability for unrecognized tax benefits is reflected in the following balance sheet line items (in millions):

	December 31,	
	2019	2018
Income taxes payable	$ —	$ 42
Other long-term liabilities	954	721
Deferred tax liabilities	14	18
Liability for unrecognized tax benefits presented in our balance sheets	$ 968	$ 781

As of December 31, 2019, our liability for unrecognized tax benefits includes $525 million of refund claims associated with taxes paid on incentive payments received from the U.S. federal government for blending biofuels into refined petroleum products. We recorded a tax refund receivable of $525 million in connection with our refund claims, but we also recorded a liability for unrecognized tax benefits of $525 million due to the complexity of this matter and uncertainties with respect to sustaining these refund claims. Therefore, our financial position, results of operations, and liquidity will not be negatively impacted if we are unsuccessful in sustaining these refund claims.

Other Disclosures

As of December 31, 2019 and 2018, there was $762 million and $807 million, respectively, of unrecognized tax benefits that if recognized would reduce our annual effective tax rate.

Interest and penalties incurred during the years ended December 31, 2019, 2018, and 2017 was immaterial.

Although reasonably possible, we do not anticipate that any of our tax audits will be resolved in 2020 that would result in a reduction in our liability for unrecognized tax benefits due to the tax positions being sustained or due to our agreement of their disallowance. Should any reductions occur, we do not expect they would have a significant impact on our financial statements because such reductions would not significantly affect our annual effective tax rate.

Tax Returns Under Audit

U.S. Federal

In 2019, we settled the combined audit related to our U.S. federal income tax returns for 2010 and 2011 and received a refund of $348 million, including interest. We did not have a significant change to our liability for unrecognized tax benefits upon settlement of the audit. As of December 31, 2019, our U.S. federal income tax returns for 2012 through 2015 were under audit by the IRS. The IRS has proposed adjustments and we are working with the IRS to resolve these matters. We believe that these matters will be resolved for amounts consistent with our liability for unrecognized tax benefits associated with these matters.

We have amended our U.S federal income tax returns for 2005 through 2011 to exclude from taxable income incentive payments received from the U.S. federal government for blending biofuels into refined petroleum products, and we have claimed $525 million in refunds. The 2005 through 2009 amended return refund claims have been disallowed by the IRS and we are currently evaluating our options to contest the disallowance of these adjustments. As noted above in the discussion of our liability for unrecognized tax benefits, an ultimate disallowance of these refund claims would not negatively impact our financial position, results of operations, and liquidity.

U.S. State

As of December 31, 2019, our California tax returns for 2004 through 2008 and 2011 through 2016 were under audit by the state of California. We do not expect the ultimate disposition of these audits will result in a material change to our financial position, results of operations, or liquidity. We believe these audits will be resolved for amounts consistent with the liability for unrecognized tax benefits associated with these audits.

International

As of December 31, 2019, our Canadian subsidiary's federal tax returns for 2013 through 2016 were under audit by the Canada Revenue Agency (CRA) and our Quebec provincial tax returns for 2013 through 2016 were under audit by Revenue Quebec. We are currently protesting the proposed adjustments by the CRA for 2013 and 2014 and we do not expect the ultimate disposition of these adjustments will result in a material change to our financial position, results of operations, or liquidity.

Tax Reform

On December 22, 2017, the Tax Cuts and Jobs Act of 2017 (Tax Reform) was enacted, which resulted in significant changes to the Code and was effective beginning on January 1, 2018. The most significant changes affecting us are as follows:

- reduction in the statutory income tax rate from 35 percent to 21 percent;
- assessment of a one-time transition tax on deemed repatriated earnings and profits from our international subsidiaries;
- shift from a worldwide system of taxation to a hybrid territorial system of taxation, resulting in a minimum tax on the income of international subsidiaries (the GILTI tax) rather than a tax deferral on such earnings in certain circumstances;
- deduction for all of the costs to acquire or construct certain business assets in the year they are placed in service through 2022; and
- repeal of the manufacturing deduction;

The following narrative describes the activity that occurred with respect to Tax Reform for the years ended December 31, 2017 and 2018.

We reflected an overall income tax benefit of $1.9 billion for the year ended December 31, 2017 with respect to Tax Reform as a result of the following:

- We remeasured our U.S. deferred tax assets and liabilities using the 21 percent rate, which resulted in a tax benefit and a reduction to our net deferred tax liabilities of $2.6 billion.
- We recognized a one-time transition tax of $734 million on the deemed repatriation of previously undistributed accumulated earnings and profits of our international subsidiaries based on approximately $4.7 billion of the combined earnings and profits of our international subsidiaries that had not been distributed to us. This transition tax will be remitted to the Internal Revenue Service (IRS) over the eight-year period provided in the Code, with the first annual remittance paid in 2018.
- We accrued withholding tax of $47 million on a portion of the earnings of one of our international subsidiaries that we have deemed to not be permanently reinvested in our operations in that country.

Because of the significant and complex changes to the Code from Tax Reform, including the need for regulatory guidance from the IRS to properly account for many of the provisions, the SEC issued Staff Accounting Bulletin No. 118, "Income Tax Accounting Implications of the Tax Cuts and Jobs Act," which required that the effects of Tax Reform be recorded for items where the accounting was complete, as well as for items where a reasonable estimate could be made (referred to as provisional amounts). For items where reasonable estimates could not be made, provisional amounts were not recorded and those items continued to be accounted for under the Code prior to changes from Tax Reform until a reasonable estimate could be made.

The following table summarizes the components of our adjustment (in millions) to reflect the effects of Tax Reform for the years ended December 31, 2018 and 2017, including whether such amounts were complete, provisional, or incomplete. The amounts presented for 2018 were completed during the fourth quarter of 2018.

	Year Ended December 31,				
	2017		2018		
	Accounting Status	Amount	Accounting Status	Amount	Cumulative Tax Reform Adjustment
Income tax benefit from the remeasurement of U.S. deferred income tax assets and liabilities	Complete	$ (2,643)	Complete	$ —	$ (2,643)
Tax on the deemed repatriation of the accumulated earnings and profits of our international subsidiaries	Provisional	734	Complete	6	740
Recognition of foreign withholding tax, net of U.S. federal tax benefit	Complete	47	Complete	—	47
Deductibility of certain executive compensation expense	Incomplete	—	Complete	5	5
Income tax expense associated with the statutory income tax rate differential on accrual to return adjustments that were identified upon completion of our U.S. federal income tax return in 2018	Incomplete	—	Complete	9	9
Foreign tax credit available to offset the tax on deemed repatriation of the accumulated earnings and profits of our international subsidiaries	Incomplete	—	Complete	(32)	(32)
Tax Reform benefit		$ (1,862)		$ (12)	$ (1,874)

16. EARNINGS PER COMMON SHARE

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

	Year Ended December 31,		
	2019	2018	2017
Earnings per common share			
Net income attributable to Valero stockholders	$ 2,422	$ 3,122	$ 4,065
Less: Income allocated to participating securities	7	9	14
Net income available to common shareholders	$ 2,415	$ 3,113	$ 4,051
Weighted-average common shares outstanding	413	426	442
Earnings per common share	$ 5.84	$ 7.30	$ 9.17
Earnings per common share – assuming dilution			
Net income attributable to Valero stockholders	$ 2,422	$ 3,122	$ 4,065
Weighted-average common shares outstanding	413	426	442
Effect of dilutive securities	1	2	2
Weighted-average common shares outstanding – assuming dilution	414	428	444
Earnings per common share – assuming dilution	$ 5.84	$ 7.29	$ 9.16

Participating securities include restricted stock and performance awards granted under our 2011 Omnibus Stock Incentive Plan. Dilutive securities include participating securities as well as outstanding stock options granted under our 2011 Omnibus Stock Incentive Plan.

17. REVENUES AND SEGMENT INFORMATION

Revenue from Contracts with Customers

Disaggregation of Revenue

Revenue is presented in the table below under *"Segment Information"* disaggregated by product because this is the level of disaggregation that management has determined to be beneficial to users of our financial statements.

Receivables from Contracts with Customers

Our receivables from contracts with customers are included in "receivables, net" as presented in Note 3.

Contract Liabilities from Contracts with Customers

Our contract liabilities from contracts with customers are included in accrued expenses as presented in Note 8. Substantially all of the contract liabilities as of December 31, 2018 were recognized into revenue during the year ended December 31, 2019.

Remaining Performance Obligations

We have spot and term contracts with customers, the majority of which are spot contracts with no remaining performance obligations. We do not disclose remaining performance obligations for contracts that have terms of one year or less. The transaction price for our remaining term contracts includes a fixed component and variable consideration (i.e., a commodity price), both of which are allocated entirely to a wholly unsatisfied promise to transfer a distinct good that forms part of a single performance obligation. The fixed component is not material and the variable consideration is highly uncertain. Therefore, as of December 31, 2019, we have not disclosed the aggregate amount of the transaction price allocated to our remaining performance obligations.

Segment Information

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 DGD, which were transferred from the refining 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 described in Note 2, 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. Our prior period segment information has been retrospectively adjusted to reflect our current segment presentation.

We have three reportable segments — refining, ethanol, and renewable diesel. Each segment is a strategic business unit that offers different products and services by employing unique technologies and marketing strategies and whose operations and operating performance are managed and evaluated separately. Operating performance is measured based on the operating income generated by the segment, which includes revenues and expenses that are directly attributable to the management of the respective segment. Intersegment sales are generally derived from transactions made at prevailing market rates. The following is a description of each segment's business operations.

- The *refining segment* includes the operations of our 15 petroleum refineries, the associated marketing activities, and logistics assets that support our refining operations. The principal products manufactured by our refineries and sold by this segment include gasolines and blendstocks, distillates, and other products.
- The *ethanol segment* includes the operations of our 14 ethanol plants, the associated marketing activities, and logistics assets that support our ethanol operations. The principal products manufactured by our ethanol plants are ethanol and distillers grains. This segment sells some ethanol to the refining segment for blending into gasoline, which is sold to that segment's customers as a finished gasoline product.

- The *renewable diesel segment* includes the operations of DGD, our consolidated joint venture as discussed in Note 12. The principal product manufactured by DGD and sold by this segment is renewable diesel. This segment sells some renewable diesel to the refining segment, which is then sold to that segment's customers.

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

The following tables reflect information about our operating income and total expenditures for long-lived assets by reportable segment (in millions):

	Refining	Ethanol	Renewable Diesel	Corporate and Eliminations	Total
Year ended December 31, 2019					
Revenues:					
Revenues from external customers	$ 103,746	$ 3,606	$ 970	$ 2	$ 108,324
Intersegment revenues	18	231	247	(496)	—
Total revenues	103,764	3,837	1,217	(494)	108,324
Cost of sales:					
Cost of materials and other	93,371	3,239	360	(494)	96,476
Operating expenses (excluding depreciation and amortization expense reflected below)	4,289	504	75	—	4,868
Depreciation and amortization expense	2,062	90	50	—	2,202
Total cost of sales	99,722	3,833	485	(494)	103,546
Other operating expenses	20	1	—	—	21
General and administrative expenses (excluding depreciation and amortization expense reflected below)	—	—	—	868	868
Depreciation and amortization expense	—	—	—	53	53
Operating income by segment	$ 4,022	$ 3	$ 732	$ (921)	$ 3,836
Total expenditures for long-lived assets (a)	$ 2,581	$ 47	$ 160	$ 58	$ 2,846

(a) See note on page 123.

	Refining	Ethanol	Renewable Diesel	Corporate and Eliminations	Total
Year ended December 31, 2018					
Revenues:					
Revenues from external customers	$ 113,093	$ 3,428	$ 508	$ 4	$ 117,033
Intersegment revenues	25	210	170	(405)	—
Total revenues	113,118	3,638	678	(401)	117,033
Cost of sales:					
Cost of materials and other	101,866	3,008	262	(404)	104,732
Operating expenses (excluding depreciation and amortization expense reflected below)	4,154	470	66	—	4,690
Depreciation and amortization expense	1,910	78	29	—	2,017
Total cost of sales	107,930	3,556	357	(404)	111,439
Other operating expenses	45	—	—	—	45
General and administrative expenses (excluding depreciation and amortization expense reflected below)	—	—	—	925	925
Depreciation and amortization expense	—	—	—	52	52
Operating income by segment	$ 5,143	$ 82	$ 321	$ (974)	$ 4,572
Total expenditures for long-lived assets (a)	$ 2,767	$ 373	$ 192	$ 44	$ 3,376
Year ended December 31, 2017					
Revenues:					
Revenues from external customers	$ 90,258	$ 3,324	$ 393	$ 5	$ 93,980
Intersegment revenues	8	176	241	(425)	—
Total revenues	90,266	3,500	634	(420)	93,980
Cost of sales:					
Cost of materials and other	80,160	2,804	498	(425)	83,037
Operating expenses (excluding depreciation and amortization expense reflected below)	4,014	443	47	—	4,504
Depreciation and amortization expense	1,824	81	29	—	1,934
Total cost of sales	85,998	3,328	574	(425)	89,475
Other operating expenses	61	—	—	—	61
General and administrative expenses (excluding depreciation and amortization expense reflected below)	—	—	—	829	829
Depreciation and amortization expense	—	—	—	52	52
Operating income by segment	$ 4,207	$ 172	$ 60	$ (876)	$ 3,563
Total expenditures for long-lived assets (a)	$ 1,732	$ 84	$ 88	$ 44	$ 1,948

(a) Total expenditures for long-lived assets includes amounts related to capital expenditures; deferred turnaround and catalyst costs; and property, plant, and equipment for acquisitions.

The following table provides a disaggregation of revenues from external customers for our principal products by reportable segment (in millions).

	Year Ended December 31,		
	2019	2018	2017
Refining:			
Gasolines and blendstocks	$ 42,798	$ 46,596	$ 40,347
Distillates	51,942	55,037	41,680
Other product revenues	9,006	11,460	8,231
Total refining revenues	103,746	113,093	90,258
Ethanol:			
Ethanol	2,889	2,713	2,764
Distillers grains	717	715	560
Total ethanol revenues	3,606	3,428	3,324
Renewable diesel:			
Renewable diesel	970	508	393
Corporate – other revenues	2	4	5
Revenues	$ 108,324	$ 117,033	$ 93,980

Revenues by geographic area are shown in the following table (in millions). The geographic area is based on location of customer and no customer accounted for 10 percent or more of our revenues.

	Year Ended December 31,		
	2019	2018	2017
U.S.	$ 77,173	$ 82,992	$ 66,614
Canada	7,915	9,211	7,039
U.K. and Ireland	13,584	15,208	11,556
Other countries	9,652	9,622	8,771
Revenues	$ 108,324	$ 117,033	$ 93,980

Long-lived assets include property, plant, and equipment and certain long-lived assets included in “deferred charges and other assets, net.” Long-lived assets by geographic area consisted of the following (in millions):

	December 31,	
	2019	2018
U.S.	$ 27,485	$ 27,475
Canada	1,886	1,798
U.K. and Ireland	1,232	1,113
Other countries	497	266
Total long-lived assets	$ 31,100	$ 30,652

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

	December 31,	
	2019	2018
Refining	$ 47,067	$ 43,488
Ethanol	1,615	1,691
Renewable diesel	1,412	787
Corporate and eliminations	3,770	4,189
Total assets	$ 53,864	$ 50,155

As of December 31, 2019 and 2018, our investments in unconsolidated joint ventures accounted for under the equity method were $942 million and $542 million, respectively, all of which related to the refining segment and are reflected in "deferred charges and other assets, net" as presented in Note 7.

18. SUPPLEMENTAL CASH FLOW INFORMATION

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

	Year Ended December 31,		
	2019	2018	2017
Decrease (increase) in current assets:			
Receivables, net	$ (1,468)	$ (457)	$ (870)
Inventories	(385)	(197)	(516)
Prepaid expenses and other	427	(77)	151
Increase (decrease) in current liabilities:			
Accounts payable	1,534	304	1,842
Accrued expenses	(27)	(113)	21
Taxes other than income taxes payable	60	(73)	172
Income taxes payable	153	(684)	489
Changes in current assets and current liabilities	$ 294	$ (1,297)	$ 1,289

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

	Year Ended December 31,		
	2019	2018	2017
Interest paid in excess of amount capitalized, including interest on finance leases	$ 452	$ 463	$ 457
Income taxes paid (refunded), net (see Note 15)	(116)	1,361	410

Supplemental cash flow information related to our operating and finance leases was as follows (in millions):

	Year Ended December 31, 2019	
	Operating Leases	Finance Leases
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows	$ 441	$ 50
Investing cash flows	1	—
Financing cash flows	—	34
Changes in lease balances resulting from new and modified leases (a)	1,756	239

(a) Includes noncash activity of $1.3 billion for operating lease ROU assets recorded on January 1, 2019 upon adoption of Topic 842.

Noncash investing and financing activities for the year ended December 31, 2019 also included the derecognition of the property, plant, and equipment and the related long-term liability associated with a build-to-suit lease arrangement with respect to the MVP Terminal, and the subsequent recognition of our investment in MVP, which is the unconsolidated joint venture that owns the MVP Terminal, as described in Note 10.

Noncash investing and financing activities for the years ended December 31, 2018 and 2017 included the recognition of (i) finance lease assets and related obligations primarily for the lease of storage tanks and (ii) terminal assets and related obligations under owner accounting as described in Note 10.

19. FAIR VALUE MEASUREMENTS

General

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

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

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

- *Level 1* - Observable inputs, such as unadjusted quoted prices in active markets for identical assets or liabilities.

- *Level 2* - Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

- *Level 3* - Unobservable inputs for the asset or liability. Unobservable inputs reflect our own assumptions about what market participants would use to price the asset or liability. The inputs are developed based on the best information available in the circumstances, which might include occasional market quotes or sales of similar instruments or our own financial data such as internally developed pricing models, discounted cash flow methodologies, as well as instruments for which the fair value determination requires significant judgment.

Recurring Fair Value Measurements

The following tables present information (in millions) about our assets and liabilities recognized at their fair values in our balance sheets categorized according to the fair value hierarchy of the inputs utilized by us to determine the fair values as of December 31, 2019 and 2018.

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

	December 31, 2019							
	Fair Value Hierarchy			Total Gross Fair Value	Effect of Counter-party Netting	Effect of Cash Collateral Netting	Net Carrying Value on Balance Sheet	Cash Collateral Paid or Received Not Offset
	Level 1	Level 2	Level 3					
Assets								
Commodity derivative contracts	$ 617	$ —	$ —	$ 617	$ (612)	$ —	$ 5	$ —
Foreign currency contracts	27	—	—	27	n/a	n/a	27	n/a
Investments of certain benefit plans	65	—	9	74	n/a	n/a	74	n/a
Total	$ 709	$ —	$ 9	$ 718	$ (612)	$ —	$ 106	
Liabilities								
Commodity derivative contracts	$ 668	$ —	$ —	$ 668	$ (612)	$ (56)	$ —	$ (84)
Environmental credit obligations	—	2	—	2	n/a	n/a	2	n/a
Physical purchase contracts	—	3	—	3	n/a	n/a	3	n/a
Foreign currency contracts	10	—	—	10	n/a	n/a	10	n/a
Total	$ 678	$ 5	$ —	$ 683	$ (612)	$ (56)	$ 15	

	December 31, 2018							
	Fair Value Hierarchy			Total Gross Fair Value	Effect of Counter-party Netting	Effect of Cash Collateral Netting	Net Carrying Value on Balance Sheet	Cash Collateral Paid or Received Not Offset
	Level 1	Level 2	Level 3					
Assets								
Commodity derivative contracts	$ 2,792	$ —	$ —	$ 2,792	$ (2,669)	$ (34)	$ 89	$ —
Foreign currency contracts	4	—	—	4	n/a	n/a	4	n/a
Investments of certain benefit plans	60	—	9	69	n/a	n/a	69	n/a
Total	$ 2,856	$ —	$ 9	$ 2,865	$ (2,669)	$ (34)	$ 162	
Liabilities								
Commodity derivative contracts	$ 2,681	$ —	$ —	$ 2,681	$ (2,669)	$ (12)	$ —	$ (136)
Environmental credit obligations	—	13	—	13	n/a	n/a	13	n/a
Physical purchase contracts	—	5	—	5	n/a	n/a	5	n/a
Foreign currency contracts	1	—	—	1	n/a	n/a	1	n/a
Total	$ 2,682	$ 18	$ —	$ 2,700	$ (2,669)	$ (12)	$ 19	

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

- Commodity derivative contracts consist primarily of exchange-traded futures, which are used to reduce the impact of price volatility on our results of operations and cash flows as discussed in Note 20. These contracts are measured at fair value using a market approach based on quoted prices from the commodity exchange and are categorized in Level 1 of the fair value hierarchy.

- Physical purchase contracts represent the fair value of fixed-price corn purchase contracts. The fair values of these purchase contracts are measured using a market approach based on quoted prices from the commodity exchange or an independent pricing service and are categorized in Level 2 of the fair value hierarchy.

- Investments of certain benefit plans consist of investment securities held by trusts for the purpose of satisfying a portion of our obligations under certain U.S. nonqualified benefit plans. The plan assets categorized in Level 1 of the fair value hierarchy are measured at fair value using a market approach based on quoted prices from national securities exchanges. The plan assets categorized in Level 3 of the fair value hierarchy represent insurance contracts, the fair value of which is provided by the insurer.

- Foreign currency contracts consist of foreign currency exchange and purchase contracts and foreign currency swap agreements related to our international operations to manage our exposure to exchange rate fluctuations on transactions denominated in currencies other than the local (functional) currencies of our operations. These contracts are valued based on quoted foreign currency exchange rates and are categorized in Level 1 of the fair value hierarchy.

- Environmental credit obligations represent our liability for the purchase of (i) biofuel credits (primarily RINs in the U.S.) needed to satisfy our obligation to blend biofuels into the products we produce and (ii) emission credits under the *California Global Warming Solutions Act* (the California cap-and-trade system, also known as AB 32) and similar programs, (collectively, the cap-and-trade systems). To the degree we are unable to blend biofuels (such as ethanol and biodiesel) at percentages required under the biofuel programs, we must purchase biofuel credits to comply with these programs. Under the cap-and-trade systems, we must purchase emission credits to comply with these systems. These programs are described in Note 20 under “Environmental Compliance Program Price Risk.” The liability for environmental credits is based on our deficit for such credits as of the balance sheet date, if any, after considering any credits acquired or under contract, and is equal to the product of the credits deficit and the market price of these credits as of the balance sheet date. The environmental credit obligations are categorized in Level 2 of the fair value hierarchy and are measured at fair value using the market approach based on quoted prices from an independent pricing service.

There were no transfers into or out of Level 3 for assets and liabilities held as of December 31, 2019 and 2018 that were measured at fair value on a recurring basis.

There was no significant activity during the years ended December 31, 2019, 2018, and 2017 related to the fair value amounts categorized in Level 3 as of December 31, 2019 and 2018.

Nonrecurring Fair Value Measurements
There were no assets or liabilities that were measured at fair value on a nonrecurring basis as of December 31, 2019 and 2018.

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

		December 31, 2019		December 31, 2018	
	Fair Value Hierarchy	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Financial assets					
Cash and cash equivalents	Level 1	$ 2,583	$ 2,583	$ 2,982	$ 2,982
Financial liabilities					
Debt (excluding finance leases)	Level 2	8,881	10,583	8,503	8,986

20. PRICE RISK MANAGEMENT ACTIVITIES

We are exposed to market risks primarily related to the volatility in the price of commodities, foreign currency exchange rates, and the price of credits needed to comply with various government and regulatory programs. We enter into derivative instruments to manage some of these risks, including derivative instruments related to the various commodities we purchase or produce, and foreign currency exchange and purchase contracts, as described below under *"Risk Management Activities by Type of Risk."* These derivative instruments are recorded as either assets or liabilities measured at their fair values (see Note 19), as summarized below under *"Fair Values of Derivative Instruments."* The effect of these derivative instruments on our income is summarized below under *"Effect of Derivative Instruments on Income."*

Risk Management Activities by Type of Risk

Commodity Price Risk

We are exposed to market risks related to the volatility in the price of crude oil, refined petroleum products (primarily gasoline and distillate), renewable diesel, grain (primarily corn), renewable diesel feedstocks, and natural gas used in our operations. To reduce the impact of price volatility on our results of operations and cash flows, we use commodity derivative instruments, such as futures and options. Our positions in commodity derivative instruments are monitored and managed on a daily basis by our risk control group to ensure compliance with our stated risk management policy that has been approved by our board of directors.

We primarily use commodity derivative instruments as cash flow hedges and economic hedges. Our objectives for entering into each type of hedge is described below.

- *Cash flow hedges* – The objective of our cash flow hedges is to lock in the price of forecasted (i) feedstock, refined petroleum product, or natural gas purchases, or (ii) refined petroleum product or renewable diesel sales at existing market prices that we deem favorable.

- *Economic hedges* – Our objectives for holding economic hedges are to (i) manage price volatility in certain feedstock and refined petroleum product inventories and fixed-price purchase contracts, and (ii) lock in the price of forecasted feedstock, refined petroleum product, or natural gas purchases or refined petroleum product or renewable diesel sales at existing market prices that we deem favorable.

As of December 31, 2019, we had the following outstanding commodity derivative instruments that were used as cash flow hedges and economic hedges, as well as commodity derivative instruments related to the physical purchase of corn at a fixed price. The information presents the notional volume of outstanding contracts by type of instrument and year of maturity (volumes in thousands of barrels, except corn contracts that are presented in thousands of bushels).

	Notional Contract Volumes by Year of Maturity	
	2020	**2021**
Derivatives designated as cash flow hedges		
Renewable diesel:		
Futures – long	995	—
Futures – short	2,492	—
Derivatives designated as economic hedges		
Crude oil and refined petroleum products:		
Futures – long	73,348	2
Futures – short	76,045	—
Options – long	1,550	—
Options – short	1,550	—
Corn:		
Futures – long	50,120	—
Futures – short	66,575	295
Physical contracts – long	22,055	306

Foreign Currency Risk

We are exposed to exchange rate fluctuations on transactions related to our international operations that are denominated in currencies other than the local (functional) currencies of our operations. To manage our exposure to these exchange rate fluctuations, we use foreign currency contracts. These contracts are not designated as hedging instruments for accounting purposes and therefore are classified as economic hedges. As of December 31, 2019, we had foreign currency contracts to purchase $739 million of U.S. dollars and $2.3 billion of U.S. dollar equivalent Canadian dollars. All of these commitments matured on or before February 15, 2020.

Environmental Compliance Program Price Risk

We are exposed to market risk related to the volatility in the price of credits needed to comply with various governmental and regulatory environmental compliance programs. To manage this risk, we enter into contracts to purchase these credits when prices are deemed favorable. Some of these contracts are derivative instruments; however, we elect the normal purchase exception and do not record these contracts at their fair values. Certain of these programs require us to blend biofuels into the products we produce, and we are subject to such programs in most of the countries in which we operate. These countries set annual quotas for the percentage of biofuels that must be blended into the motor fuels consumed in these countries. As a producer of motor fuels from petroleum, we are obligated to blend biofuels into the products we produce at a rate that is at least equal to the applicable quota. To the degree we are unable to blend at the applicable rate, we must purchase biofuel credits (primarily RINs in the U.S.). We are exposed to the volatility in the market price of these credits, and we manage that risk by purchasing biofuel credits when prices are deemed favorable. For the years ended December 31, 2019, 2018, and 2017, the cost of meeting our obligations under these compliance programs was $318 million, $536 million, and $942 million, respectively. These amounts are reflected in cost of materials and other.

We are subject to additional requirements under GHG emission programs, including the cap-and-trade systems, as discussed in Note 19. Under these cap-and-trade systems, we purchase various GHG emission credits available on the open market. Therefore, we are exposed to the volatility in the market price of these credits. The cost to implement certain provisions of the cap-and-trade systems are significant; however, we recovered the majority of these costs from our customers for the years ended December 31, 2019, 2018, and 2017 and expect to continue to recover the majority of these costs in the future. For the years ended December 31, 2019, 2018, and 2017, the net cost of meeting our obligations under these compliance programs was immaterial.

Fair Values of Derivative Instruments
The following tables provide information about the fair values of our derivative instruments as of December 31, 2019 and 2018 (in millions) and the line items in the balance sheets in which the fair values are reflected. See Note 19 for additional information related to the fair values of our derivative instruments.

As indicated in Note 19, we net fair value amounts recognized for multiple similar derivative contracts executed with the same counterparty under master netting arrangements, including cash collateral assets and obligations. The following tables, however, are presented on a gross asset and gross liability basis, which results in the reflection of certain assets in liability accounts and certain liabilities in asset accounts.

		December 31, 2019		December 31, 2018	
	Balance Sheet Location	Asset Derivatives	Liability Derivatives	Asset Derivatives	Liability Derivatives
Derivatives designated as hedging instruments					
Commodity contracts	Receivables, net	$ 9	$ 20	$ —	$ —
Derivatives not designated as hedging instruments					
Commodity contracts	Receivables, net	$ 608	$ 648	$ 2,792	$ 2,681
Physical purchase contracts	Inventories	—	3	—	5
Foreign currency contracts	Receivables, net	27	—	4	—
Foreign currency contracts	Accrued expenses	—	10	—	1
Total		$ 635	$ 661	$ 2,796	$ 2,687

Market Risk
Our price risk management activities involve the receipt or payment of fixed price commitments into the future. These transactions give rise to market risk, which is the risk that future changes in market conditions

may make an instrument less valuable. We closely monitor and manage our exposure to market risk on a daily basis in accordance with policies approved by our board of directors. Market risks are monitored by our risk control group to ensure compliance with our stated risk management policy. We do not require any collateral or other security to support derivative instruments into which we enter. We also do not have any derivative instruments that require us to maintain a minimum investment-grade credit rating.

Effect of Derivative Instruments on Income

The following table provides information about the gain (loss) recognized in income on our derivative instruments and the line items in the statements of income in which such gains (losses) are reflected (in millions).

Derivatives Not Designated as Hedging Instruments	Location of Gain (Loss) Recognized in Income on Derivatives	Year Ended December 31, 2019	2018	2017
Commodity contracts	Revenues	$ 5	$ —	$ —
Commodity contracts	Cost of materials and other	(68)	(165)	(278)
Commodity contracts	Operating expenses (excluding depreciation and amortization expense)	—	7	—
Foreign currency contracts	Cost of materials and other	(21)	56	(40)
Foreign currency contracts	Other income, net	75	(43)	—

21. CONDENSED CONSOLIDATING FINANCIAL STATEMENTS

In connection with the completion of the Merger Transaction as described in Note 2, Valero Energy Corporation, the parent company, entered into a guarantee agreement to fully and unconditionally guarantee the prompt payment, when due, of the following debt issued by Valero Energy Partners LP, an indirect wholly owned subsidiary of Valero Energy Corporation, that was outstanding as of December 31, 2019:

- 4.375 percent Senior Notes due December 15, 2026, and
- 4.5 percent Senior Notes due March 15, 2028.

The following condensed consolidating financial information is provided as an alternative to providing separate financial statements for Valero Energy Partners LP, which has no independent assets or operations. The financial position, results of operations, and cash flows of Valero Energy Partners LP’s wholly owned subsidiaries are included in “Other Non-Guarantor Subsidiaries.” The accounts for all companies reflected herein are presented using the equity method of accounting for investments in subsidiaries.

Condensed Consolidating Balance Sheet
December 31, 2019
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
ASSETS					
Current assets:					
Cash and cash equivalents	$ 912	$ —	$ 1,671	$ —	$ 2,583
Receivables, net	—	—	8,904	—	8,904
Receivables from affiliates	4,336	—	13,806	(18,142)	—
Inventories	—	—	7,013	—	7,013
Prepaid expenses and other	63	—	406	—	469
Total current assets	5,311	—	31,800	(18,142)	18,969
Property, plant and equipment, at cost	—	—	44,294	—	44,294
Accumulated depreciation	—	—	(15,030)	—	(15,030)
Property, plant and equipment, net	—	—	29,264	—	29,264
Investment in affiliates	37,902	2,673	382	(40,957)	—
Deferred charges and other assets, net	771	—	4,860	—	5,631
Total assets	$ 43,984	$ 2,673	$ 66,306	$ (59,099)	$ 53,864
LIABILITIES AND EQUITY					
Current liabilities:					
Current portion of debt and finance lease obligations	$ —	$ —	$ 494	$ —	$ 494
Accounts payable	—	—	10,205	—	10,205
Accounts payable to affiliates	12,515	1,291	4,336	(18,142)	—
Accrued expenses	120	7	822	—	949
Taxes other than income taxes payable	—	—	1,304	—	1,304
Income taxes payable	108	—	100	—	208
Total current liabilities	12,743	1,298	17,261	(18,142)	13,160
Debt and finance lease obligations, less current portion	7,095	991	1,092	—	9,178
Deferred income tax liabilities	—	2	5,101	—	5,103
Other long-term liabilities	2,343	—	1,544	—	3,887
Equity:					
Stockholders' equity:					
Common stock	7	—	1	(1)	7
Additional paid-in capital	6,821	—	9,771	(9,771)	6,821
Treasury stock, at cost	(15,648)	—	—	—	(15,648)
Retained earnings	31,974	—	31,636	(31,636)	31,974
Partners' equity	—	382	—	(382)	—
Accumulated other comprehensive loss	(1,351)	—	(833)	833	(1,351)
Total stockholders' equity	21,803	382	40,575	(40,957)	21,803
Noncontrolling interests	—	—	733	—	733
Total equity	21,803	382	41,308	(40,957)	22,536
Total liabilities and equity	$ 43,984	$ 2,673	$ 66,306	$ (59,099)	$ 53,864

Condensed Consolidating Balance Sheet
December 31, 2018
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
ASSETS					
Current assets:					
Cash and cash equivalents	$ 291	$ 152	$ 2,539	$ —	$ 2,982
Receivables, net	—	—	7,345	—	7,345
Receivables from affiliates	4,369	2	10,684	(15,055)	—
Inventories	—	—	6,532	—	6,532
Prepaid expenses and other	466	—	355	(5)	816
Total current assets	5,126	154	27,455	(15,060)	17,675
Property, plant and equipment, at cost	—	—	42,473	—	42,473
Accumulated depreciation	—	—	(13,625)	—	(13,625)
Property, plant and equipment, net	—	—	28,848	—	28,848
Investment in affiliates	34,696	2,267	(321)	(36,642)	—
Long-term notes receivable from affiliates	285	—	—	(285)	—
Deferred charges and other assets, net	572	1	3,059	—	3,632
Total assets	$ 40,679	$ 2,422	$ 59,041	$ (51,987)	$ 50,155
LIABILITIES AND EQUITY					
Current liabilities:					
Current portion of debt and finance lease obligations	$ —	$ —	$ 238	$ —	$ 238
Accounts payable	14	—	8,580	—	8,594
Accounts payable to affiliates	9,847	837	4,370	(15,054)	—
Accrued expenses	155	7	468	—	630
Accrued expenses to affiliates	—	1	—	(1)	—
Taxes other than income taxes payable	—	—	1,213	—	1,213
Income taxes payable	53	1	—	(5)	49
Total current liabilities	10,069	846	14,869	(15,060)	10,724
Debt and finance lease obligations, less current portion	6,955	990	926	—	8,871
Long-term notes payable to affiliates	—	285	—	(285)	—
Deferred income tax liabilities	—	2	4,960	—	4,962
Other long-term liabilities	1,988	—	879	—	2,867
Equity:					
Stockholders' equity:					
Common stock	7	—	1	(1)	7
Additional paid-in capital	7,048	—	9,754	(9,754)	7,048
Treasury stock, at cost	(14,925)	—	—	—	(14,925)
Retained earnings	31,044	—	28,305	(28,305)	31,044
Partners' equity	—	299	—	(299)	—
Accumulated other comprehensive loss	(1,507)	—	(1,097)	1,097	(1,507)
Total stockholders' equity	21,667	299	36,963	(37,262)	21,667
Noncontrolling interests	—	—	444	620	1,064
Total equity	21,667	299	37,407	(36,642)	22,731
Total liabilities and equity	$ 40,679	$ 2,422	$ 59,041	$ (51,987)	$ 50,155

Condensed Consolidating Statement of Income
Year Ended December 31, 2019
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ 108,324	$ —	$ 108,324
Cost of sales:					
Cost of materials and other	—	—	96,476	—	96,476
Operating expenses (excluding depreciation and amortization expense reflected below)	—	—	4,868	—	4,868
Depreciation and amortization expense	—	—	2,202	—	2,202
Total cost of sales	—	—	103,546	—	103,546
Other operating expenses	—	—	21	—	21
General and administrative expenses (excluding depreciation and amortization expense reflected below)	6	—	862	—	868
Depreciation and amortization expense	—	—	53	—	53
Operating income (loss)	(6)	—	3,842	—	3,836
Equity in earnings of subsidiaries	3,006	406	357	(3,769)	—
Other income, net	193	—	625	(714)	104
Interest and debt expense, net of capitalized interest	(927)	(47)	(194)	714	(454)
Income before income tax expense (benefit)	2,266	359	4,630	(3,769)	3,486
Income tax expense (benefit)	(156)	—	858	—	702
Net income	2,422	359	3,772	(3,769)	2,784
Less: Net income attributable to noncontrolling interests	—	—	360	2	362
Net income attributable to stockholders	$ 2,422	$ 359	$ 3,412	$ (3,771)	$ 2,422

**Condensed Consolidating Statement of Income
Year Ended December 31, 2018
(in millions)**

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ 117,033	$ —	$ 117,033
Cost of sales:					
Cost of materials and other	—	—	104,732	—	104,732
Operating expenses (excluding depreciation and amortization expense reflected below)	—	—	4,690	—	4,690
Depreciation and amortization expense	—	—	2,017	—	2,017
Total cost of sales	—	—	111,439	—	111,439
Other operating expenses	—	—	45	—	45
General and administrative expenses (excluding depreciation and amortization expense reflected below)	2	—	923	—	925
Depreciation and amortization expense	—	—	52	—	52
Operating income (loss)	(2)	—	4,574	—	4,572
Equity in earnings of subsidiaries	3,724	319	196	(4,239)	—
Other income, net	220	2	621	(713)	130
Interest and debt expense, net of capitalized interest	(913)	(55)	(215)	713	(470)
Income before income tax expense (benefit)	3,029	266	5,176	(4,239)	4,232
Income tax expense (benefit)	(93)	2	970	—	879
Net income	3,122	264	4,206	(4,239)	3,353
Less: Net income attributable to noncontrolling interests	—	—	163	68	231
Net income attributable to stockholders	$ 3,122	$ 264	$ 4,043	$ (4,307)	$ 3,122

Condensed Consolidating Statement of Income
Year Ended December 31, 2017
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Revenues	$ —	$ —	$ 93,980	$ —	$ 93,980
Cost of sales:					
Cost of materials and other	—	—	83,037	—	83,037
Operating expenses (excluding depreciation and amortization expense reflected below)	—	—	4,504	—	4,504
Depreciation and amortization expense	—	—	1,934	—	1,934
Total cost of sales	—	—	89,475	—	89,475
Other operating expenses	—	—	61	—	61
General and administrative expenses (excluding depreciation and amortization expense reflected below)	6	—	823	—	829
Depreciation and amortization expense	—	—	52	—	52
Operating income (loss)	(6)	—	3,569	—	3,563
Equity in earnings of subsidiaries	5,236	275	176	(5,687)	—
Other income, net	290	1	415	(594)	112
Interest and debt expense, net of capitalized interest	(780)	(36)	(246)	594	(468)
Income before income tax expense (benefit)	4,740	240	3,914	(5,687)	3,207
Income tax expense (benefit)	675	2	(1,626)	—	(949)
Net income	4,065	238	5,540	(5,687)	4,156
Less: Net income attributable to noncontrolling interests	—	—	29	62	91
Net income attributable to stockholders	$ 4,065	$ 238	$ 5,511	$ (5,749)	$ 4,065

Condensed Consolidating Statement of Comprehensive Income
Year Ended December 31, 2019
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net income	$ 2,422	$ 359	$ 3,772	$ (3,769)	$ 2,784
Other comprehensive income:					
Foreign currency translation adjustment	346	—	286	(283)	349
Net loss on pension and other postretirement benefits	(234)	—	(19)	19	(234)
Net loss on cash flow hedges	(4)	—	(8)	4	(8)
Other comprehensive income before income tax benefit	108	—	259	(260)	107
Income tax benefit related to items of other comprehensive income	(48)	—	(4)	4	(48)
Other comprehensive income	156	—	263	(264)	155
Comprehensive income	2,578	359	4,035	(4,033)	2,939
Less: Comprehensive income attributable to noncontrolling interests	—	—	359	2	361
Comprehensive income attributable to stockholders	$ 2,578	$ 359	$ 3,676	$ (4,035)	$ 2,578

Condensed Consolidating Statement of Comprehensive Income
Year Ended December 31, 2018
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net income	$ 3,122	$ 264	$ 4,206	$ (4,239)	$ 3,353
Other comprehensive loss:					
Foreign currency translation adjustment	(515)	—	(419)	417	(517)
Net gain on pension and other postretirement benefits	49	—	18	(18)	49
Other comprehensive loss before income tax expense	(466)	—	(401)	399	(468)
Income tax expense related to items of other comprehensive loss	10	—	3	(3)	10
Other comprehensive loss	(476)	—	(404)	402	(478)
Comprehensive income	2,646	264	3,802	(3,837)	2,875
Less: Comprehensive income attributable to noncontrolling interests	—	—	161	68	229
Comprehensive income attributable to stockholders	$ 2,646	$ 264	$ 3,641	$ (3,905)	$ 2,646

Condensed Consolidating Statement of Comprehensive Income
Year Ended December 31, 2017
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net income	$ 4,065	$ 238	$ 5,540	$ (5,687)	$ 4,156
Other comprehensive income:					
Foreign currency translation adjustment	514	—	434	(434)	514
Net gain (loss) on pension and other postretirement benefits	(65)	—	4	(4)	(65)
Other comprehensive income before income tax expense (benefit)	449	—	438	(438)	449
Income tax expense (benefit) related to items of other comprehensive income	(21)	—	1	(1)	(21)
Other comprehensive income	470	—	437	(437)	470
Comprehensive income	4,535	238	5,977	(6,124)	4,626
Less: Comprehensive income attributable to noncontrolling interests	—	—	29	62	91
Comprehensive income attributable to stockholders	$ 4,535	$ 238	$ 5,948	$ (6,186)	$ 4,535

Condensed Consolidating Statement of Cash Flows
Year Ended December 31, 2019
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net cash provided by (used in) operating activities	$ (131)	$ (46)	$ 6,165	$ (457)	$ 5,531
Cash flows from investing activities:					
Capital expenditures (excluding VIEs)	—	—	(1,627)	—	(1,627)
Capital expenditures of VIEs:					
DGD	—	—	(142)	—	(142)
Other VIEs	—	—	(225)	—	(225)
Deferred turnaround and catalyst cost expenditures (excluding VIEs)	—	—	(762)	—	(762)
Deferred turnaround and catalyst cost expenditures of DGD	—	—	(18)	—	(18)
Investments in unconsolidated joint ventures	—	—	(164)	—	(164)
Acquisitions of ethanol plants	—	—	(3)	—	(3)
Acquisitions of undivided interests	—	—	(72)	—	(72)
Intercompany investing activities	395	2	(2,973)	2,576	—
Other investing activities, net	—	—	12	—	12
Net cash provided by (used in) investing activities	395	2	(5,974)	2,576	(3,001)
Cash flows from financing activities:					
Proceeds from debt issuances and borrowings (excluding VIEs)	992	—	900	—	1,892
Proceeds from borrowings of VIEs	—	—	239	—	239
Repayments of debt and finance lease obligations (excluding VIEs)	(871)	—	(934)	—	(1,805)
Repayments of debt of VIEs	—	—	(6)	—	(6)
Intercompany financing activities	2,520	268	(212)	(2,576)	—
Purchases of common stock for treasury	(777)	—	—	—	(777)
Common stock dividends	(1,492)	—	(81)	81	(1,492)
Acquisition of VLP publicly held common units	—	—	(950)	—	(950)
Distributions to noncontrolling interests and unitholders of VLP	—	(376)	(70)	376	(70)
Other financing activities, net	(15)	—	(13)	—	(28)
Net cash provided by (used in) financing activities	357	(108)	(1,127)	(2,119)	(2,997)
Effect of foreign exchange rate changes on cash	—	—	68	—	68
Net increase (decrease) in cash and cash equivalents	621	(152)	(868)	—	(399)
Cash and cash equivalents at beginning of year	291	152	2,539	—	2,982
Cash and cash equivalents at end of year	$ 912	$ —	$ 1,671	$ —	$ 2,583

Condensed Consolidating Statement of Cash Flows
Year Ended December 31, 2018
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net cash provided by (used in) operating activities	$ (1,207)	$ (51)	$ 5,828	$ (199)	$ 4,371
Cash flows from investing activities:					
Capital expenditures (excluding VIEs)	—	—	(1,463)	—	(1,463)
Capital expenditures of VIEs:					
DGD	—	—	(165)	—	(165)
Other VIEs	—	—	(124)	—	(124)
Deferred turnaround and catalyst cost expenditures (excluding VIEs)	—	—	(888)	—	(888)
Deferred turnaround and catalyst cost expenditures of DGD	—	—	(27)	—	(27)
Investments in unconsolidated joint ventures	—	—	(181)	—	(181)
Peru Acquisition, net of cash acquired	—	—	(468)	—	(468)
Acquisitions of ethanol plants	—	—	(320)	—	(320)
Acquisitions of undivided interests	—	—	(212)	—	(212)
Minor acquisitions	—	—	(88)	—	(88)
Intercompany investing activities	758	102	(2,381)	1,521	—
Other investing activities, net	—	—	8	—	8
Net cash provided by (used in) investing activities	758	102	(6,309)	1,521	(3,928)
Cash flows from financing activities:					
Proceeds from debt issuances and borrowings (excluding VIEs)	750	498	10	—	1,258
Proceeds from borrowings of VIEs	—	—	109	—	109
Repayments of debt and finance lease obligations (excluding VIEs)	(787)	(410)	(156)	—	(1,353)
Repayments of debt of VIEs	—	—	(6)	—	(6)
Intercompany financing activities	2,106	190	(775)	(1,521)	—
Purchases of common stock for treasury	(1,708)	—	—	—	(1,708)
Common stock dividends	(1,369)	—	(32)	32	(1,369)
Contributions to noncontrolling interests	—	—	32	—	32
Distributions to noncontrolling interests and unitholders of VLP	—	(215)	(68)	167	(116)
Other financing activities, net	2	(4)	(13)	—	(15)
Net cash provided by (used in) financing activities	(1,006)	59	(899)	(1,322)	(3,168)
Effect of foreign exchange rate changes on cash	—	—	(143)	—	(143)
Net increase (decrease) in cash and cash equivalents	(1,455)	110	(1,523)	—	(2,868)
Cash and cash equivalents at beginning of year	1,746	42	4,062	—	5,850
Cash and cash equivalents at end of year	$ 291	$ 152	$ 2,539	$ —	$ 2,982

Condensed Consolidating Statement of Cash Flows
Year Ended December 31, 2017
(in millions)

	Valero Energy Corporation	Valero Energy Partners LP	Other Non-Guarantor Subsidiaries	Eliminations	Consolidated
Net cash provided by (used in) operating activities	$ (73)	$ (34)	$ 5,720	$ (131)	$ 5,482
Cash flows from investing activities:					
Capital expenditures (excluding VIEs)	—	—	(1,269)	—	(1,269)
Capital expenditures of VIEs:					
DGD	—	—	(84)	—	(84)
Other VIEs	—	—	(26)	—	(26)
Deferred turnaround and catalyst cost expenditures (excluding VIEs)	—	—	(519)	—	(519)
Deferred turnaround and catalyst cost expenditures of DGD	—	—	(4)	—	(4)
Investments in unconsolidated joint ventures	—	—	(406)	—	(406)
Acquisitions of undivided interests	—	—	(72)	—	(72)
Intercompany investing activities	(4,002)	(187)	(6,696)	10,885	—
Other investing activities, net	—	—	(2)	—	(2)
Net cash used in investing activities	(4,002)	(187)	(9,078)	10,885	(2,382)
Cash flows from financing activities:					
Proceeds from debt issuances and borrowings (excluding VIEs)	—	380	—	—	380
Repayments of debt and finance lease obligations (excluding VIEs)	—	—	(15)	—	(15)
Repayments of debt of VIEs	—	—	(6)	—	(6)
Intercompany financing activities	6,704	(63)	4,244	(10,885)	—
Purchases of common stock for treasury	(1,372)	—	—	—	(1,372)
Common stock dividends	(1,242)	—	(10)	10	(1,242)
Contributions from noncontrolling interests	—	—	30	—	30
Distributions to noncontrolling interests and unitholders of VLP	—	(161)	(27)	121	(67)
Other financing activities, net	10	36	(26)	—	20
Net cash provided by financing activities	4,100	192	4,190	(10,754)	(2,272)
Effect of foreign exchange rate changes on cash	—	—	206	—	206
Net increase (decrease) in cash and cash equivalents	25	(29)	1,038	—	1,034
Cash and cash equivalents at beginning of year	1,721	71	3,024	—	4,816
Cash and cash equivalents at end of year	$ 1,746	$ 42	$ 4,062	$ —	$ 5,850

22. QUARTERLY FINANCIAL DATA (Unaudited)

The following tables summarize quarterly financial data for the years ended December 31, 2019 and 2018 (in millions, except per share amounts).

	2019 Quarter Ended			
	March 31	June 30	September 30	December 31
Revenues	$ 24,263	$ 28,933	$ 27,249	$ 27,879
Gross profit (a)	533	1,123	1,119	2,003
Operating income	308	908	881	1,739
Net income	167	648	639	1,330
Net income attributable to Valero Energy Corporation stockholders	141	612	609	1,060
Earnings per common share	0.34	1.47	1.48	2.58
Earnings per common share – assuming dilution	0.34	1.47	1.48	2.58

	2018 Quarter Ended			
	March 31	June 30	September 30	December 31
Revenues	$ 26,439	$ 31,015	$ 30,849	$ 28,730
Gross profit (a)	1,062	1,535	1,451	1,546
Operating income	801	1,253	1,219	1,299
Net income	582	875	874	1,022
Net income attributable to Valero Energy Corporation stockholders	469	845	856	952
Earnings per common share	1.09	1.96	2.01	2.26
Earnings per common share – assuming dilution	1.09	1.96	2.01	2.24

(a) Gross profit is calculated as revenues less total cost of sales.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures. Our management has evaluated, with the participation of our principal executive officer and principal financial officer, the effectiveness of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934) as of the end of the period covered by this report, and has concluded that our disclosure controls and procedures were effective as of December 31, 2019.

Internal Control over Financial Reporting.

(a) Management's Report on Internal Control over Financial Reporting.

The management report on Valero's internal control over financial reporting required by Item 9A appears in Item 8 on page 59 of this report, and is incorporated herein by reference.

(b) Attestation Report of the Independent Registered Public Accounting Firm.

KPMG LLP's report on Valero's internal control over financial reporting appears in Item 8 beginning on page 62 of this report, and is incorporated herein by reference.

(c) Changes in Internal Control over Financial Reporting.

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

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEMS 10-14.

The information required by Items 10 through 14 of Form 10-K is incorporated herein by reference to the definitive proxy statement for our 2020 annual meeting of stockholders. We expect to file the proxy statement with the SEC on or before March 31, 2020.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a) **1. Financial Statements**. The following consolidated financial statements of Valero Energy Corporation and its subsidiaries are included in Part II, Item 8 of this Form 10-K:

	Page
Management's report on internal control over financial reporting	59
Reports of independent registered public accounting firm	60
Consolidated balance sheets as of December 31, 2019 and 2018	64
Consolidated statements of income for the years ended December 31, 2019, 2018, and 2017	65
Consolidated statements of comprehensive income for the years ended December 31, 2019, 2018, and 2017	66
Consolidated statements of equity for the years ended December 31, 2019, 2018, and 2017	67
Consolidated statements of cash flows for the years ended December 31, 2019, 2018, and 2017	68
Notes to consolidated financial statements	69

2. Financial Statement Schedules and Other Financial Information. No financial statement schedules are submitted because either they are inapplicable or because the required information is included in the consolidated financial statements or notes thereto.

3. Exhibits. Filed as part of this Form 10-K are the following exhibits:

++2.01 — Agreement and Plan of Merger, dated as of October 18, 2018, by and among Valero Energy Corporation; Forest Merger Sub, LLC; Valero Energy Partners LP; and Valero Energy Partners GP LLC–incorporated by reference to Exhibit 2.1 to Valero's Current Report on Form 8-K dated and filed October 18, 2018 (SEC File No. 1-13175).

3.01 — Amended and Restated Certificate of Incorporation of Valero Energy Corporation, formerly known as Valero Refining and Marketing Company–incorporated by reference to Exhibit 3.1 to Valero's Registration Statement on Form S-1 (SEC File No. 333-27013) filed May 13, 1997.

3.02 — Certificate of Amendment (July 31, 1997) to Restated Certificate of Incorporation of Valero Energy Corporation–incorporated by reference to Exhibit 3.02 to Valero's Annual Report on Form 10-K for the year ended December 31, 2003 (SEC File No. 1-13175).

3.03 — Certificate of Merger of Ultramar Diamond Shamrock Corporation with and into Valero Energy Corporation dated December 31, 2001–incorporated by reference to Exhibit 3.03 to Valero's Annual Report on Form 10-K for the year ended December 31, 2003 (SEC File No. 1-13175).

3.04 — Amendment (effective December 31, 2001) to Restated Certificate of Incorporation of Valero Energy Corporation–incorporated by reference to Exhibit 3.1 to Valero's Current Report on Form 8-K dated December 31, 2001, and filed January 11, 2002 (SEC File No. 1-13175).

3.05 — Second Certificate of Amendment (effective September 17, 2004) to Restated Certificate of Incorporation of Valero Energy Corporation–incorporated by reference to Exhibit 3.04 to Valero's Quarterly Report on Form 10-Q for the quarter ended September 30, 2004 (SEC File No. 1-13175).

3.06 — Certificate of Merger of Premcor Inc. with and into Valero Energy Corporation effective September 1, 2005–incorporated by reference to Exhibit 2.01 to Valero's Quarterly Report on Form 10-Q for the quarter ended September 30, 2005 (SEC File No. 1-13175).

3.07 — Third Certificate of Amendment (effective December 2, 2005) to Restated Certificate of Incorporation of Valero Energy Corporation–incorporated by reference to Exhibit 3.07 to Valero's Annual Report on Form 10-K for the year ended December 31, 2005 (SEC File No. 1-13175).

3.08 — Fourth Certificate of Amendment (effective May 24, 2011) to Restated Certificate of Incorporation of Valero Energy Corporation–incorporated by reference to Exhibit 4.8 to Valero's Current Report on Form 8-K dated and filed May 24, 2011 (SEC File No. 1-13175).

3.09 — Fifth Certificate of Amendment (effective May 13, 2016) to Restated Certificate of Incorporation of Valero Energy Corporation–incorporated by reference to Exhibit 3.02 to Valero's Current Report on Form 8-K dated May 12, 2016, and filed May 18, 2016 (SEC File No. 1-13175).

3.10 — Amended and Restated Bylaws of Valero Energy Corporation–incorporated by reference to Exhibit 3.01 to Valero's Current Report on Form 8-K dated September 20, 2017 and filed September 21, 2017 (SEC File No. 1-13175).

4.01 — Indenture dated as of December 12, 1997 between Valero Energy Corporation and The Bank of New York–incorporated by reference to Exhibit 3.4 to Valero's Registration Statement on Form S-3 (SEC File No. 333-56599) filed June 11, 1998.

4.02 — First Supplemental Indenture dated as of June 28, 2000 between Valero Energy Corporation and The Bank of New York (including Form of 7 3/4% Senior Deferrable Note due 2005)–incorporated by reference to Exhibit 4.6 to Valero's Current Report on Form 8-K dated June 28, 2000, and filed June 30, 2000 (SEC File No. 1-13175).

4.03 — Indenture (Senior Indenture) dated as of June 18, 2004 between Valero Energy Corporation and Bank of New York–incorporated by reference to Exhibit 4.7 to Valero's Registration Statement on Form S-3 (SEC File No. 333-116668) filed June 21, 2004.

4.04 — Form of Indenture related to subordinated debt securities–incorporated by reference to Exhibit 4.8 to Valero's Registration Statement on Form S-3 (SEC File No. 333-116668) filed June 21, 2004.

4.05 — Indenture dated as of March 10, 2015 between Valero Energy Corporation and U.S. Bank National Association, as trustee-incorporated by reference to Exhibit 4.1 to Valero's Registration Statement on Form S-3 (SEC File No. 333-202635) filed March 10, 2015.

4.06 — Indenture, dated as of November 30, 2016, between Valero Energy Partners LP, as issuer, and U.S. Bank National Association, as trustee–incorporated by reference to Exhibit 4.1 to Valero Energy Partners LP's Post-Effective Amendment No. 1 to Registration Statement on Form S-3 (Registration File No. 333-208052) filed November 30, 2016.

4.07 — First Supplemental Indenture (with Parent Guarantee), dated as of January 10, 2019, among Valero Energy Partners LP, as issuer; Valero Energy Corporation, as parent guarantor; and U.S. Bank National Association, as trustee–incorporated by reference to Exhibit 4.2 to Valero's Current Report on Form 8-K dated and filed January 10, 2019 (SEC File No. 1-13175).

4.08 — Specimen Certificate of Common Stock–incorporated by reference to Exhibit 4.1 to Valero's Registration Statement on Form S-3 (SEC File No. 333-116668) filed June 21, 2004.

*4.09 — Description of Valero Energy Corporation common stock, $0.01 par value.

+10.01 — Valero Energy Corporation Annual Bonus Plan, amended and restated as of February 28, 2018–incorporated by reference to Exhibit 10.01 to Valero's Annual Report on Form 10-K for the year ended December 31, 2017 (SEC File No. 1-13175).

+10.02 — Valero Energy Corporation 2005 Omnibus Stock Incentive Plan, amended and restated as of October 1, 2005–incorporated by reference to Exhibit 10.02 to Valero's Annual Report on Form 10-K for the year ended December 31, 2009 (SEC File No. 1-13175).

+10.03 — Valero Energy Corporation 2011 Omnibus Stock Incentive Plan, amended and restated February 25, 2016–incorporated by reference to Exhibit 10.04 to Valero's Annual Report on Form 10-K for the year ended December 31, 2015 (SEC File No. 1-13175).

+10.04 — Valero Energy Corporation Deferred Compensation Plan, amended and restated as of January 1, 2008–incorporated by reference to Exhibit 10.04 to Valero's Annual Report on Form 10-K for the year ended December 31, 2008 (SEC File No. 1-13175).

+10.05 — Valero Energy Corporation Amended and Restated Supplemental Executive Retirement Plan, amended and restated as of November 10, 2008–incorporated by reference to Exhibit 10.08 to Valero's Annual Report on Form 10-K for the year ended December 31, 2008 (SEC File No. 1-13175).

+10.06 — Valero Energy Corporation Excess Pension Plan, as amended and restated effective December 31, 2011–incorporated by reference to Exhibit 10.10 to Valero's Annual Report on Form 10-K for the year ended December 31, 2011 (SEC File No. 1-13175).

+10.07 — Form of Change of Control Severance Agreement (Tier I) between Valero Energy Corporation and executive officer–incorporated by reference to Exhibit 10.15 to Valero's Annual Report on Form 10-K for the year ended December 31, 2011 (SEC File No. 1-13175).

+10.08 — Form of Change of Control Severance Agreement (Tier II) between Valero Energy Corporation and executive officer–incorporated by reference to Exhibit 10.16 to Valero's Annual Report on Form 10-K for the year ended December 31, 2013 (SEC File No. 1-13175).

+10.09 — Form of Amendment (dated January 7, 2013) to Change of Control Severance Agreements (to eliminate excise tax gross-up benefit)–incorporated by reference to Exhibit 10.17 to Valero's Annual Report on Form 10-K for the year ended December 31, 2012 (SEC File No. 1-13175).

+10.10 — Form of Change of Control Severance Agreement (Tier II-A) between Valero Energy Corporation and executive officer–incorporated by reference to Exhibit 10.02 to Valero's Current Report on Form 8-K dated November 2, 2016, and filed November 7, 2016 (SEC File No. 1-13175).

+10.11 — Schedule of Tier II-A Change of Control Agreements–incorporated by reference to Exhibit 10.11 to Valero's Annual Report on Form 10-K for the year ended December 31, 2018 (SEC File No. 1-13175).

+10.12 — Form of Amendment (dated January 17, 2017) to Change of Control Severance Agreements, amending Section 9 thereof–incorporated by reference to Exhibit 10.01 to Valero's Current Report on Form 8-K dated and filed January 17, 2017 (SEC File No. 1-13175).

*+10.13 — Form of Performance Share Award Agreement pursuant to the Valero Energy Corporation 2011 Omnibus Stock Incentive Plan.

+10.14 — Form of Stock Option Agreement pursuant to the Valero Energy Corporation 2011 Omnibus Stock Incentive Plan–incorporated by reference to Exhibit 10.21 to Valero's Annual Report on Form 10-K for the year ended December 31, 2011 (SEC File No. 1-13175).

+10.15 — Form of Performance Stock Option Agreement pursuant to the Valero Energy Corporation 2011 Omnibus Stock Incentive Plan–incorporated by reference to Exhibit 10.21 to Valero's Annual Report on Form 10-K for the year ended December 31, 2012 (SEC File No. 1-13175).

+10.16 — Form of Restricted Stock Agreement pursuant to the Valero Energy Corporation 2011 Omnibus Stock Incentive Plan–incorporated by reference to Exhibit 10.25 to Valero's Annual Report on Form 10-K for the year ended December 31, 2012 (SEC File No. 1-13175).

*+10.17 — Long-Term Incentive Agreement dated as of December 18, 2019, between Valero Energy Corporation and R. Lane Riggs.

+10.18 — Form of Stock Unit Award Agreement for Non-Employee Directors (standard)-incorporated by reference to Exhibit 10.01 to Valero's Current Report on Form 8-K dated April 30, 2019, and filed May 1, 2019 (SEC File No. 1-13175).

+10.19 — Form of Stock Unit Award Agreement for Non-Employee Directors (with one-year hold provision)-incorporated by reference to Exhibit 10.02 to Valero's Current Report on Form 8-K dated April 30, 2019, and filed May 1, 2019 (SEC File No. 1-13175).

10.20 — Fourth Amended and Restated Revolving Credit Agreement, dated as of March 19, 2019, among Valero Energy Corporation, as Borrower; JPMorgan Chase Bank, N.A., as Administrative Agent; and the lenders named therein–incorporated by reference to Exhibit 10.1 to Valero's Current Report on Form 8-K dated March 19, 2019, and filed March 19, 2019 (SEC File No. 1-13175).

14.01 — Code of Ethics for Senior Financial Officers–incorporated by reference to Exhibit 14.01 to Valero's Annual Report on Form 10-K for the year ended December 31, 2003 (SEC File No. 1-13175).

*21.01 — Valero Energy Corporation subsidiaries.

*23.01 — Consent of KPMG LLP dated February 26, 2020.

*24.01	—	Power of Attorney dated February 26, 2020 (on the signature page of this Form 10-K).
*31.01	—	Rule 13a-14(a) Certification (under Section 302 of the Sarbanes-Oxley Act of 2002) of principal executive officer.
*31.02	—	Rule 13a-14(a) Certification (under Section 302 of the Sarbanes-Oxley Act of 2002) of principal financial officer.
**32.01	—	Section 1350 Certifications (under Section 906 of the Sarbanes-Oxley Act of 2002).
99.01	—	Audit Committee Pre-Approval Policy–incorporated by reference to Exhibit 99.01 to Valero's Annual Report on Form 10-K for the year ended December 31, 2017 (SEC File No. 1-13175).
***101.INS	—	Inline XBRL Instance Document–the instance document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document.
***101.SCH	—	Inline XBRL Taxonomy Extension Schema Document.
***101.CAL	—	Inline XBRL Taxonomy Extension Calculation Linkbase Document.
***101.DEF	—	Inline XBRL Taxonomy Extension Definition Linkbase Document.
***101.LAB	—	Inline XBRL Taxonomy Extension Label Linkbase Document.
***101.PRE	—	Inline XBRL Taxonomy Extension Presentation Linkbase Document.
***104	—	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).

* Filed herewith.

** Furnished herewith.

*** Submitted electronically herewith.

\+ Identifies management contracts or compensatory plans or arrangements required to be filed as an exhibit hereto.

++ Certain schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The registrant agrees to furnish supplementally a copy of any such omitted schedule to the SEC upon request.

Pursuant to paragraph 601(b)(4)(iii)(A) of Regulation S-K, the registrant has omitted from the foregoing listing of exhibits, and hereby agrees to furnish to the SEC upon its request, copies of certain instruments, each relating to debt not exceeding 10 percent of the total assets of the registrant and its subsidiaries on a consolidated basis.

SIGNATURE

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

VALERO ENERGY CORPORATION
(Registrant)

By: /s/ Joseph W. Gorder
(Joseph W. Gorder)
Chairman of the Board
and Chief Executive Officer

Date: February 26, 2020

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby constitutes and appoints Joseph W. Gorder, Donna M. Titzman, and Jason W. Fraser, or any of them, each with power to act without the other, his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place and stead, in any and all capacities, to sign any or all subsequent amendments and supplements to this Annual Report on Form 10-K, and to file the same, or cause to be filed the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agent full power to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as he might or could do in person, hereby qualifying and confirming all that said attorney-in-fact and agent or his substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Joseph W. Gorder (Joseph W. Gorder)	Chairman of the Board and Chief Executive Officer (Principal Executive Officer)	February 26, 2020
/s/ Donna M. Titzman (Donna M. Titzman)	Executive Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	February 26, 2020
/s/ H. Paulett Eberhart (H. Paulett Eberhart)	Director	February 26, 2020
/s/ Kimberly S. Greene (Kimberly S. Greene)	Director	February 26, 2020
/s/ Deborah P. Majoras (Deborah P. Majoras)	Director	February 26, 2020
/s/ Donald L. Nickles (Donald L. Nickles)	Director	February 26, 2020
/s/ Philip J. Pfeiffer (Philip J. Pfeiffer)	Director	February 26, 2020
/s/ Robert A. Profusek (Robert A. Profusek)	Director	February 26, 2020
/s/ Stephen M. Waters (Stephen M. Waters)	Director	February 26, 2020
/s/ Randall J. Weisenburger (Randall J. Weisenburger)	Director	February 26, 2020
/s/ Rayford Wilkins, Jr. (Rayford Wilkins, Jr.)	Director	February 26, 2020