

2021 ANNUAL REPORT



Marathon
Petroleum Corporation

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On the cover: Operator Jason Green
at MPC's refinery in El Paso, Texas





FROM THE PRESIDENT AND CEO

Fellow Shareholders,

During a year of continued global health and economic challenges, Marathon Petroleum Corporation (MPC) built on the foundation created by the three strategic priorities we established in 2020 to drive stability and recovery across our business. We also took significant steps to shape our future growth opportunities, resulting in immediate and long-term value creation.

As the global economy began to rebound with the availability of COVID-19 vaccines and then faced challenges from variants of the disease, we effectively managed our business operations to navigate these market fluctuations. Our comprehensive pandemic response plan focused on protecting our employees, contractors and communities, so we could continue safely and reliably providing essential fuels that help keep the world moving. We shared timely information and guidance with our workforce and offered our people COVID-19 vaccines as they became available. We also supported our employees and communities as they worked to recover from natural disasters, including the devastation in Louisiana caused by Hurricane Ida.

Through it all, we began shaping a more distinct path forward for our future by continuing to challenge ourselves to lead in sustainable energy: to meet the energy needs of today while investing in an energy-diverse future. We are guided by our overarching goal of manufacturing and delivering essential energy products and services in ways that enhance our financial performance while lowering the carbon intensity of our operations and the consumption of natural resources.

FROM THE PRESIDENT AND CEO

BUILDING ON STRATEGIC EXECUTION

The three strategic priorities we established in 2020 – strengthening the competitive position of our assets, embedding a low-cost culture, and improving our commercial performance – target aspects of our business that are within our control. Executing on these priorities throughout 2021, bolstered by the unwavering foundation of our Core Values and the resiliency and creativity of our talented teams, helped to drive stronger through-cycle earnings and position MPC favorably for future success.

“
As we look ahead in 2022 and beyond, we believe the future for MPC is bright. Our relentless focus on our strategic priorities will continue to create incremental value for shareholders...
”

STRENGTHENING THE COMPETITIVE POSITION OF OUR ASSETS

After closing the sale of our Speedway retail business for \$21 billion, including approximately \$17.2 billion in after tax proceeds, we took immediate steps to return capital to shareholders and reduce debt. We committed to completing \$10 billion in share repurchases by the end of 2022 and had achieved approximately 55% of our overall goal through the end of January. We also reduced debt by \$4.6 billion. In February 2022, we announced Board authorization for an additional \$5 billion in incremental share repurchases.

Our Dickinson, North Dakota, renewable diesel facility became fully operational

in the spring of 2021. With a production capacity of 184 million gallons a year, it is the second largest facility of its kind in the United States. Dickinson also generates a carbon intensity level that is approximately 50% lower than when it operated as a petroleum refinery.

Substantial strides were made toward converting our Martinez, California, refinery into a renewable fuels facility, including publication of the project's draft environmental impact report and completion of the report's public comment period. We are currently progressing through the remaining stages of permitting and continue to target starting production at the facility in the second half of 2022. In 2023, we anticipate ramping up pretreatment capabilities and increasing production to the full capacity of 730 million gallons per year.

The performance of our MPLX midstream segment throughout 2021 reflected the resilience of our logistics business and the benefits of an integrated value chain. For the year, MPLX distributed \$2.2 billion to MPC, and ongoing capital discipline within MPLX continues to enhance free cash-flow potential.

EMBEDDING A LOW-COST CULTURE

Our ongoing efforts to not only lower costs but embed a truly low-cost culture in our management across the company yielded \$1.5 billion in structural cost reductions in 2021. A primary factor behind these savings was lowering operating costs in our refining segment from \$6 per barrel to \$5 per barrel, which amounted to \$1 billion in cost reductions. We also decreased expenses by \$400 million across MPLX and eliminated \$100 million in corporate costs.

IMPROVING COMMERCIAL PERFORMANCE

We initiated a number of efforts designed to enable our teams to better anticipate and respond to commercial opportunities in what continues to be a very dynamic marketplace.

We gained access to logistically advantaged feedstocks for our Dickinson renewable diesel facility.

- Our Beatrice, Nebraska, pretreatment facility, which we acquired in 2020, began operations, processing advantaged feedstock for transport to Dickinson. The facility uses Midwestern agricultural feedstocks, such as corn oil, soybean oil and rendered fats.
- We also formed a joint venture with ADM to produce soybean oil for Dickinson. The joint venture will own and operate ADM's previously announced soybean processing complex in Spiritwood, North Dakota. When complete in 2023, this facility will source and process local soybeans to supply Dickinson with approximately 5,000 barrels a day of locally advantaged feedstock.
- Additional feedstock for Dickinson will come from our Cincinnati, Ohio, pretreatment facility, which recently began operating after being converted from a biodiesel plant.

In March 2022, we announced an agreement with Neste to form a 50/50 joint venture for the Martinez Renewable Fuels facility, with each company contributing feedstocks and sharing production output to market under our respective brands. We have reduced our capital outlay and improved the project economics while gaining a partner with complementary capabilities to advance our project's objectives.

INVESTING FOR THE LONG TERM: A SUSTAINABLE FUTURE

In addition to continuing capital investments to maintain and improve our refineries, as we respond to the energy evolution, we strive to be a market leader in producing and delivering renewable fuels, using renewable energy sources and deploying emerging technologies that reduce environmental impact. These objectives motivated several related

initiatives in 2021, including:

- We set a target to reduce our freshwater withdrawal intensity 20% from 2016 levels by 2030. This goal added to our previously established targets for reducing Scope 1 and 2 greenhouse gas (GHG) emissions intensity 30% below 2014 levels by 2030 and for lowering methane emissions intensity 50% from 2016 levels by 2025 across our natural gas gathering and processing operations.
- Earlier in 2022, we also announced a 2030 target to reduce absolute Scope 3 - Category 11 GHG emissions by 15% below 2019 levels. To date, we're the only U.S. downstream energy company that has publicly set an absolute reduction target for Scope 3 emissions.
- Our continuing focus on energy efficiency was recognized with a second consecutive ENERGY STAR® Partner of the Year - Sustained Excellence Award from the U.S. Environmental Protection Agency. We were the only company with fuels manufacturing as its primary business to earn this recognition.
- To further progress our sustainability objectives, we added a diversity, equity and inclusion (DE&I) component to the metrics that determine our annual employee bonus compensation. This made us the first independent, U.S. downstream energy company to link a DE&I metric to compensation, which is intended to help ensure we have the diversity of thought necessary to take on tomorrow's opportunities and challenges. In 2021, we hired and promoted a number of Black, Indigenous, People of Color (BIPOC) and women leaders across the company and exceeded our hiring goal for BIPOC candidates.

In 2022, we are committed to continued sustainability progress, with a focus on investing a significant portion of our planned growth capital spending for the year to support our Martinez

refinery conversion project.

When complete, the Martinez Renewable Fuels facility, which we will co-own with our partner Neste, will be larger than any renewable diesel production facility operating in the U.S. today. Yet, the converted facility is expected to generate 60% fewer GHG emissions than it did as a petroleum refinery.

As we look ahead in 2022 and beyond, we believe the future for MPC is bright. Our relentless focus on our strategic priorities will continue to create incremental value for shareholders, and our commitment to challenging ourselves to lead in sustainable energy will drive long-term benefits for our people and the many other stakeholders engaged in our business and in shaping our future. I encourage you to learn more about our efforts in [sustainability](#), including steps we've outlined to support a [just and responsible transition](#), and keep up with the latest developments across our business by visiting our website at www.marathonpetroleum.com.

None of these accomplishments would have been possible without the dedication and determination of our people. I'm proud of their efforts and grateful for their commitment to making MPC and our shareholders successful. Thank you for your continued support of our company.

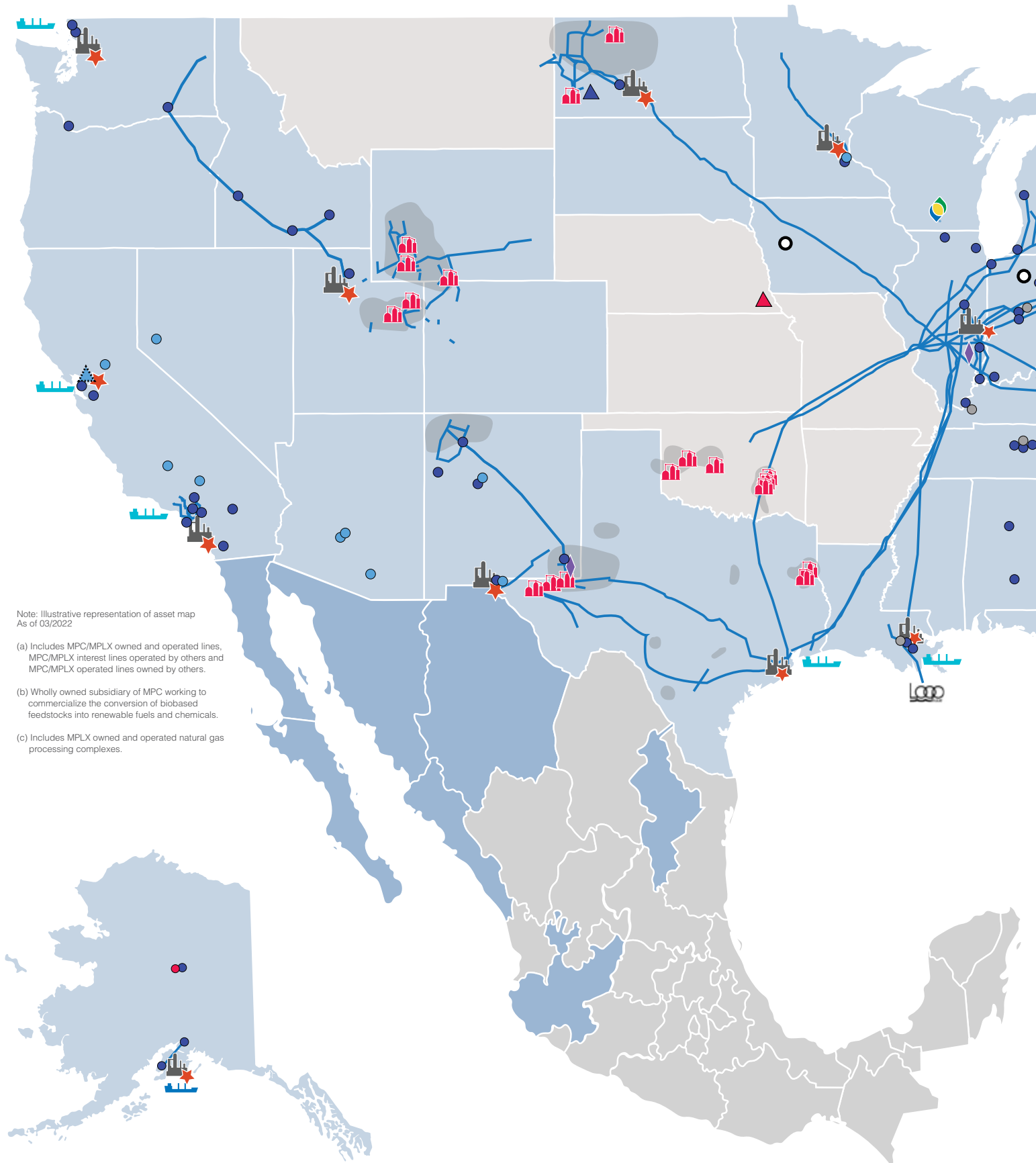
Sincerely,



Michael J. Hennigan
President and Chief
Executive Officer

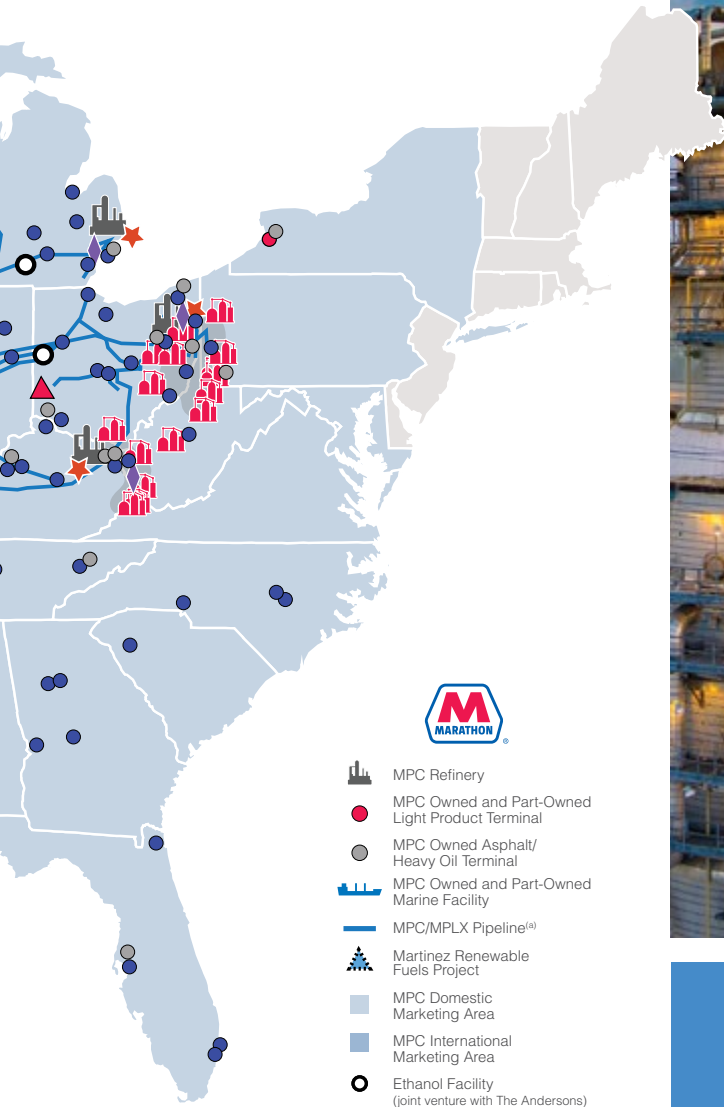














OPERATIONS OVERVIEW










Note: Illustrative representation of asset map
As of 03/2022

- (a) Includes MPC/MPLX owned and operated lines, MPC/MPLX interest lines operated by others and MPC/MPLX operated lines owned by others.
- (b) Wholly owned subsidiary of MPC working to commercialize the conversion of biobased feedstocks into renewable fuels and chemicals.
- (c) Includes MPLX owned and operated natural gas processing complexes.



-  MPC Refinery
-  MPC Owned and Part-Owned Light Product Terminal
-  MPC Owned Asphalt/Heavy Oil Terminal
-  MPC Owned and Part-Owned Marine Facility
-  MPC/MPLX Pipeline^(a)
-  Martinez Renewable Fuels Project
-  MPC Domestic Marketing Area
-  MPC International Marketing Area
-  Ethanol Facility (joint venture with The Andersons)
-  MPC Renewable Feedstock Processing Facility
-  Virent^(b)
-  MPC Renewable Diesel Facility



-  MPLX Owned and Part-Owned Light Product Terminal
-  MPLX Owned Asphalt/Heavy Oil Terminal
-  MPLX Natural Gas Processing Complex^(c)
-  MPLX Refining Logistics Asset
-  MPLX Gathering System
-  MPLX Owned Marine Facility
-  Cavern



**2.9
MILLION**

BARRELS PER CALENDAR
DAY OF CRUDE OIL
REFINING CAPACITY

**2.4
BILLION**

GALLONS OF
RENEWABLE FUEL
DELIVERED IN 2021

**42.8
MILLION**

BARRELS OF TERMINAL
STORAGE CAPACITY

~19,000

MILES OF PIPELINE WE
OWN, LEASE OR HAVE AN
OWNERSHIP INTEREST IN

~8,250

NORTH AMERICAN
RETAIL AND MARKETING
LOCATIONS

**11.8
BILLION**

STANDARD CUBIC FEET
PER DAY OF NATURAL GAS
PROCESSING CAPACITY

320

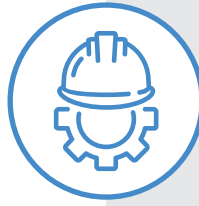
VESSELS AND BARGES
OWNED AND OPERATED
THROUGH MARINE
BUSINESS

CORE VALUES

Our values guide the way we treat each other and all our stakeholders. We believe how we do our work is just as important as what we do.



SAFETY AND ENVIRONMENTAL STEWARDSHIP



- Protect our people and the world we all share
- Aim for an accident-free, incident-free workplace
- Commit to safe and environmentally responsible operations

INTEGRITY



- Set high expectations for ourselves and build trust in each other, with business partners, shareholders and the communities where we work and live
- Say what we're going to do — and then do it

RESPECT



- Treat everyone professionally, with courtesy, honesty and trust
- Consider how other people's ideas can improve what we do and encourage everyone to openly share their perspectives, ideas and concerns

INCLUSION



- Value diversity in culture, background, perspective and experiences
- Strive to provide our employees with a collaborative, supportive and inclusive work environment where they can maximize their full potential for personal and business success

COLLABORATION



- Actively partner with our stakeholders to find and create shared value, making a positive difference together
- Foster constructive, solution-oriented dialogues
- Genuinely listen to one another and seek out perspectives different from our own

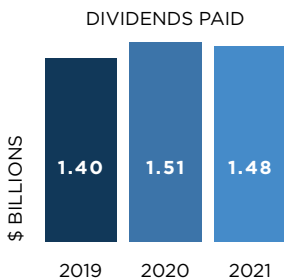
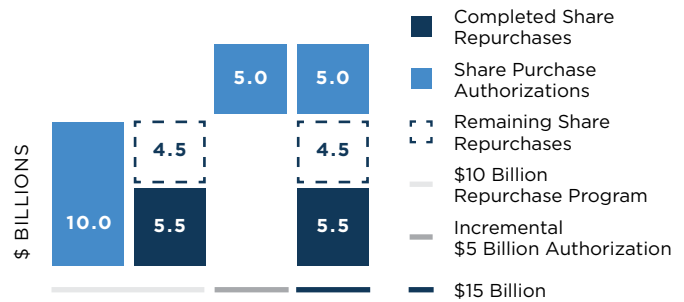


\$21 BILLION SALE OF SPEEDWAY

In May 2021, we closed our sale of Speedway and took immediate steps to execute on our plan to strengthen our balance sheet and return capital to shareholders. With approximately \$17.2 billion in after-tax proceeds from the sale, MPC committed to \$10 billion in share repurchases by the end of 2022, and reduced debt by \$4.6 billion.

RETURNING CAPITAL TO SHAREHOLDERS

On our fourth quarter 2021 earnings call in February 2022, we reported the completion of approximately 55% of the \$10 billion share repurchase program, and announced authorization for an additional \$5 billion in incremental share repurchases.



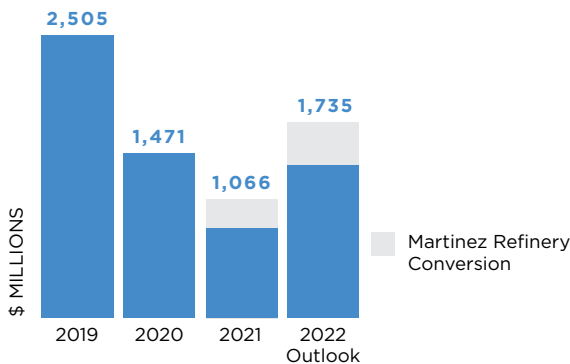
Total Cash Returned to Shareholders: \$6.14 billion
Income from Continuing Operations: \$4.3 billion

2021

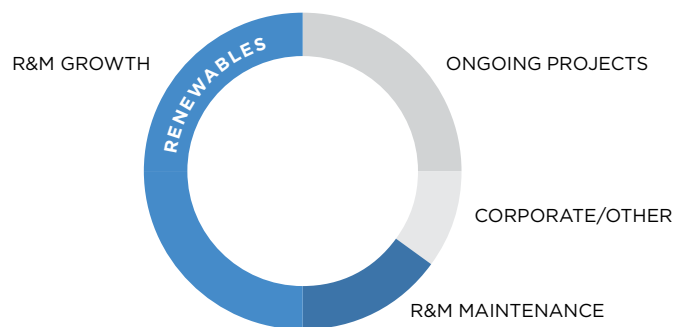
CONTINUATION OF DISCIPLINED CAPITAL SPENDING

- Our projected capital spending amount for 2022 is approximately 30% below 2019’s level.
- A significant portion of MPC’s planned growth capital spending for the year will support the conversion of our Martinez, California, refinery into a renewable fuels facility.

SUSTAINING AND GROWTH CAPITAL*



2022 CAPITAL SPENDING OUTLOOK



SUSTAINABILITY

By challenging ourselves to lead in sustainable energy, we are working to meet the needs of today while investing in an energy-diverse future. We're focused on strengthening the resiliency of our business by lowering carbon intensity and conserving natural resources; innovating for the future by investing in renewables and emerging technologies; and embedding sustainability in decision-making and in how we engage our people and many stakeholders.

Our progress toward these objectives is evident from recognition we have received from prominent environmental, social and governance (ESG) rating organizations.



Member of
**S&P Global
Dow Jones
Sustainability
Indices**



**Dow Jones
Sustainability North
America Index** for
third straight year



**Top
Decile**
ESG Ratings



for **S&P Global, MSCI
and Sustainalytics** in
the **U.S. Oil and Gas
Refining and Marketing
sector**



Energy ESG
AWARDS



MPLX named **ESG Top
Performer** in the public
midstream category from
Hart Energy



**100%
score**



on **Human Rights
Campaign's Corporate
Equality Index**

STRENGTHENING RESILIENCY

In seeking to reduce consumption of natural resources, we established a target for lowering our freshwater withdrawal intensity. This goal added to our existing targets for reducing greenhouse gas (GHG) emissions intensity and for lowering methane emissions intensity. In February 2022, we also established a 2030 target to reduce absolute Scope 3 - Category 11 GHG emissions by 15% below 2019 levels. Additionally, MPLX established a new 2030 target to reduce methane emissions intensity from its natural gas gathering and processing operations by 75% below 2016 levels.



For the second consecutive year, we earned the ENERGY STAR® Partner of the Year – Sustained Excellence Award from the U.S. Environmental Protection Agency. This honor acknowledged superior leadership, innovation and commitment to environmental protection based on the energy efficiency of our facilities through a corporate-wide, portfolio-based energy program. We were the only company with fuels manufacturing as its primary business to earn this recognition.





INNOVATING FOR THE FUTURE

We strive to be a market leader in the production and delivery of renewable fuels, seek ways to expand the use of renewable energy in our operations, and deploy emerging technologies that reduce environmental impact while enhancing business performance.

We brought our Dickinson, North Dakota, renewable diesel facility to full operating capacity, and started up pretreatment facilities in Beatrice, Nebraska, and Cincinnati, Ohio, which will supply Dickinson with Midwestern agricultural feedstocks such as corn oil, soybean oil and rendered fats.* We also made substantial strides toward converting our Martinez, California, refinery into a renewable fuels facility. It is currently targeted to begin operating in the second half of 2022 and reach full production capacity of 730 million gallons per year in 2023.

Martinez Renewable Fuels**

730 million
gallons/year capacity

60% reduction
in GHG emissions compared to
previous refinery operations



**Construction permitting in process

Dickinson Renewable Diesel Facility

184 million
gallons/year capacity

Second largest
in the U.S. among currently
operating facilities

Producing a
~50% lower
carbon intensity
renewable
diesel

Our Virent subsidiary helped make aviation history by contributing to the creation of 100% sustainable aviation fuel (SAF) for the very first commercial passenger flight to use SAF in one engine and petroleum-based jet fuel in the other. Through its proprietary BioForm® process, Virent used corn sugar to produce synthesized aromatic kerosene, which was a critical fuel component that made the 100% SAF possible. We continue to evaluate our path forward for Virent, including the regulatory environment for cost efficient returns.



(l-r) MPC Executive Vice President, Refining, Ray Brooks and Virent President and General Counsel Dave Kettner after flying on board the historic Dec. 1 flight, which showed sustainable aviation is possible without modifying modern airline engines.

*Our Cincinnati, Ohio, pretreatment facility was converted from its original configuration as a biodiesel plant, and start up occurred in January 2022.



EMBEDDING SUSTAINABILITY

We hold a companywide commitment to protecting the health and safety of our employees and the public, responsibly managing our social impacts, promoting diversity, equity and inclusion (DE&I), and maintaining accountable and transparent governance.

Energized Workforce

Almost 3,500 employees belong to our 63 employee network chapters across 13 states. These groups focus on six populations – Asian, Black, Hispanic, Veterans, Women and LGBTQ+ – and are led by employees with active involvement from executive leadership sponsors. These networks connect colleagues from across the company and provide opportunities for personal and professional development, networking and community involvement.

Guided by a dedicated DE&I team and supported by leadership companywide, our diversity strategy focuses on:

- **Building awareness** of the benefits of diverse perspectives
- **Increasing representation** across the organization
- **Ensuring success** through commitment to ongoing programs that support diverse employees
- **Applying measurement and accountability** to foster an inclusive work environment with opportunities for all employees to grow and develop



Stakeholder Engagement

Our broader concept of sustainability emphasizes creating shared value for all our stakeholders – our people, business partners, customers, communities, governments and shareholders. To this end, our charitable giving focuses on three priorities: thriving communities, workforce development and sustainability. In 2021, we increased the corporate match for employee giving from 60% to 100%. As a company, we invested more than \$20 million in the communities where we live and work as well as broader causes. Our employees contributed almost \$4 million in additional support.

We expanded our engagement of business partners by strengthening our Supply Chain Sustainability Program, which includes a Supplier Code of Conduct. This code outlines our expectations for suppliers to comply with environmental, social and governance (ESG) clauses in their MPC contracts and adhere to our fundamental values, policies and procedures in how they do business. In 2021, a system was put into place to evaluate Tier 1 critical suppliers.

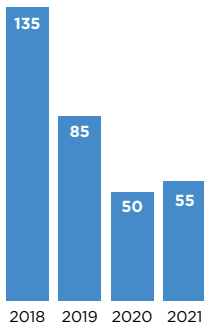




Safety and Environmental Stewardship

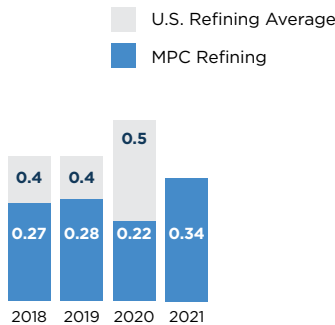
Our Core Values of safety and environmental stewardship drive our emphasis on continual improvement in protecting the health and safety of our workforce and the communities where we operate. Our goal is an incident-free workplace, so everyone can return home to their loved ones. Our personal safety performance continues to trend better than the U.S. refining average.

2021 Tier 3 & 4 Designated Environmental Incidents (DEI) Count



DEIs include three categories of environmental incidents: releases to the environment (air, land or water), environmental permit exceedances and agency enforcements actions.

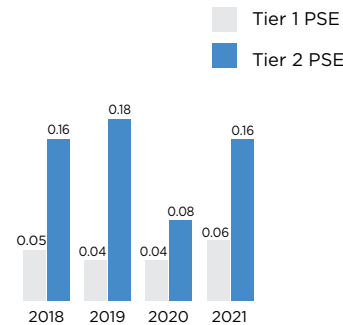
2021 Refining OSHA Recordable Rate
Incidents/200,000 hours



Based on the U.S. Bureau of Labor Statistics data.

Note: We had fewer incidents in 2021 than in all prior years shown except 2020. The increase in the 2021 rate is largely a reflection of a significant reduction in exposure hours.

2021 Refining Process Safety Event (PSE) Rate
Events/200,000 hours

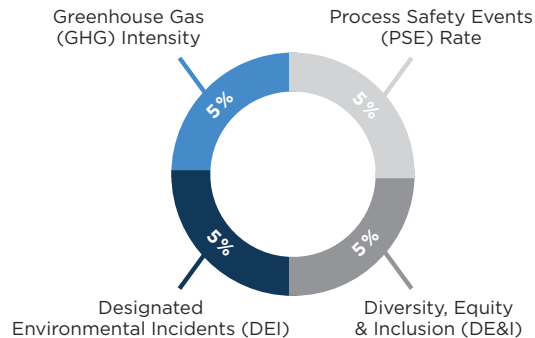


PSEs are unplanned or uncontrolled releases of a material from a process. The PSE rate is the count of events per 200,000 hours of work. Tier 1 PSEs are the most serious type.

Transparent Governance

Our corporate impacts, risks and opportunities are identified and managed by company leadership with oversight from our Board. An additional layer of oversight exists with our Enterprise Risk Management (ERM) Program. As part of our broader commitment to transparent governance, in 2021 we were the first independent U.S. downstream energy company to link a DE&I metric to compensation. Our ESG metric, which includes DE&I, greenhouse gas intensity and environmental and safety performance components, is weighted at 20% of our annual cash bonus program.

ESG PERFORMANCE METRICS TIED TO BONUS COMPENSATION



BOARD OF DIRECTORS



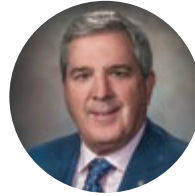
John P. Surma
Retired Chairman and
Chief Executive Officer,
United States Steel Corporation
- *Non-Executive Chairman
of the Board*



Abdulaziz F. Alkhayyal
Retired Senior Vice President,
Industrial Relations, Saudi Aramco
- *Audit Committee Member*
- *Compensation and Organization
Development Committee Member*
- *Sustainability and Public Policy
Committee Vice Chair*



Evan Bayh
Senior Advisor,
Apollo Global Management
- *Corporate Governance and
Nominating Committee Member*
- *Sustainability and Public Policy
Committee Chair*



Charles E. Bunch
Retired Chairman of the
Board and Chief Executive Officer,
PPG Industries, Inc.
- *Compensation and Organization
Development Committee Member*
- *Corporate Governance and
Nominating Committee Chair*



Jonathan Z. Cohen
Chief Executive Officer and
President, Hepco Capital
Management, LLC
- *Audit Committee Vice Chair*
- *Corporate Governance and
Nominating Committee Member*



Steven A. Davis
Former Chairman and Chief
Executive Officer, Bob Evans Farms, Inc.
- *Compensation and Organization
Development Committee Vice Chair*
- *Corporate Governance and
Nominating Committee Member*



Edward G. Galante
Retired Senior Vice President and
Management Committee Member,
ExxonMobil Corporation
- *Compensation and Organization
Development Committee Chair*
- *Sustainability and Public Policy
Committee Member*



Michael J. Hennigan
President and Chief Executive Officer,
Marathon Petroleum Corporation
- *Sustainability and Public Policy
Committee Member*



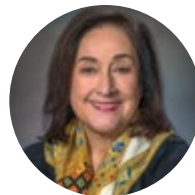
Kim K.W. Rucker
Former Executive Vice President,
General Counsel and Secretary,
Andeavor
- *Sustainability and Public Policy
Committee Member*



Frank M. Semple
Retired Chairman, President and
Chief Executive Officer,
MarkWest Energy Partners, L.P.
- *Audit Committee Member*
- *Compensation and Organization
Development Committee Member*



J. Michael Stice
Dean, Mewbourne College of
Earth & Energy, The University
of Oklahoma
- *Audit Committee Member*
- *Corporate Governance and
Nominating Committee Vice Chair*
- *Sustainability and Public Policy
Committee Member*



Susan Tomasky
Retired President,
AEP Transmission,
American Electric Power
- *Audit Committee Chair*
- *Sustainability and Public Policy
Committee Member*

EXECUTIVE TEAM



Michael J. Hennigan
President and
Chief Executive Officer,
and Director



Maryann T. Mannen
Executive Vice
President and
Chief Financial Officer



Raymond L. Brooks
Executive Vice
President, Refining



Suzanne Gagle
General Counsel and
Senior Vice President,
Government Affairs



Fiona C. Laird*
Chief Human Resources Officer
and Senior Vice President,
Communications



C. Kristopher Hagedorn
Senior Vice President and
Controller



David R. Heppner*
Senior Vice President,
Strategy and
Business Development



Richard A. Hernandez*
Senior Vice President,
Eastern Refining Operations



Rick D. Hessling*
Senior Vice President,
Global Feedstocks



Thomas Kaczynski
Senior Vice President,
Finance and Treasurer



Brian K. Partee*
Senior Vice President,
Global Clean Products



Ehren D. Powell*
Senior Vice President and
Chief Digital Officer



James R. Wilkins*
Senior Vice President,
Health, Environment, Safety
and Security



Molly R. Benson*
Vice President, Chief Securities,
Governance & Compliance
Officer and Corporate Secretary



Kristina A. Kazarian*
Vice President,
Investor Relations



D. Rick Linhardt*
Vice President, Tax

*Corporate Officers

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, 2021**

OR

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

For the transition period from _____ to _____

Commission file number **001-35054**

Marathon Petroleum Corporation

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of incorporation or organization)

27-1284632

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

539 South Main Street, Findlay, OH 45840-3229

(Address of principal executive offices) (Zip code)

(419) 422-2121

(Registrant's telephone number, including area code)

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, par value \$.01	MPC	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 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, accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition 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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report.

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

The aggregate market value of Common Stock held by non-affiliates as of June 30, 2021 was approximately \$38.5 billion. This amount is based on the closing price of the registrant's Common Stock on the New York Stock Exchange on June 30, 2021. Shares of Common Stock held by executive officers and directors of the registrant are not included in the computation. The registrant, solely for the purpose of this required presentation, has deemed its directors and executive officers to be affiliates.

There were 565,212,958 shares of Marathon Petroleum Corporation Common Stock outstanding as of February 15, 2022.

Documents Incorporated By Reference

Portions of the registrant's proxy statement relating to its 2022 Annual Meeting of Shareholders, to be filed with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934, are incorporated by reference to the extent set forth in Part III, Items 10-14 of this Report.

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MARATHON PETROLEUM CORPORATION

Unless otherwise stated or the context otherwise indicates, all references in this Annual Report on Form 10-K to “MPC,” “us,” “our,” “we” or the “Company” mean Marathon Petroleum Corporation and its consolidated subsidiaries.

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GLOSSARY OF TERMS

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

ASC	Accounting Standards Codification
ANS	Alaska North Slope crude oil, an oil index benchmark price
ASU	Accounting Standards Update
ATB	Articulated tug barges
barrel	One stock tank barrel, or 42 U.S. gallons liquid volume, used in reference to crude oil or other liquid hydrocarbons.
CARB	California Air Resources Board
CARBOB	California Reformulated Gasoline Blendstock for Oxygenate Blending
CBOB	Conventional Blending for Oxygenate Blending
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization (a non-GAAP financial measure)
EPA	U.S. Environmental Protection Agency
ESG	Environmental, social and governance
FASB	Financial Accounting Standards Board
GAAP	Accounting principles generally accepted in the United States
GHG	Greenhouse gas
LCFS	Low Carbon Fuel Standard
LCM	Lower of cost or market
LIBOR	London Interbank Offered Rate
LIFO	Last in, first out
LLS	Louisiana Light Sweet crude oil, an oil index benchmark price
mbbls	Thousands of barrels
mbpd	Thousand barrels per day
mbpcd	Thousand barrels per calendar day
MEH	Magellan East Houston crude oil, an oil index benchmark price
MMcf/d	One million cubic feet of natural gas per day
MMBtu	One million British thermal units per day
NGL	Natural gas liquids, such as ethane, propane, butanes and natural gasoline
NYMEX	New York Mercantile Exchange
NYSE	New York Stock Exchange
OSHA	U. S. Occupational Safety and Health Administration
OTC	Over-the-Counter
PP&E	Property, plant and equipment
RFS2	Revised Renewable Fuel Standard program, as required by the Energy Independence and Security Act of 2007
RIN	Renewable Identification Number
SEC	U.S. Securities and Exchange Commission
STAR	South Texas Asset Repositioning
ULSD	Ultra-low sulfur diesel
USGC	U.S. Gulf Coast
UST	Underground storage tank
VIE	Variable interest entity
VPP	Voluntary Protection Program
WTI	West Texas Intermediate crude oil, an oil index benchmark price

DISCLOSURES REGARDING FORWARD-LOOKING STATEMENTS

This Annual Report on Form 10-K, particularly Item 1. Business, Item 1A. Risk Factors, Item 3. Legal Proceedings, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations and Item 7A. Quantitative and Qualitative Disclosures about Market Risk, includes forward-looking statements that are subject to risks, contingencies or uncertainties. You can identify forward-looking statements by words such as "anticipate," "believe," "commitment," "could," "design," "estimate," "expect," "forecast," "goal," "guidance," "imply," "intend," "may," "objective," "opportunity," "outlook," "plan," "policy," "position," "potential," "predict," "priority," "project," "proposition," "prospective," "pursue," "seek," "should," "strategy," "target," "will," "would" or other similar expressions that convey the uncertainty of future events or outcomes.

Forward-looking statements include, among other things, statements regarding:

- future financial and operating results;
- ESG goals and targets, including those related to GHG emissions, diversity and inclusion and ESG reporting;
- our plans to achieve our ESG goals and targets and to monitor and report progress thereon;
- future levels of capital, environmental or maintenance expenditures, general and administrative and other expenses;
- expected savings from the restructuring or reorganization of business components;
- the success or timing of completion of ongoing or anticipated maintenance projects or transactions;
- business strategies, growth opportunities and expected investments;
- consumer demand for refined products, natural gas and NGLs;
- the timing, amount and form of future capital return transactions at MPC or MPLX; and
- the anticipated effects of actions of third parties such as competitors, activist investors, federal, foreign, state or local regulatory authorities, or plaintiffs in litigation.

Our forward-looking statements are not guarantees of future performance, and you should not rely unduly on them, as they involve risks, uncertainties and assumptions that we cannot predict. Material differences between actual results and any future performance suggested in our forward-looking statements could result from a variety of factors, including the following:

- general economic, political or regulatory developments, including inflation, changes in governmental policies relating to refined petroleum products, crude oil, natural gas or NGLs, or taxation;
- the magnitude, duration and extent of future resurgences of the COVID-19 pandemic and its effects, including travel restrictions, business and school closures, increased remote work, stay-at-home orders and other actions taken by individuals, governments and the private sector to stem the spread of the virus;
- further impairments;
- the regional, national and worldwide availability and pricing of refined products, crude oil, natural gas, NGLs and other feedstocks;
- disruptions in credit markets or changes to credit ratings;
- the adequacy of capital resources and liquidity, including availability, timing and amounts of free cash flow necessary to execute business plans and to effect any share repurchases or to maintain or increase the dividend;
- the potential effects of judicial or other proceedings on the business, financial condition, results of operations and cash flows;
- continued or further volatility in and degradation of general economic, market, industry or business conditions as a result of the COVID-19 pandemic, other infectious disease outbreaks, natural hazards, extreme weather events or otherwise;
- compliance with federal and state environmental, economic, health and safety, energy and other policies and regulations and enforcement actions initiated thereunder;
- adverse market conditions or other risks affecting MPLX;
- refining industry overcapacity or under capacity;
- changes in producer customers' drilling plans or in volumes of throughput of crude oil, natural gas, NGLs, refined products or other hydrocarbon-based products;
- non-payment or non-performance by our customers;
- changes in the cost or availability of third-party vessels, pipelines, railcars and other means of transportation for crude oil, natural gas, NGLs, feedstocks and refined products;
- the price, availability and acceptance of alternative fuels and alternative-fuel vehicles and laws mandating such fuels or vehicles;

- political and economic conditions in nations that consume refined products, natural gas and NGLs, including the United States and Mexico, and in crude oil producing regions, including the Middle East, Russia, Africa, Canada and South America;
- actions taken by our competitors, including pricing adjustments, the expansion and retirement of refining capacity and the expansion and retirement of pipeline capacity, processing, fractionation and treating facilities in response to market conditions;
- completion of pipeline projects within the United States;
- changes in fuel and utility costs for our facilities;
- accidents or other unscheduled shutdowns affecting our refineries, machinery, pipelines, processing, fractionation and treating facilities or equipment, means of transportation, or those of our suppliers or customers;
- acts of war, terrorism or civil unrest that could impair our ability to produce refined products, receive feedstocks or to gather, process, fractionate or transport crude oil, natural gas, NGLs or refined products;
- political pressure and influence of environmental groups and other stakeholders upon policies and decisions related to the production, gathering, refining, processing, fractionation, transportation and marketing of crude oil or other feedstocks, refined products, natural gas, NGLs or other hydrocarbon-based products;
- labor and material shortages;
- the costs, disruption and diversion of management's attention associated with campaigns commenced by activist investors;
- personnel changes; and
- the other factors described in Item 1A. Risk Factors.

We undertake no obligation to update any forward-looking statements except to the extent required by applicable law.

PART I

ITEM 1. BUSINESS

OVERVIEW

Marathon Petroleum Corporation (“MPC”) has over 130 years of history in the energy business, and is a leading, integrated, downstream energy company. We operate the nation's largest refining system with approximately 2.9 million barrels per day of crude oil refining capacity and believe we are one of the largest wholesale suppliers of gasoline and distillates to resellers in the United States. We distribute our refined products through one of the largest terminal operations in the United States and one of the largest private domestic fleets of inland petroleum product barges. In addition, our integrated midstream energy asset network links producers of natural gas and NGLs from some of the largest supply basins in the United States to domestic and international markets.

Our operations consist of two reportable operating segments: Refining & Marketing and Midstream. Each of these segments is organized and managed based upon the nature of the products and services it offers.

- Refining & Marketing – refines crude oil and other feedstocks, including renewable feedstocks, at our refineries in the Gulf Coast, Mid-Continent and West Coast regions of the United States, purchases refined products and ethanol for resale and distributes refined products, including renewable diesel, through transportation, storage, distribution and marketing services provided largely by our Midstream segment. We sell refined products to wholesale marketing customers domestically and internationally, to buyers on the spot market, to independent entrepreneurs who operate primarily Marathon[®] branded outlets and through long-term supply contracts with direct dealers who operate locations mainly under the ARCO[®] brand.
- Midstream – transports, stores, distributes and markets crude oil and refined products principally for the Refining & Marketing segment via refining logistics assets, pipelines, terminals, towboats and barges; gathers, processes and transports natural gas; and gathers, transports, fractionates, stores and markets NGLs. The Midstream segment primarily reflects the results of MPLX LP (“MPLX”). MPLX is a diversified, large-cap master limited partnership (“MLP”) formed in 2012 that owns and operates midstream energy infrastructure and logistics assets and provides fuels distribution services. As of December 31, 2021, we owned the general partner of MPLX and approximately 64 percent of the outstanding MPLX common units.

Corporate History and Structure

MPC was incorporated in Delaware on November 9, 2009 in connection with an internal restructuring of Marathon Oil Corporation (“Marathon Oil”). On May 25, 2011, the Marathon Oil board of directors approved the spinoff of its Refining, Marketing & Transportation Business into an independent, publicly traded company, MPC, through the distribution of MPC common stock to the stockholders of Marathon Oil on June 30, 2011. Our common stock trades on the NYSE under the ticker symbol “MPC.”

On October 1, 2018, we acquired Andeavor. Andeavor shareholders received in the aggregate approximately 239.8 million shares of MPC common stock valued at \$19.8 billion and \$3.5 billion in cash. Andeavor was a highly integrated marketing, logistics and refining company operating primarily in the Western and Mid-Continent United States. Our acquisition of Andeavor in 2018 substantially increased our geographic diversification and the scale of our assets, which provides increased opportunities to optimize our system.

Recent Developments

Strategic Actions to Enhance Shareholder Value

Speedway Sale

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven, Inc. (“7-Eleven”) for cash proceeds of \$21.38 billion (\$17.22 billion after cash-tax payments). This transaction resulted in a pretax gain of \$11.68 billion (\$8.02 billion after income taxes), after deducting the book value of the net assets and certain other adjustments. MPC remains committed to executing its plan to use the net proceeds from the sale to strengthen the balance sheet and return capital to shareholders.

OUR OPERATIONS

Refining & Marketing

Refineries

We currently own and operate refineries in the Gulf Coast, Mid-Continent and West Coast regions of the United States with an aggregate crude oil refining capacity of 2,887 mbpcd. During 2021, our refineries processed 2,621 mbpd of crude oil and 178 mbpd of other charge and blendstocks. During 2020, our refineries processed 2,418 mbpd of crude oil and 165 mbpd of other charge and blendstocks.

Our refineries include crude oil atmospheric and vacuum distillation, fluid catalytic cracking, hydrocracking, catalytic reforming, coking, desulfurization and sulfur recovery units. The refineries process a wide variety of condensate and light and heavy crude oils purchased from various domestic and foreign suppliers. We produce numerous refined products, ranging from transportation fuels, such as reformulated gasolines, blend-grade gasolines intended for blending with ethanol and ULSD fuel, to heavy fuel oil and asphalt. Additionally, we manufacture aromatics, propane, propylene and sulfur. See the Refined Product Marketing section for further information about the products we produce.

Our refineries are integrated with each other via pipelines, terminals and barges to maximize operating efficiency. The transportation links that connect our refineries allow the movement of intermediate products between refineries to optimize operations, produce higher margin products and efficiently utilize our processing capacity. Also, shipping intermediate products between facilities during partial refinery shutdowns allows us to utilize processing capacity that is not directly affected by the shutdown work.

Following is a description of each of our refineries and their capacity by region.

Gulf Coast Region (1,178 mbpcd)

Galveston Bay, Texas City, Texas Refinery (593 mbpcd)

Our Galveston Bay refinery is our largest refining complex, and is a combination of our former Texas City refinery and Galveston Bay refinery. The refinery is located on the Texas Gulf Coast southeast of Houston, Texas and can process a wide variety of crude oils into gasoline, distillates, feedstocks, petrochemicals, propane and heavy fuel oil. The refinery has access to the export market and multiple options to sell refined products. Our cogeneration facility, which supplies the Galveston Bay refinery, currently has 1,055 megawatts of electrical production capacity and can produce 4.3 million pounds of steam per hour. Approximately 45 percent of the power generated in 2021 was used at the refinery, with the remaining electricity being sold into the electricity grid.

Garyville, Louisiana Refinery (585 mbpcd)

Our Garyville refinery, which is one of the largest refineries in the U.S., is located along the Mississippi River in southeastern Louisiana between New Orleans, Louisiana and Baton Rouge, Louisiana. The Garyville refinery is configured to process a wide variety of crude oils into gasoline, distillates, petrochemicals, feedstocks, asphalt, propane and heavy fuel oil. The refinery has access to the export market and multiple options to sell refined products. Our Garyville refinery has earned designation as an OSHA VPP Star site.

Mid-Continent Region (1,159 mbpcd)

Catlettsburg, Kentucky Refinery (291 mbpcd)

Our Catlettsburg refinery is located in northeastern Kentucky on the western bank of the Big Sandy River, near the confluence with the Ohio River. The Catlettsburg refinery processes sweet and sour crude oils, including production from the nearby Utica Shale, into gasoline, distillates, asphalt, petrochemicals, propane, feedstocks and heavy fuel oil. Our Catlettsburg refinery has earned designation as an OSHA VPP Star site.

Robinson, Illinois Refinery (253 mbpcd)

Our Robinson refinery is located in southeastern Illinois. The Robinson refinery processes sweet and sour crude oils into gasoline, distillates, feedstocks, propane, petrochemicals and heavy fuel oil. The Robinson refinery has earned designation as an OSHA VPP Star site.

Detroit, Michigan Refinery (140 mbpcd)

Our Detroit refinery is located in southwest Detroit. It is the only petroleum refinery currently operating in Michigan. The Detroit refinery processes sweet and heavy sour crude oils into gasoline, distillates, asphalt, feedstocks, petrochemicals, propane and heavy fuel oil. Our Detroit refinery has earned designation as an OSHA VPP Star site.

El Paso, Texas Refinery (133 mbpcd)

Our El Paso refinery is located east of downtown El Paso. The El Paso refinery processes sweet and sour crudes into gasoline, distillates, heavy fuel oil, asphalt, propane and petrochemicals.

St. Paul Park, Minnesota Refinery (105 mbpcd)

Our St. Paul Park refinery is located along the Mississippi River southeast of St. Paul Park. The St. Paul Park refinery processes sweet and heavy sour crude and manufactures gasoline, distillates, asphalt, petrochemicals, propane, heavy fuel oil and feedstocks.

Canton, Ohio Refinery (100 mbpcd)

Our Canton refinery is located south of Cleveland, Ohio. The Canton refinery processes sweet and sour crude oils, including production from the nearby Utica Shale, into gasoline, distillates, asphalt, propane, petrochemicals, feedstocks and heavy fuel oil. The Canton refinery has earned designation as an OSHA VPP Star site.

Mandan, North Dakota Refinery (71 mbpcd)

The Mandan refinery is located outside of Bismarck, North Dakota. The Mandan refinery processes primarily sweet domestic crude oil from North Dakota and manufactures gasoline, distillates, propane, heavy fuel oil, feedstocks and petrochemicals.

Salt Lake City, Utah Refinery (66 mbpcd)

Our Salt Lake City refinery is the largest in Utah and is located north of downtown Salt Lake City. The Salt Lake City refinery processes crude oil from Utah, Colorado, Wyoming and Canada to manufacture gasoline, distillates, petrochemicals, heavy fuel oil, propane and feedstocks.

West Coast Region (550 mbpcd)

Los Angeles, California Refinery (363 mbpcd)

Our Los Angeles refinery is located in Los Angeles County, near the Los Angeles Harbor. The Los Angeles refinery is the largest refinery on the West Coast and is a major producer of cleaner burning CARB fuels. The Los Angeles refinery processes heavy crude from California's San Joaquin Valley and Los Angeles Basin as well as crudes from the Alaska North Slope, South America, West Africa and other international sources and manufactures CARB gasoline and CARB diesel fuel, as well as conventional gasoline, distillates, feedstocks, petrochemicals, propane and heavy fuel oil.

Anacortes, Washington Refinery (119 mbpcd)

Our Anacortes refinery is located north of Seattle on Puget Sound. The Anacortes refinery processes Canadian crude, domestic crude from North Dakota and Alaska North Slope and international crudes to manufacture gasoline, distillates, heavy fuel oil, feedstocks, propane and petrochemicals.

Kenai, Alaska Refinery (68 mbpcd)

Our Kenai refinery is located on the Cook Inlet, southwest of Anchorage. The Kenai refinery processes mainly Alaska domestic crude, domestic crude from North Dakota, along with limited international crude and manufactures distillates, gasoline, heavy fuel oil, feedstocks, asphalt, propane and petrochemicals.

Planned maintenance activities, or turnarounds, requiring temporary shutdown of certain refinery operating units, are periodically performed at each refinery. See Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations for additional detail.

Refined Product Yields

The following table sets forth our refinery production by product group for each of the last three years.

<i>(mbpd)</i>	2021	2020	2019
Gasoline	1,446	1,314	1,560
Distillates ^(a)	965	905	1,087
Feedstocks and petrochemicals ^(a)	250	244	315
Asphalt	91	81	87
Propane	52	51	55
Heavy fuel oil	31	28	49
Total	<u>2,835</u>	<u>2,623</u>	<u>3,153</u>

^(a) Product yields include renewable production.

Crude Oil Supply

We obtain the crude oil we refine through negotiated term contracts and purchases or exchanges on the spot market. Our term contracts generally have market-related pricing provisions. The following table provides information on our sources of crude oil for each of the last three years. The crude oil sourced outside of North America was acquired from various foreign national oil companies, production companies and trading companies.

<i>(mbpd)</i>	2021	2020	2019
United States	1,890	1,650	1,962
Canada	445	442	541
Middle East and other international	286	326	399
Total	2,621	2,418	2,902

Our refineries receive crude oil and other feedstocks and distribute our refined products through a variety of channels, including pipelines, trucks, railcars, ships and barges.

Renewable Fuels

The Dickinson, North Dakota, renewable fuels facility began operations at the end of 2020 and reached full design operating capacity in the second quarter of 2021. The facility has the capacity to produce 184 million gallons per year of renewable diesel from corn oil, soybean oil, fats, and greases. The produced renewable diesel generates federal RINs and LCFS credits when sold in California or similar markets. These instruments are used to help meet our Renewable Fuel Standard and LCFS compliance obligations as a petroleum fuel producer.

On February 24, 2021, we announced our plan to strategically reposition the Martinez refinery to a renewable diesel facility. Converting the Martinez facility from refining petroleum to manufacturing renewable fuels signals our strong commitment to producing a substantial level of lower carbon-intensity fuels in California. As envisioned, the Martinez facility would start producing approximately 260 million gallons per year of renewable diesel by the second half of 2022, with pretreatment capabilities coming online in 2023. The facility is expected to be capable of producing approximately 730 million gallons per year by the end of 2023.

Our wholly owned subsidiary, Virent, operates an advanced biofuels facility in Madison, Wisconsin at which it is working to commercialize a process for converting biobased feedstocks into renewable fuels and chemicals. During 2021, Virent contributed to an aviation industry first, as United Airlines flew an aircraft full of passengers using 100 percent sustainable aviation fuel ("SAF") in one engine and petroleum-based jet fuel in the other. Virent used its BioForm® process to produce synthesized aromatic kerosene – a critical component that made the 100 percent SAF possible.

On December 14, 2021, we finalized the formation of a joint venture with Archer-Daniels-Midland Company ("ADM") for the production of soybean oil to supply rapidly growing demand for renewable diesel fuel. The joint venture, which is named Green Bison Soy Processing, LLC, will own and operate a soybean processing complex in Spiritwood, North Dakota, with ADM owning 75 percent of the joint venture and MPC owning 25 percent. When complete in 2023, the Spiritwood facility will source and process local soybeans and supply the resulting soybean oil exclusively to MPC. The Spiritwood complex is expected to produce approximately 600 million pounds of refined soybean oil annually, enough feedstock for approximately 75 million gallons of renewable diesel per year.

We hold an ownership interest in ethanol production facilities in Albion, Michigan; Logansport, Indiana; Greenville, Ohio and Denison, Iowa. These plants have a combined ethanol production capacity of approximately 475 million gallons per year and are managed by our joint venture partner, The Andersons.

Refined Product Sales

Our refined products are sold to independent retailers, wholesale customers, our brand jobbers and direct dealers. In addition, we sell refined products for export to international customers. As of December 31, 2021, there were 7,159 brand jobber outlets in 37 states, the District of Columbia and Mexico where independent entrepreneurs primarily maintain Marathon-branded outlets. We also have long-term supply contracts for 1,086 direct dealer locations primarily in Southern California, largely under the ARCO® brand. We believe we are one of the largest wholesale suppliers of gasoline and distillates to resellers and consumers within our market area.

The following table sets forth our refined product sales volumes by product group for each of the last three years.

<i>(mbpd)</i>	2021 ^(a)	2020 ^(a)	2019 ^(a)
Gasoline ^(b)	1,834	1,669	1,967
Distillates ^(b)	1,089	1,040	1,205
Feedstocks and petrochemicals ^(b)	293	323	345
Asphalt	94	86	93
Propane	76	69	72
Heavy fuel oil	39	35	53
Total	<u>3,425</u>	<u>3,222</u>	<u>3,735</u>

^(a) Refined product sales include volumes marketed directly to end-users and trading/supply volumes such as bulk sales to large unbranded resellers and other downstream companies.

^(b) Sales include renewable products.

Refined Product Sales Destined for Export

We sell gasoline, distillates and asphalt for export, primarily out of our Garyville, Galveston Bay, Anacortes and Los Angeles refineries. The following table sets forth our refined product sales destined for export by product group for the past three years.

<i>(mbpd)</i>	2021	2020	2019
Gasoline	154	110	131
Distillates	162	187	215
Other	55	43	51
Total	<u>371</u>	<u>340</u>	<u>397</u>

Gasoline and Distillates

We sell gasoline, gasoline blendstocks and distillates (including No. 1 and No. 2 fuel oils, jet fuel, kerosene, diesel fuel and renewable diesel) to wholesale customers, branded jobbers, direct dealers and in the spot market. In addition, we sell diesel fuel and gasoline for export to international customers. The demand for gasoline and distillates is seasonal in many of our markets, with demand typically at its highest levels during the summer months.

Feedstocks and Petrochemicals

We are a producer and marketer of feedstocks and petrochemicals. Product availability varies by refinery and includes, among others, propylene, naphtha, xylene, benzene, butane, alkylate, raffinate, cumene, platformate and toluene. We market these products domestically to customers in the chemical, agricultural and fuel-blending industries. In addition, we produce fuel-grade coke at our Garyville, Detroit, Galveston Bay and Los Angeles refineries, which is used for power generation and in miscellaneous industrial applications, and anode-grade coke at our Los Angeles and Robinson refineries, in addition to calcined coke at our Los Angeles refinery, which are both used to make carbon anodes for the aluminum smelting industry.

Asphalt

We have refinery-based asphalt production capacity of up to 141 mbpcd, which includes asphalt cements, polymer-modified asphalt, emulsified asphalt, industrial asphalts and roofing flux. We have a broad customer base, including asphalt-paving contractors, resellers, government entities (states, counties, cities and townships) and asphalt roofing shingle manufacturers. We sell asphalt in the domestic and export wholesale markets via rail, barge and vessel.

Propane

We produce propane at all of our refineries. Propane is primarily used for home heating and cooking, as a feedstock within the petrochemical industry, for grain drying and as a fuel for trucks and other vehicles. Our propane sales are split approximately 80 percent and 20 percent between the home heating market and industrial/petrochemical consumers, respectively.

Heavy Fuel Oil

We produce and market heavy residual fuel oil or related components, including slurry, at all of our refineries. Heavy residual fuel oil is primarily used in the utility and ship bunkering (fuel) industries, though there are other more specialized uses of the product.

Terminals and Transportation

We transport, store and distribute crude oil, feedstocks and refined products through pipelines, terminals and marine fleets owned by MPLX and third parties in our market areas.

We own a fleet of transport trucks and trailers for the movement of refined products and crude oil. In addition, we maintain a fleet of leased and owned railcars for the movement and storage of refined products.

The locations and detailed information about our Refining & Marketing assets are included under Item 2. Properties and are incorporated herein by reference.

Competition, Market Conditions and Seasonality

The downstream petroleum business is highly competitive, particularly with regard to accessing crude oil and other feedstock supply and the marketing of refined products. We compete with a number of other companies to acquire crude oil for refinery processing and in the distribution and marketing of a full array of refined products.

We compete in four distinct markets for the sale of refined products—wholesale, including exports, spot, branded and retail distribution. Our marketing operations compete with numerous other independent marketers, integrated oil companies and high-volume retailers. We compete with companies in the sale of refined products to wholesale marketing customers, including private-brand marketers and large commercial and industrial consumers; companies in the sale of refined products in the spot market; and refiners or marketers in the supply of refined products to refiner-branded independent entrepreneurs. In addition, we compete with producers and marketers in other industries that supply alternative forms of energy and fuels to satisfy the requirements of our industrial, commercial and retail consumers.

Market conditions in the oil and gas industry are cyclical and subject to global economic and political events and new and changing governmental regulations. Our operating results are affected by price changes in crude oil, natural gas and refined products, as well as changes in competitive conditions in the markets we serve. Price differentials between sweet and sour crude oils, ANS, WTI and MEH crude oils and other market structure impacts also affect our operating results.

Demand for gasoline, diesel fuel and asphalt is higher during the spring and summer months than during the winter months in most of our markets, primarily due to seasonal increases in highway traffic and construction. As a result, the operating results for our Refining & Marketing segment for the first and fourth quarters may be lower than for those in the second and third quarters of each calendar year.

Midstream

The Midstream segment primarily includes the operations of MPLX, our sponsored MLP, and certain related operations retained by MPC.

MPLX

MPLX owns and operates a network of crude oil, natural gas and refined product pipelines and has joint ownership interests in other crude oil and refined products pipelines. MPLX also owns and operates light products terminals, storage assets and maintains a fleet of owned and leased towboats and barges. MPLX's assets also include natural gas gathering systems and natural gas processing and NGL fractionation complexes.

MPC-Retained Midstream Assets and Investments

We have ownership interests in several crude oil and refined products pipeline systems and pipeline companies and have indirect ownership interests in two ocean vessel joint ventures through our investment in Crowley Coastal Partners.

The locations and detailed information about our Midstream assets are included under Item 2. Properties and are incorporated herein by reference.

Competition, Market Conditions and Seasonality

Our Midstream operations face competition for natural gas gathering, crude oil transportation and in obtaining natural gas supplies for our processing and related services; in obtaining unprocessed NGLs for gathering, transportation and fractionation; and in marketing our products and services. Competition for natural gas supplies is based primarily on the location of gas gathering facilities and gas processing plants, operating efficiency and reliability, residue gas and NGL market connectivity, the ability to obtain a satisfactory price for products recovered and the fees charged for the services supplied to the customer. Competition for oil supplies is based primarily on the price and scope of services, location of gathering/transportation and storage facilities and connectivity to the best priced markets. Competitive factors affecting our fractionation services include availability of fractionation capacity, proximity to supply and industry marketing centers, the fees charged for fractionation services and operating efficiency and reliability of service. Competition for customers to purchase our natural gas and NGLs is based primarily on price, credit and market connectivity. In addition, certain of our Midstream operations are subject to rate regulation, which affects the rates that our common carrier pipelines can charge for transportation services and the return we obtain from such pipelines.

Our Midstream segment can be affected by seasonal fluctuations in the demand for natural gas and NGLs and the related fluctuations in commodity prices caused by various factors such as changes in transportation and travel patterns and variations in weather patterns from year to year.

REGULATORY MATTERS

Our operations are subject to numerous laws and regulations, including those relating to the protection of the environment. Such laws and regulations include, among others, the Clean Air Act (“CAA”) with respect to air emissions, the Clean Water Act (“CWA”) with respect to water discharges, the Resource Conservation and Recovery Act (“RCRA”) with respect to solid and hazardous waste treatment, storage and disposal, the Comprehensive Environmental Response, Compensation, and Liability Act (“CERCLA”) with respect to releases and remediation of hazardous substances and the Oil Pollution Act of 1990 (“OPA-90”) with respect to oil pollution and response. In addition, many states where we operate have similar laws. New laws are being enacted and regulations are being adopted on a continuing basis, and the costs of compliance with such new laws and regulations are very difficult to estimate until finalized.

For a discussion of environmental capital expenditures and costs of compliance, see Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations-Environmental Matters and Compliance Costs. For additional information regarding regulatory risks, see Item 1A. Risk Factors.

Rate Regulation

Some of our existing pipelines are considered interstate common carrier pipelines subject to regulation by the Federal Energy Regulatory Commission (“FERC”) under the Interstate Commerce Act (the “ICA”), Energy Policy Act of 1992 (“EPAAct 1992”) and the rules and regulations promulgated under those laws. The ICA and FERC regulations require that tariff rates for oil pipelines, a category that includes crude oil and petroleum product pipelines, be just and reasonable and the terms and conditions of service must not be unduly discriminatory. The ICA permits interested persons to challenge newly proposed tariff rates or terms and conditions of service, or any change to tariff rates or terms and conditions of service, and authorizes FERC to suspend the effectiveness of such proposal or change for a period of time to investigate. If, upon completion of an investigation, FERC finds that the new or changed service or rate is unlawful, it is authorized to require the carrier to refund the revenues in excess of the prior tariff collected during the pendency of the investigation. An interested person may also challenge existing terms and conditions of service or rates and FERC may order a carrier to change its terms and conditions of service or rates prospectively. Upon an appropriate showing, a shipper may also obtain reparations for damages sustained during the two years prior to the filing of a complaint.

EPAAct 1992 deemed certain interstate petroleum pipeline rates then in effect to be just and reasonable under the ICA. These rates are commonly referred to as “grandfathered rates.” Our rates for interstate transportation service in effect for the 365-day period ending on the date of the passage of EPAAct 1992 were deemed just and reasonable and therefore are grandfathered. Subsequent changes to those rates are not grandfathered. New rates have since been established after EPAAct 1992 for certain pipelines, and the rates for certain of our refined products pipelines have subsequently been approved as market-based rates.

FERC permits regulated oil pipelines to change their rates within prescribed ceiling levels that are tied to an inflation index. A carrier must, as a general rule, utilize the indexing methodology to change its rates. Cost-of-service ratemaking, market-based rates and settlement rates are alternatives to the indexing approach and may be used in certain specified circumstances to change rates.

Air

Greenhouse Gas Emissions

We believe it is likely that the scientific and political attention to greenhouse gas emissions, climate change, and climate adaptation will continue, with the potential for further regulations that could affect our operations. Currently, legislative and regulatory measures to address greenhouse gas emissions are in various phases of review, discussion or implementation. Reductions in greenhouse gas emissions could result in increased costs to (i) operate and maintain our facilities, (ii) install new emission controls at our facilities, (iii) capture the emissions from our facilities and (iv) administer and manage any greenhouse gas emissions programs, including acquiring emission credits or allotments.

In February 2021, the Interagency Working Group on the Social Cost of Greenhouse Gases published interim estimates of the social cost of carbon, methane and nitrous oxide and is expected to finalize its estimates in 2022. The social cost of carbon, methane and nitrous oxide can be used to weigh the costs and benefits of proposed regulations. A higher social cost could support more stringent greenhouse gas emission regulation.

States are becoming active in regulating greenhouse gas emissions. These measures may include state actions to develop statewide or regional programs to report emissions and impose emission reductions. These measures may also include low-carbon fuel standards, such as the California program, or a state carbon tax. These measures could result in increased costs to operate and maintain our facilities, capital expenditures to install new emission controls and costs to administer any carbon trading or tax programs implemented. For example, California has enacted a cap-and-trade program. Much of the compliance costs associated with the California program are ultimately passed on to the consumer in the form of higher fuel costs. States are increasingly announcing aspirational goals to be net-zero carbon emissions by a certain date through both legislation and executive orders. To date, these states have not provided significant details as to achievement of these goals; however, meeting these aspirations will require a reduction in fossil fuel combustion and/or a mechanism to capture greenhouse gases from the

atmosphere. As a result, we cannot currently predict the impact of these potential regulations on our liquidity, financial position, or results of operations.

Other Air Emissions

In 2021, EPA announced it is reconsidering the National Ambient Air Quality Standards (“NAAQS”) for ozone and particulate matter. Lowering of the NAAQS and subsequent designation as a nonattainment area could result in increased costs associated with, or result in cancellation or delay of, capital projects at our facilities, or could require emission reductions that could result in increased costs to our facilities.

In California, the Governing Board for the South Coast Air Quality Management District (“SCAQMD”) adopted Rule 1109.1 in November 2021, which establishes Best Available Retrofit Control Technology (“BARCT”) oxides of nitrogen (“NOx”) and carbon monoxide (“CO”) emission limits for combustion equipment at petroleum refineries. These new requirements will replace the Regional Clean Air Incentives Market (“RECLAIM”) cap-and-trade program which has required a staged refinery-wide reduction of NOx emissions over the last several years and will result in additional emission reductions from our Los Angeles Refinery. Compliance with Rule 1109.1 is being phased in through 2032 and will result in increased costs to operate and maintain our Los Angeles Refinery.

Water

We maintain numerous discharge permits as required under the National Pollutant Discharge Elimination System program of the CWA and have implemented systems to oversee our compliance with these permits. In addition, we are regulated under OPA-90, which, among other things, requires the owner or operator of a tank vessel or a facility to maintain an emergency plan to respond to releases of oil or hazardous substances. OPA-90 also requires the responsible company to pay resulting removal costs and damages and provides for civil penalties and criminal sanctions for violations of its provisions. We operate tank vessels and facilities from which spills of oil and hazardous substances could occur. We have implemented emergency oil response plans for all of our components and facilities covered by OPA-90 and we have established Spill Prevention, Control and Countermeasures plans for all facilities subject to such requirements. Some coastal states in which we operate have passed state laws similar to OPA-90, but with expanded liability provisions, that include provisions for cargo owner responsibility as well as ship owner and operator responsibility.

On October 22, 2019, EPA and the United States Army Corps of Engineers (“Army Corps”) published a final rule to repeal the 2015 “Clean Water Rule: Definition of Waters of the United States” (“2015 Rule”), which amended portions of the Code of Federal Regulations (“CFR”) to restore the regulatory text that existed prior to the 2015 Rule, effective December 23, 2019. The rule repealing the 2015 Clean Water Rule has been challenged in multiple federal courts. On April 21, 2020, EPA and the Army Corps promulgated the Navigable Waters Protection Rule (“2020 Rule”) to define “waters of the United States.” The 2020 Rule has been challenged in court. The Biden administration has signaled its intent to revisit the definition of “waters of the United States,” and replace it with a definition consistent with the 2015 Rule. A broader definition could result in increased cost of compliance or increased capital costs for construction of new facilities or expansion of existing facilities.

In April 2020, the U.S. District Court in Montana vacated Nationwide Permit 12 (“NWP 12”), which authorizes the placement of fill material in “waters of the United States” for utility line activities as long as certain best management practices are implemented. The decision was ultimately appealed to the United States Supreme Court, which partially reversed the district court’s decision, temporarily reinstating NWP 12 for all projects except the Keystone XL oil pipeline. The United States Army Corps of Engineers subsequently reissued its nationwide permit authorizations on January 13, 2021, by dividing the NWP that authorizes utility line activities (NWP 12) into three separate NWPs that address the differences in how different utility line projects are constructed, the substances they convey, and the different standards and best management practices that help ensure those NWPs authorize only those activities that have no more than minimal adverse environmental effects. A challenge of the 2021 authorization is currently pending before the U.S. District Court in Montana and the plaintiffs request the court vacate and remand the 2021 authorization. Also, a petition has been filed with the United States Army Corps of Engineers asking it to revoke the 2021 authorization. The Biden Administration could repeal or replace the 2021 authorization in a subsequent rulemaking. The repeal, vacatur, revocation or replacement of the 2021 authorization could impact pipeline construction and maintenance activities.

As part of our emergency response activities, we have used aqueous film forming foam (“AFFF”) containing per- and polyfluoroalkyl substances (“PFAS”) chemicals as a vapor and fire suppressant. At this time, AFFFs containing PFAS are the only proven foams that can prevent and control a flammable petroleum-based liquid fire involving a large storage tank or tank containment area.

In May 2016, EPA issued lifetime health advisory levels (“HALs”) and health effects support documents for two PFAS substances - Perfluorooctanoic Acid (“PFOA”) and Perfluorooctane Sulfonate (“PFOS”). Then, in February 2019, EPA issued a PFAS Action Plan identifying actions it is planning to take to study and regulate various PFAS chemicals. EPA identified that it would evaluate, among other actions, (1) proposing national drinking water standards for PFOA and PFOS, (2) develop cleanup recommendations for PFOA and PFOS, (3) evaluate listing PFOA and PFOS as hazardous substances under CERCLA, and (4) conduct toxicity assessments for other PFAS chemicals. EPA did not issue any further regulations for PFAS under the Trump administration. In October 2021, EPA updated the 2019 PFAS Action Plan. The Biden Administration has drafted a proposed rule that would designate variants of PFAS as CERCLA hazardous substances. Additional PFAS regulation could include the designation of PFAS as a RCRA hazardous waste and/or the establishment of national drinking water standards. Congress may

also take further action to regulate PFAS. We cannot currently predict the impact of potential statutes or regulations on our operations or remediation costs.

In addition, many states are actively proposing and adopting legislation and regulations relating to the use of AFFFs containing PFAS. Additionally, many states are using EPA HALs for PFOS and PFOA and some states are adopting and proposing state-specific drinking water and cleanup standards for various PFAS, including but not limited to PFOS and PFOA. We cannot currently predict the impact of these regulations on our liquidity, financial position, or results of operations.

Solid Waste

We continue to seek methods to minimize the generation of hazardous wastes in our operations. RCRA establishes standards for the management of solid and hazardous wastes. Besides affecting waste disposal practices, RCRA also addresses the environmental effects of certain past waste disposal operations, the recycling of wastes and the regulation of USTs containing regulated substances.

Remediation

We own or operate, or have owned or operated, certain convenience stores and other locations where, during the normal course of operations, releases of refined products from USTs have occurred. Federal and state laws require that contamination caused by such releases at these sites be assessed and remediated to meet applicable standards. Penalties or other sanctions may be imposed for noncompliance. The enforcement of the UST regulations under RCRA has been delegated to the states, which administer their own UST programs. Our obligation to remediate such contamination varies, depending on the extent of the releases and the applicable state laws and regulations. A portion of these remediation costs may be recoverable from the appropriate state UST reimbursement funds once the applicable deductibles have been satisfied. We also have ongoing remediation projects at a number of our current and former refinery, terminal and pipeline locations.

Claims under CERCLA and similar state acts have been raised with respect to the clean-up of various waste disposal and other sites. CERCLA is intended to facilitate the clean-up of hazardous substances without regard to fault. Potentially responsible parties for each site include present and former owners and operators of, transporters to and generators of the hazardous substances at the site. Liability is strict and can be joint and several. Because of various factors including the difficulty of identifying the responsible parties for any particular site, the complexity of determining the relative liability among them, the uncertainty as to the most desirable remediation techniques and the amount of damages and clean-up costs and the time period during which such costs may be incurred, we are unable to reasonably estimate our ultimate cost of compliance with CERCLA; however, we do not believe such costs will be material to our business, financial condition, results of operations or cash flows.

Vehicle and Fuel Requirements

Fuel Economy and Greenhouse Gas Emission Standards for Vehicles

The National Highway Traffic Safety Administration (“NHTSA”) establishes corporate average fuel economy (“CAFE”) standards for passenger cars and light trucks. In addition, EPA establishes carbon dioxide (“CO₂”) emission standards for passenger cars and light trucks. At the direction of President Biden in his executive order setting a goal that 50 percent of all new passenger cars and light trucks sold in 2030 be zero emission vehicles, EPA and NHTSA in 2021 issued separate proposed rules setting more stringent requirements for reductions through model year 2026. NHTSA’s proposed amended CAFE standards would increase in stringency from model year 2023 levels by eight percent per year over model years 2024-2026. EPA’s revised model year 2023-2026 CO₂ emission standards, which were finalized in December 2021, result in average fuel economy of 40 mpg in model year 2026. Higher CAFE and CO₂ emission standards for cars and light trucks reduce demand for our transportation fuels.

In addition, California may establish per its Clean Air Act waiver authority different standards that could apply in multiple states. EPA has proposed a rule that would reinstate California’s waiver for its Advanced Clean Car program, which includes requirements for zero emission vehicle sales through 2025. California’s governor has also issued an executive order requiring sales of all new passenger vehicles in the state be zero-emission by 2035. Other states have issued, or may issue, zero emission vehicle mandates.

Renewable Fuels Standards and Low Carbon Fuel Standards

Pursuant to the Energy Policy Act of 2005 and the EISA, Congress established a Renewable Fuel Standard (“RFS”) program that requires annual volumes of renewable fuel be blended into domestic transportation fuel. The statutory volumes apply through calendar year 2022, after which EPA is required to set the annual volumes in accordance with statutory factors. When EPA promulgates the annual renewable fuel volume obligations, EPA may reduce the amount of renewable fuel that must be blended using its waiver or reset authority.

In its most recent annual rulemaking, EPA has proposed the annual renewable fuel standards for the years 2021 and 2022 and has also proposed reopening the renewable fuel standards for 2020 given the unique and unprecedented conditions caused by the COVID pandemic. Because the 2020 and 2021 standards would be promulgated after-the-fact, EPA is setting the standards to align with actual renewable fuel volumes. For 2022, EPA is proposing standards above the original 2020 standards. EPA is also proposing to add in a supplemental 500 million gallon total renewable fuel obligation to address the D.C. Circuit Court’s

remand of the 2016 annual renewable fuel standards. The supplemental 500-million-gallon obligation would be split between 2022 and 2023.

EPA's policy on granting small refinery exemption petitions has changed under the Biden Administration. In December 2021, EPA proposed to deny 65 small refinery exemption petitions currently pending before the agency. In addition, EPA is re-evaluating 31 small refinery exemptions that had been granted for compliance year 2018 after the D.C. Circuit court remanded the decisions to EPA for further consideration. Under its new policy, EPA may reverse its original decision and deny these 31 petitions. All these actions – the increase in 2022 standards, the 2016 supplemental volume, EPA's reversal of exemptions previously granted to us or other refiners – could result in a decrease in the RIN bank, an increase in the price of RINs or an increase in the amount of renewable fuel we are required to blend, any of which could increase MPC's RFS cost of compliance.

There is currently no regulatory method for verifying the validity of most RINs sold on the open market. We have developed a RIN integrity program to vet the RINs that we purchase, and we incur costs to audit RIN generators. Nevertheless, if any of the RINs that we purchase and use for compliance are found to be invalid, we could incur costs and penalties for replacing the invalid RINs.

In addition to the federal Renewable Fuel Standards, certain states have, or are considering, promulgation of state renewable or low carbon fuel standards. For example, California began implementing its LCFS in January 2011. In September 2015, the CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. The LCFS was amended again in 2018 with the current version targeting a 20 percent reduction in fuel carbon intensity from a 2010 baseline by 2030. We incur costs to comply with LCFS programs, and these costs may increase if the cost of LCFS credits increases.

In sum, the RFS has required, and may in the future continue to require, additional capital expenditures or expenses by us to accommodate increased renewable fuels use. We may experience a decrease in demand for refined products due to an increase in combined fleet mileage or due to refined products being replaced by renewable fuels. Demand for our refined products also may decrease as a result of low carbon fuel standard programs or electric vehicle mandates.

Safety Matters

We are subject to oversight pursuant to the federal Occupational Safety and Health Act, as amended ("OSH Act"), as well as comparable state statutes that regulate the protection of the health and safety of workers. We believe that we have conducted our operations in substantial compliance with regulations promulgated pursuant to the OSH Act, including general industry standards, record-keeping requirements and monitoring of occupational exposure to regulated substances.

We are also subject at regulated facilities to the Occupational Safety and Health Administration's Process Safety Management ("PSM") and EPA's Risk Management Program ("RMP") requirements, which are intended to prevent or minimize the consequences of catastrophic releases of toxic, reactive, flammable or explosive chemicals. The application of these regulations can result in increased compliance expenditures.

In general, we expect industry and regulatory safety standards to become more stringent over time, resulting in increased compliance expenditures. While these expenditures cannot be accurately estimated at this time, we do not expect such expenditures will have a material adverse effect on our results of operations.

The DOT has adopted safety regulations with respect to the design, construction, operation, maintenance, inspection and management of our pipeline assets. These regulations contain requirements for the development and implementation of pipeline integrity management programs, which include the inspection and testing of pipelines and the correction of anomalies. These regulations also require that pipeline operation and maintenance personnel meet certain qualifications and that pipeline operators develop comprehensive spill response plans.

Tribal Lands

Various federal agencies, including EPA and the Department of the Interior, along with certain Native American tribes, promulgate and enforce regulations pertaining to oil and gas operations on Native American tribal lands where we operate. These regulations include such matters as lease provisions, drilling and production requirements, and standards to protect environmental quality and cultural resources. In addition, each Native American tribe is a sovereign nation having the right to enforce certain laws and regulations and to grant approvals independent from federal, state and local statutes and regulations. These laws and regulations may increase our costs of doing business on Native American tribal lands and impact the viability of, or prevent or delay our ability to conduct, our operations on such lands.

TRADEMARKS, PATENTS AND LICENSES

Our Marathon and ARCO trademarks are material to the conduct of our refining and marketing operations. We currently hold a number of U.S. and foreign patents and have various pending patent applications. Although in the aggregate our patents and licenses are important to us, we do not regard any single patent or license or group of related patents or licenses as critical or essential to our business as a whole. In general, we depend on our technological capabilities and the application of know-how rather than patents and licenses in the conduct of our operations.

HUMAN CAPITAL

We believe our employees are our greatest asset of strength, and our culture reflects the quality of individuals across our workforce. Our collaborative efforts to foster an inclusive environment, provide broad-based development and mentorship opportunities, recognize and reward accomplishments, and offer benefits that support the well-being of our employees and their families contribute to increased engagement and fulfilling careers. Empowering our people and prioritizing accountability also are key components for developing MPC's high-performing culture, which is critical to achieving our strategic vision.

Employee Profile

As of December 31, 2021, we employed approximately 17,700 people in full-time and part-time roles. Many of these employees provide services to MPLX, for which we are reimbursed in accordance with employee service agreements. Approximately 3,760 of our employees are covered by collective bargaining agreements.

Talent Management

Executing our strategic vision requires that we attract and retain the best talent. Recruiting and retention success requires that we effectively nurture new employees, providing opportunities for long-term engagement and career advancement. We also appropriately reward high-performers and offer competitive benefits. Our Talent Acquisition team consists of three segments: Executive Recruiting, Experienced Recruiting and University Recruiting. The specialization within each group allows us to specifically address MPC's broad range of current and future talent needs, as well as devote time and attention to candidates during the hiring process. We value diverse perspectives in the workforce, and accordingly we seek candidates with a variety of backgrounds and experience. Our primary source of full-time, entry-level new hires is our intern/co-op program. Through our university recruiters, we offer college students who have completed their freshman year the opportunity to participate in our hands-on programs focused in areas of finance and accounting, marketing, engineering and IT.

We provide a broad range of leadership training opportunities to support the development of leaders at all levels. Our programs, which are offered across the organization are a blended approach of business and leadership content, with many featuring external faculty. We utilize various learning modalities, such as visual, audio, print, tactile, interactive, kinesthetic, experiential and leader-teaching-leader to address and engage different learning styles. We believe networking and access to our executive team are a key leadership success factor, and we incorporate these opportunities into all of our programs.

Compensation and Benefits

To ensure we are offering competitive pay packages in our recruitment and retention efforts, we annually benchmark compensation, including base salaries, bonus levels and long-term incentive targets. Our annual bonus program is a critical component of our compensation, as it provides individual rewards for MPC's achievement against preset financial and ESG goals, encouraging a sense of employee ownership. Employees in our executive-level pay grades, as well as senior leaders and most mid-level leaders, are eligible to receive long-term incentive awards to align their compensation to the interests of shareholders.

We offer comprehensive benefits, including medical, dental and vision insurance for our employees, their spouses or domestic partners, and their dependents. We also provide retirement programs, life insurance, education assistance, family assistance, short-term disability and paid vacation and sick time. In addition, we provide generous paid parental leave benefits for birth mothers and nonbirth parents; and, parents who both work for the Company are each eligible for the benefit. Further, we have a substantial accrual cap for vacation banks and also award a significant number of college and trade school scholarships to the high school senior children of our employees through the Marathon Petroleum Scholars Program. Both full-time and part-time employees are eligible for these benefits.

Inclusion

Our company-wide Diversity, Equity and Inclusion ("DE&I") program is guided by a dedicated DE&I team led by our Vice President Talent Acquisition and Diversity, Equity & Inclusion and supported by leadership company-wide. Our program is based on our four-pillar DE&I strategy of building awareness, increasing representation, ensuring success, and measurement and accountability. We have employee networks focusing on six populations: Asian, Black, Hispanic, Veterans, Women and LGBTQ+. Our employee networks have approximately 60 chapters across the company and all networks encourage ally membership. This broad support extends also to our leaders throughout MPC, with each employee network represented by two active executive sponsors. The sponsors form several councils that meet regularly to share updates, gain alignment, build deeper connections across networks and pursue collaboration ideas. Our employee networks not only provide opportunities for our employees to make meaningful and supportive connections, but they also serve a significant role in our DE&I strategy.

Safety

We are committed to safe operations to protect the health and safety of our employees, contractors and communities. Our commitment to safe operations is reflected in our safety systems design, our well-maintained equipment and by learning from our incidents. Part of our effort to promote safety includes our Operational Excellence Management System, which expands on the RC14001® scope, incorporates a Plan-Do-Check-Act continual improvement cycle, and aligns with ISO 9001, incorporating quality and an increased stakeholder and process focus. Together, these components of our safety management system provide

us with a comprehensive approach to managing risks and preventing incidents, illnesses and fatalities. Additionally, our annual cash bonus program metrics includes several employee, process and environmental safety metrics.

In 2021, MPC continued to run its critical operations and facilities safely through the ongoing pandemic. In addition to COVID-19 protection measures implemented in 2020 (e.g., masking, social distancing, barriers, etc.), MPC promoted vaccinations through education campaigns and onsite clinics. Thousands of employees were inoculated at vaccine points of distribution set up onsite or through collaborative efforts with local public health clinics. As a result of these measures, MPC was able to welcome most non-essential employees back into the workplace in the spring of 2021. We continue to monitor the situation and adapt our COVID protocols as appropriate.

Information about our Executive and Corporate Officers

The executive and corporate officers of MPC are as follows:

Name	Age as of February 1, 2022	Position with MPC
Michael J. Hennigan	62	President, Chief Executive Officer and Director
Maryann T. Mannen	59	Executive Vice President and Chief Financial Officer
Raymond L. Brooks	61	Executive Vice President, Refining
Suzanne Gagle	56	General Counsel and Senior Vice President, Government Affairs
Fiona C. Laird*	60	Chief Human Resources Officer and Senior Vice President, Communications
C. Kristopher Hagedorn	45	Senior Vice President and Controller
David R. Heppner*	55	Senior Vice President, Strategy and Business Development
Richard A. Hernandez*	62	Senior Vice President, Eastern Refining Operations
Rick D. Hessling*	55	Senior Vice President, Global Feedstocks
Thomas Kaczynski	60	Senior Vice President, Finance, and Treasurer
Brian K. Partee*	48	Senior Vice President, Global Clean Products
Ehren D. Powell*	42	Senior Vice President and Chief Digital Officer
James R. Wilkins*	55	Senior Vice President, Health, Environment, Safety and Security
Molly R. Benson*	55	Vice President, Chief Securities, Governance & Compliance Officer and Corporate Secretary
Kristina A. Kazarian*	39	Vice President, Investor Relations
D. Rick Linhardt*	63	Vice President, Tax

* Corporate officer.

Mr. Hennigan was appointed President and Chief Executive Officer effective March 2020, and as a member of the Board of Directors effective April 2020. He also has served as Chairman of the Board of MPLX since April 2020, as Chief Executive Officer since November 2019 and as President since June 2017. Before joining MPLX, Mr. Hennigan was President, Crude, NGL and Refined Products, of the general partner of Energy Transfer Partners L.P., an energy service provider. He was President and Chief Executive Officer of Sunoco Logistics Partners L.P., an oil and gas transportation, terminalling and storage company, from 2012 to 2017, President and Chief Operating Officer beginning in 2010, and Vice President, Business Development, beginning in 2009.

Ms. Mannen was appointed Executive Vice President and Chief Financial Officer effective January 25, 2021 and as a member of MPLX's Board of Directors effective February 1, 2021. Before joining MPC, she served as Executive Vice President and Chief Financial Officer of TechnipFMC (a successor to FMC Technologies, Inc.), a global leader in subsea, onshore/offshore, and surface projects for the energy industry, since 2017, having previously served as Executive Vice President and Chief Financial Officer of FMC Technologies, Inc. since 2014, Senior Vice President and Chief Financial Officer since 2011, and in various positions of increasing responsibility with FMC Technologies, Inc. since 1986.

Mr. Brooks was appointed Executive Vice President, Refining, effective October 2018. Prior to this appointment, he served as Senior Vice President, Refining, beginning in March 2016, General Manager of the Galveston Bay refinery beginning in 2013, General Manager of the Robinson refinery beginning in 2010, and General Manager of the St. Paul Park, Minnesota, refinery beginning in 2006.

Ms. Gagle was appointed General Counsel and Senior Vice President, Government Affairs, effective February 24, 2021. Prior to this appointment, she served as General Counsel beginning in March 2016, Assistant General Counsel, Litigation and Human Resources, beginning in 2011, Senior Group Counsel, Downstream Operations, beginning in 2010, and Group Counsel, Litigation, beginning in 2003.

Ms. Laird was appointed Chief Human Resources Officer and Senior Vice President, Communications, effective February 24, 2021. Prior to this appointment, she served as Chief Human Resources Officer beginning in October 2018, having previously served as Chief Human Resources Officer at Andeavor beginning in February 2018. Before joining Andeavor, Ms. Laird was Chief Human Resources and Communications Officer for Newell Brands, a global consumer goods company, beginning in May 2016 and Executive Vice President, Human Resources, for Unilever, a global consumer goods company, beginning in 2011.

Mr. Hagedorn was appointed Senior Vice President and Controller effective September 2021. Prior to this appointment, he served as MPLX's Vice President and Controller since October 2017. Before joining MPLX, he was Vice President and Controller at CONSOL Energy Inc., a Pennsylvania-based natural gas and coal producer and exporter, beginning in 2015, Assistant Controller beginning in 2014 and Director, Financial Accounting, beginning in 2012. Mr. Hagedorn was Chief Accounting Officer for CONE Midstream Partners LP, a publicly traded master limited partnership with gathering assets in the Appalachian Basin, from 2014 to 2015. Previously, he served in positions of increasing responsibility with PricewaterhouseCoopers LLP beginning in 1998.

Mr. Heppner was appointed Senior Vice President, Strategy and Business Development, effective February 24, 2021. Prior to this appointment, he served as Vice President, Commercial and Business Development, beginning in October 2018, Senior Vice President of Engineering Services and Corporate Support of Speedway LLC beginning in 2014, and Director, Wholesale Marketing, beginning in 2010.

Mr. Hernandez was appointed Senior Vice President, Eastern Refining Operations, effective October 2018. Prior to this appointment, he served as General Manager of the Galveston Bay refinery beginning in February 2016, and General Manager of the Catlettsburg refinery beginning in 2013.

Mr. Hessling was appointed Senior Vice President, Global Feedstocks, effective February 24, 2021. Prior to this appointment, he served as Senior Vice President, Crude Oil Supply and Logistics, beginning in October 2018, Manager, Crude Oil & Natural Gas Supply and Trading, beginning in 2014, and Crude Oil Logistics & Analysis Manager beginning in 2011.

Mr. Kaczynski was appointed Senior Vice President, Finance, and Treasurer effective February 24, 2021. Prior to this appointment, he served as Vice President, Finance, and Treasurer since 2015. Before joining MPC, Mr. Kaczynski was Vice President and Treasurer of Goodyear Tire and Rubber Company, one of the world's largest tire manufacturers, beginning in 2014, and Vice President, Investor Relations, beginning in 2013.

Mr. Partee was appointed Senior Vice President, Global Clean Products, effective February 24, 2021. Prior to this appointment, he served as Senior Vice President, Marketing, beginning in October 2018, Vice President, Business Development, beginning in February 2018, Director of Business Development beginning in January 2017, Manager of Crude Oil Logistics beginning in 2014, and Vice President, Business Development and Franchise, at Speedway beginning in 2012.

Mr. Powell was appointed Senior Vice President and Chief Digital Officer effective July 20, 2020. Before joining MPC, he served as Vice President and Chief Information Officer ("CIO") at GE Healthcare, a segment of General Electric Company ("GE") that provides medical technologies and services, beginning in April 2018, having previously served as Senior Vice President and CIO, Services, of GE, a multinational conglomerate, since January 2017 and CIO, Power Services, with GE Power since 2014, and in various positions of increasing responsibility with GE and its subsidiaries since 2000.

Mr. Wilkins was appointed Senior Vice President, Health, Environment, Safety and Security, effective February 24, 2021. Prior to this appointment, he served as Vice President, Environment, Safety and Security, beginning in October 2018, Director, Environment, Safety, Security and Product Quality, beginning in February 2016, and Director, Refining Environmental, Safety, Security and Process Safety Management, beginning in 2013.

Ms. Benson was appointed Vice President, Chief Securities, Governance & Compliance Officer and Corporate Secretary effective June 2018, having previously served as Vice President, Chief Compliance Officer and Corporate Secretary since March 2016. Prior to her 2016 appointment, she served as Assistant General Counsel, Corporate and Finance, beginning in 2012, and Group Counsel, Corporate and Finance, beginning in 2011.

Ms. Kazarian was appointed Vice President, Investor Relations, effective April 2018. Before joining MPC, she was Managing Director and head of the MLP, Midstream and Refining Equity Research teams at Credit Suisse, a global investment bank and financial services company, beginning in September 2017. Previously, Ms. Kazarian was Managing Director of MLP, Midstream and Natural Gas Equity Research at Deutsche Bank, a global investment bank and financial services company, beginning in 2014, and an analyst specializing on various energy industry subsectors with Fidelity Management & Research Company, a privately held investment manager, beginning in 2005.

Mr. Linhardt was appointed Vice President, Tax, effective February 2018. Prior to this appointment, he served as Director of Tax beginning in June 2017, and Manager of Tax Compliance beginning in 2013.

Available Information

General information about MPC, including our Corporate Governance Principles, our Code of Business Conduct and our Code of Ethics for Senior Financial Officers, can be found at www.marathonpetroleum.com under the “Investors” tab by selecting “Corporate Governance.” We will post on our website any amendments to, or waivers from, either of our codes requiring disclosure under applicable rules within four business days of the amendment or waiver. Charters for the Audit Committee, Compensation and Organization Development Committee, Corporate Governance and Nominating Committee and Sustainability and Public Policy Committee are also available at this site under the “About” tab by selecting “Board of Directors.”

MPC uses its website, www.marathonpetroleum.com, as a channel for routine distribution of important information, including news releases, analyst presentations, financial information and market data. Our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as any amendments and exhibits to those reports, are available free of charge through our website as soon as reasonably practicable after the reports are filed or furnished with the SEC, or on the SEC’s website at www.sec.gov. These documents are also available in hard copy, free of charge, by contacting our Investor Relations office. In addition, our website allows investors and other interested persons to sign up to automatically receive email alerts when we post news releases and financial information on our website. Information contained on our website is not incorporated into this Annual Report on Form 10-K or other securities filings.

ITEM 1A. RISK FACTORS

You should carefully consider each of the following risks and all the other information contained in this Annual Report on Form 10-K in evaluating us and our common stock. Although the risks are organized by headings, and each risk is discussed separately, many are interrelated. Our business, financial condition, results of operations and cash flows could be materially and adversely affected by these risks, and, as a result, the trading price of our common stock could decline. We have in the past been adversely affected by certain of, and may in the future be affected by, these risks. You should not interpret the disclosure of any risk factor to imply that the risk has not already materialized.

Business and Operational Risks

The COVID-19 pandemic has had, and may continue to have, a material and adverse effect on our business and on general economic, financial and business conditions.

The COVID-19 pandemic and existing COVID-19 mitigation measures continue to have adverse effects on global travel and economic activity and, consequently, demand for the petroleum products that we manufacture, sell, transport and store. Significant uncertainty remains as to the extent to which further resurgences in the virus, the emergence of new variants and waning vaccine effectiveness may spur future actions by individuals, governments and the private sector to stem the spread of the virus. Refinery utilization rates and refined product demand—particularly with respect to jet fuel—remain below historical levels.

The extent to which the COVID-19 pandemic continues to impact global economic conditions, our business and the business of our customers, suppliers and other counterparties, will depend largely on future developments that remain uncertain and cannot be predicted, such as the length and severity of the pandemic; the social, economic and epidemiological effects of COVID-19 mitigation measures; the extent to which individuals acquire and retain immunity; emerging virus variants and how those new variants of the disease affect the human body; and general economic conditions.

New or additional mitigation measures required by national, state or local governments, such as vaccine or testing mandates, may result in increased operating costs, increased employee attrition and difficulty in securing future workforce needs, and may adversely affect discretionary and business travel.

Additionally, the continuation of the pandemic could precipitate or aggravate the other risks identified in this Form 10-K, which in turn could further materially and adversely affect our business, financial condition and results of operations, including in ways not currently known or considered by us to present significant risks.

We may be negatively impacted by inflation.

Increases in inflation may have an adverse effect on us. Current and future inflationary effects may be driven by, among other things, supply chain disruptions and governmental stimulus or fiscal policies. Continuing increases in inflation could impact the commodity markets generally, the overall demand for our products, our costs for feedstocks, labor, material and services and the margins we are able to realize on our products and services, all of which could have an adverse impact on our business, financial position, results of operations and cash flows. Inflation may also result in higher interest rates, which in turn would result in higher interest expense related to our variable rate indebtedness and any borrowings we undertake to refinance existing fixed rate indebtedness.

Our financial results are affected by volatile refining margins, which are dependent on factors beyond our control.

Our operating results, cash flows, future rate of growth, the carrying value of our assets and our ability to execute share repurchases and continue the payment of our base dividend are highly dependent on the margins we realize on our refined products. Historically, refining and marketing margins have been volatile, and we believe they will continue to be volatile. Our margins from the sale of gasoline and other refined products are influenced by a number of conditions, including the price of crude oil and other feedstocks. The prices of feedstocks and the prices at which we can sell our refined products fluctuate independently due to a variety of regional and global market factors that are beyond our control, including:

- worldwide and domestic supplies of and demand for feedstocks and refined products;
- transportation infrastructure cost and availability;
- operation levels of other refineries in our markets;
- the development by competitors of new refining or renewable conversion capacity;
- natural gas and electricity supply costs;
- political instability, threatened or actual terrorist incidents, armed conflict or other global political or economic conditions;
- local weather conditions; and
- the occurrence of other risks described herein.

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 generally purchase our feedstocks weeks before we refine them and sell the refined products. Price level changes during the period between purchasing feedstocks and selling the refined products from these feedstocks can have a significant effect on our financial results. We also purchase refined products manufactured by others for resale to our customers. Price changes during the periods between purchasing and reselling those refined products can have a material and adverse effect on our business, financial condition, results of operations and cash flows.

Lower refining and marketing margins have in the past, and may in the future, lead us to reduce the amount of refined products we produce, which may reduce our revenues, income from operations and cash flows. Significant reductions in refining and marketing margins could require us to reduce our capital expenditures, impair the carrying value of our assets (such as property, plant and equipment, inventory or goodwill), and require us to re-evaluate practices regarding our repurchase activity and dividends.

Legal, technological, political and scientific developments regarding emissions, fuel efficiency and alternative fuel vehicles may decrease demand for petroleum-based transportation fuels.

Developments aimed at reducing vehicle emissions, increasing vehicle efficiency or reducing the sale of new petroleum-fueled vehicles may decrease the demand and may increase the cost for our transportation fuels. In March 2020, the U.S. Environmental Protection Agency (the “EPA”) and the U.S. Department of Transportation’s National Highway Traffic Safety Administration (“NHTSA”) released the final Safer Affordable Fuel-Efficient (“SAFE”) Vehicles Rule setting corporate average fuel economy (“CAFE”) and carbon dioxide (“CO2”) standards for model years 2021 through 2026 passenger cars and light trucks. The final rule increased the stringency of CAFE and CO2 emission standards by 1.5 percent each year from model years 2021 through 2026. In 2020, California’s governor issued an executive order requiring all new passenger vehicles sold in the state be zero-emission by 2035. Other jurisdictions have issued or considered issuing similar mandates, and we expect this trend will continue.

Moreover, consumer acceptance and market penetration of electric, hybrid and alternative fuel vehicles continues to increase. In 2021, several automobile manufacturers jointly announced their shared goal that 40-50% of their new vehicle sales be battery electric, fuel cell or plug-in hybrid vehicles by 2030. Other automobile manufacturers have similar, or more aggressive, goals with respect to vehicle electrification.

Together, these trends and developments have had and are expected to continue to have an adverse effect on sales of our petroleum-based transportation fuels, which in turn could have a material and adverse effect on our business, financial condition, results of operations and cash flows.

Our operations are subject to business interruptions and casualty losses.

Our operations are subject to business interruptions, such as scheduled and unscheduled refinery turnarounds, unplanned maintenance, explosions, fires, refinery or pipeline releases, power outages, severe weather, labor disputes, acts of terrorism, or other natural or man-made disasters. These types of incidents adversely affect our operations and may result in serious personal injury or loss of human life, significant damage to property and equipment, impaired ability to manufacture our products, environmental pollution, and substantial losses. We have experienced certain of these incidents in the past.

For assets located near populated areas, the level of damage resulting from such an incident could be greater. In addition, we operate in and adjacent to environmentally sensitive waters where tanker, pipeline, rail car and refined product transportation and storage operations are closely regulated by federal, state and local agencies and monitored by environmental interest groups. Certain of our refineries receive crude oil and other feedstocks by tanker or barge. MPLX operates a fleet of boats and barges to

transport light products, heavy oils, crude oil, renewable fuels, chemicals and feedstocks to and from refineries and terminals owned by MPC. Transportation and storage of crude oil, other feedstocks and refined products over and adjacent to water involves inherent risk and subjects us to the provisions of the OPA-90 and state laws in U.S. coastal and Great Lakes states and states bordering inland waterways on which we operate, as well as international laws in the jurisdictions in which we operate. If we are unable to promptly and adequately contain any accident or discharge involving tankers, pipelines, rail cars or above ground storage tanks transporting or storing crude oil, other feedstocks or refined products, we may be subject to substantial liability. In addition, the service providers contracted to aid us in a discharge response may be unavailable due to weather conditions, governmental regulations or other local or global events.

Damages resulting from an incident involving any of our assets or operations may result in our being named as a defendant in one or more lawsuits asserting potentially substantial claims or in our being assessed potentially substantial fines by governmental authorities.

We are increasingly dependent on the performance of our information technology systems and those of our third-party business partners and service providers.

We are increasingly dependent on our information technology systems and those of our third-party business partners and service providers for the safe and effective operation of our business. We rely on such systems to process, transmit and store electronic information, including financial records and personally identifiable information such as employee, customer and investor data, and to manage or support a variety of business processes, including our supply chain, pipeline operations, gathering and processing operations, credit card payments and authorizations at certain of our customers' retail outlets, financial transactions, banking and numerous other processes and transactions.

Our systems (and those of our third-party business partners and service providers) are subject to numerous and evolving cybersecurity threats and attacks, including ransomware and other malware, and phishing and social engineering schemes, which can compromise our ability to operate, and the confidentiality, availability, and integrity of data in our systems or those of our third-party business partners and service providers. These and other cybersecurity threats may originate with criminal attackers, state-sponsored actors or employee error or malfeasance. Because the techniques used to obtain unauthorized access, or to disable or degrade systems continuously evolve and have become increasingly complex and sophisticated, and can remain undetected for a period of time despite efforts to detect and respond in a timely manner, we (and our third-party business partners and service providers) are subject to the risk of cyberattacks.

Our cybersecurity and infrastructure protection technologies, disaster recovery plans and systems, employee training and vendor risk management may not be sufficient to defend us against all unauthorized attempts to access our information or impact our systems. We and our third-party vendors and service providers have been and may in the future be subject to cybersecurity events of varying degrees. To date, the impacts of prior events have not had a material adverse effect on us.

Cybersecurity events involving our information technology systems or those of our third-party business partners and service providers can result in theft, destruction, loss, misappropriation or release of confidential financial data, regulated personally identifiable information, intellectual property and other information; give rise to remediation or other expenses; result in litigation, claims and increased regulatory review or scrutiny; reduce our customers' willingness to do business with us; disrupt our operations and the services we provide to customers; and subject us to litigation and legal liability under international, U.S. federal and state laws. Any of such results could have a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

The availability and cost of renewable identification numbers could have an adverse effect on our financial condition and results of operations.

Pursuant to the Energy Policy Act of 2005 and the EISA, Congress established a Renewable Fuel Standard ("RFS") program that requires annual volumes of renewable fuel be blended into domestic transportation fuel. A Renewable Identification Number ("RIN") is assigned to each gallon of renewable fuel produced in, or imported into, the United States. As a producer of petroleum-based motor fuels, we are obligated to blend renewable fuels into the products we produce at a rate that is at least commensurate to EPA's quota and, to the extent we do not, we must purchase RINs in the open market to satisfy our obligation under the RFS program. We are exposed to the volatility in the market price of RINs. We cannot predict the future prices of RINs. RINs prices are dependent upon a variety of factors, including EPA regulations, the availability of RINs for purchase, and levels of transportation fuels produced, which can vary significantly from quarter to quarter. Additionally, the status of EPA RFS exemptions may impact the price of RINs. EPA's policy on granting certain RFS exemptions has changed under the Biden administration, and some previously granted exemptions have been the subject of legal proceedings that may ultimately result in the reversal of past exemptions. EPA's reversal of exemptions previously granted to us or other refiners could result in a decrease in the RIN bank, an increase in the price of RINs or an increase in the amount of renewable fuel we are required to blend, any of which could increase MPC's RFS cost of compliance. There is currently no regulatory method for verifying the validity of most RINs sold on the open market. We have developed a RIN integrity program to vet the RINs that we purchase, and we incur costs to audit RIN generators. Nevertheless, if any of the RINs that we purchase and use for compliance are found to be invalid, we could incur costs and penalties for replacing the invalid RINs. See Item 1. Business – Regulatory Matters for additional information on these and other regulatory compliance matters.

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

The refining and marketing industry is highly competitive with respect to both feedstock supply and refined petroleum products. We compete with many companies for available supplies of crude oil and other feedstocks, and we do not produce any of our crude oil feedstocks. Our competitors include multinational, integrated major oil companies that can obtain a significant portion of their feedstocks from company-owned production. Competitors that produce crude oil are at times better positioned to withstand periods of depressed refining margins or feedstock shortages.

We also compete with other companies for customers for our refined petroleum products. The independent entrepreneurs who operate primarily Marathon-branded outlets and the direct dealer locations we supply compete with other convenience store chains, outlets owned or operated by integrated major oil companies or their dealers or jobbers, and other well-recognized national or regional retail outlets, often selling transportation fuels and merchandise at very competitive prices. Non-traditional transportation fuel retailers, such as supermarkets, club stores and mass merchants, may be better able to withstand volatile market conditions or levels of low or no profitability in the retail segment of the market. The loss of market share by those who operate our branded outlets and the direct dealer locations we supply could adversely affect our business, financial condition, results of operations and cash flows.

We are subject to interruptions of supply and increased costs as a result of our reliance on third-party transportation of crude oil and refined products.

We utilize the services of third parties to transport crude oil and refined products to and from our refineries. In addition to our own operational risks, we could experience interruptions of supply or increases in costs to deliver refined products to market if the ability of the pipelines, railways or vessels to transport crude oil or refined products is disrupted or limited because of weather events, accidents, governmental regulations or third-party actions.

In particular, pipelines or railroads provide a nearly exclusive form of transportation of crude oil to, or refined products from, some of our refineries. A prolonged interruption, material reduction or cessation of service of such a pipeline or railway, whether due to private party or governmental action or other reason, or any other prolonged disruption of the ability of the trucks, pipelines, railways or vessels to transport crude oil or refined products to or from one or more of our refineries, can adversely affect us.

A significant decrease in oil and natural gas production in MPLX's areas of operation may adversely affect MPLX's business, financial condition, results of operations and cash available for distribution to its unitholders, including MPC.

A significant portion of MPLX's operations is dependent on the continued availability of natural gas and crude oil production. The production from oil and natural gas reserves and wells owned by its producer customers will naturally decline over time, which means that MPLX's cash flows associated with these wells will also decline over time. To maintain or increase throughput levels and the utilization rate of MPLX's facilities, MPLX must continually obtain new oil, natural gas, NGL and refined product supplies, which depend in part on the level of successful drilling activity near its facilities, its ability to compete for volumes from successful new wells and its ability to expand its system capacity as needed.

We have no control over the level of drilling activity in the areas of MPLX's operations, the amount of reserves associated with the wells or the rate at which production from a well will decline. In addition, we have no control over producers or their production decisions, which are affected by demand, prevailing and projected energy prices, drilling costs, operational challenges, access to downstream markets, the level of reserves, geological considerations, governmental regulations and the availability and cost of capital. Reductions in exploration or production activity in MPLX's areas of operations could lead to reduced throughput on its pipelines and utilization rates of its facilities.

Decreases in energy prices can lead to decreases in drilling activity, production rates and investments by third parties in the development of new oil and natural gas reserves. The prices for oil, natural gas and NGLs depend upon factors beyond our control, including global and local demand, production levels, changes in interstate pipeline gas quality specifications, imports and exports, seasonality and weather conditions, economic and political conditions domestically and internationally and governmental regulations. Sustained periods of low prices can result in producers deciding to limit their oil and gas drilling operations, which can substantially delay the production and delivery of volumes of oil, natural gas and NGLs to MPLX's facilities and adversely affect their revenues and cash available for distribution to us.

This impact may also be exacerbated due to the extent of MPLX's commodity-based contracts, which are more directly impacted by changes in natural gas and NGL prices than its fee-based contracts due to frac spread exposure and may result in operating losses when natural gas becomes more expensive on a Btu equivalent basis than NGL products. In addition, the purchase and resale of natural gas and NGLs in the ordinary course exposes our Midstream operations to volatility in natural gas or NGL prices due to the potential difference in the time of the purchases and sales and the potential difference in the price associated with each transaction, and direct exposure may also occur naturally as a result of production processes. Also, the significant volatility in natural gas, NGL and oil prices could adversely impact MPLX's unit price, thereby increasing its distribution yield and cost of capital. Such impacts could adversely impact MPLX's ability to execute its long-term organic growth projects, satisfy obligations to its customers and make distributions to unitholders at intended levels, and may also result in non-cash impairments of long-lived assets or goodwill or other-than-temporary non-cash impairments of our equity method investments.

Severe weather events and other climate conditions may adversely affect our facilities and ongoing operations.

Our facilities are subject to acute physical risks, such as floods, hurricane-force winds, wildfires and winter storms, and chronic physical risks, such as sea-level rise or water shortages. For example, in 2021, our Galveston Bay refinery was adversely affected by Winter Storm Uri and our Garyville refinery was adversely affected by Hurricane Ida. The occurrence of these and similar events have had, and may in the future have, an adverse effect on our assets and operations. We have incurred and will continue to incur additional costs to protect our assets and operations from such physical risks and employ the evolving technologies and processes available to mitigate such risks. To the extent such severe weather events or other climate conditions increase in frequency and severity, we may be required to modify operations and incur costs that could materially and adversely affect our business, financial condition, results of operations and cash flows.

We are subject to risks arising from our operations outside the United States and generally to worldwide political and economic developments.

We operate and sell some of our products outside the United States. Our business, financial condition, results of operations and cash flows could be negatively impacted by disruptions in any of these markets, including economic instability, restrictions on the transfer of funds, duties and tariffs, transportation delays, difficulty in enforcing contractual provisions, import and export controls, changes in governmental policies, political and social unrest, security issues involving key personnel and changing regulatory and political environments. Future outbreaks of infectious diseases could affect demand for refined products and economic conditions generally, as the COVID-19 pandemic has done over the last two years. In addition, the deterioration of trade relationships, modification or termination of existing trade agreements, imposition of new economic sanctions against Russia or other countries and the effects of potential responsive countermeasures, or increased taxes, border adjustments or tariffs can make international business operations more costly, which can have a material adverse effect on our business, financial condition, results of operations and cash flows.

We are required to comply with U.S. and international laws and regulations, including those involving anti-bribery, anti-corruption and anti-money laundering. Our training and compliance program and our internal control policies and procedures may not always protect us from violations committed by our employees or agents. Actual or alleged violations of these laws could disrupt our business and cause us to incur significant legal expenses, and could result in a material adverse effect on our reputation, business, financial condition, results of operations and cash flows.

More broadly, political and economic factors in global markets could impact crude oil and other feedstock supplies and could have a material adverse effect on us in other ways. Hostilities in the Middle East, Russia or elsewhere or the occurrence or threat of future terrorist attacks could adversely affect the economies of the U.S. and other countries. Lower levels of economic activity often result in a decline in energy consumption, which may cause our revenues and margins to decline and limit our future growth prospects. These risks could lead to increased volatility in prices for refined products, NGLs and natural gas. Additionally, these risks could increase instability in the financial and insurance markets and make it more difficult or costly for us to access capital and to obtain the insurance coverage that we consider adequate. Additionally, tax policy, legislative or regulatory action and commercial restrictions could reduce our operating profitability. For example, the U.S. government could prevent or restrict exports of refined products, NGLs, natural gas or the conduct of business in or with certain foreign countries. In addition, foreign countries could restrict imports, investments or commercial transactions or revoke or refuse to grant necessary permits.

Our investments in joint ventures could be adversely affected by our reliance on our joint venture partners and their financial condition, and our joint venture partners may have interests or goals that are inconsistent with ours.

We conduct some of our operations through joint ventures in which we share control over certain economic and business interests with our joint venture partners. 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 an interest, to adequately manage the risks associated with any acquisitions or joint ventures could have a material adverse effect on the financial condition or results of operations of our joint ventures and adversely affect our reputation, business, financial condition, results of operations and cash flows.

Terrorist attacks or other targeted operational disruptions may affect our facilities or those of our customers and suppliers.

Refining, gathering and processing, pipeline and terminal infrastructure, and other energy assets, may be the subject of terrorist attacks or other targeted operational disruptions. Any attack or targeted disruption of our operations, those of our customers or, in some cases, those of other energy industry participants, could have a material and adverse effect on our business. Similarly, any similar event that severely disrupts the markets we serve could materially and adversely affect our results of operations, financial position and cash flows.

Financial Risks

We have significant debt obligations; therefore, our business, financial condition, results of operations and cash flows could be harmed by a deterioration of our credit profile or downgrade of our credit ratings, a decrease in debt capacity or unsecured commercial credit available to us, or by factors adversely affecting credit markets generally.

At December 31, 2021, our total debt obligations for borrowed money and finance lease obligations were \$25.95 billion, including \$18.91 billion of obligations of MPLX and its subsidiaries. We may incur substantial additional debt obligations in the future.

Our indebtedness may impose various restrictions and covenants on us that could have material adverse consequences, including:

- increasing our vulnerability to changing economic, regulatory and industry conditions;
- limiting our ability to compete and our flexibility in planning for, or reacting to, changes in our business and the industry;
- limiting our ability to pay dividends to our stockholders;
- limiting our ability to borrow additional funds; and
- requiring us to dedicate a substantial portion of our cash flow from operations to payments on our debt, thereby reducing funds available for working capital, capital expenditures, acquisitions, share repurchases, dividends and other purposes.

A decrease in our debt or commercial credit capacity, including unsecured credit extended by third-party suppliers, or a deterioration in our credit profile could increase our costs of borrowing money and limit our access to the capital markets and commercial credit. Our credit rating is determined by independent credit rating agencies. We cannot provide assurance that any of our credit 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. Any changes in our credit capacity or credit profile could materially and adversely affect our business, financial condition, results of operations and cash flows.

Significant variations in the market prices of crude oil and refined products can affect our financial performance.

During 2020, there were significant variations in the market prices of products held in our inventories. Those significant variations required us to record either inventory valuation charges or benefits to reflect the valuation of our inventories at the lower of cost or market. Future inventory valuation adjustments could have a negative or positive effect on our financial performance. In addition, a sustained period of low crude oil prices may also result in significant financial constraints on certain producers from which we acquire our crude oil, which could result in long term crude oil supply constraints for our business. Such conditions could also result in an increased risk that our customers and other counterparties may be unable to fully fulfill their obligations in a timely manner, or at all.

A continued period of economic slowdown or recession, or a protracted period of depressed prices for crude oil or refined petroleum products, could have significant and adverse consequences for our financial condition and the financial condition of our customers, suppliers and other counterparties, and could diminish our liquidity, trigger additional impairments and negatively affect our ability to obtain adequate crude oil volumes and to market certain of our products at favorable prices, or at all.

Our working capital, cash flows and liquidity can be significantly affected by decreases in commodity prices.

Payment terms for our crude oil purchases are generally longer than the terms we extend to our customers for refined product sales. As a result, the payables for our crude oil purchases are proportionally larger than the receivables for our refined product sales. Due to this net payables position, a decrease in commodity prices generally results in a use of working capital, and given the significant volume of crude oil that we purchase the impact can materially affect our working capital, cash flows and liquidity.

Increases in interest rates could adversely impact our share price, our ability to issue equity or incur debt for acquisitions or other purposes and our ability to make dividends at our intended levels.

Our revolving credit facility has a variable interest rate. As a result, future interest rates on our debt could be higher than current levels, causing our financing costs to increase accordingly. In addition, we may in the future refinance outstanding borrowings under our revolving credit facility with fixed-rate indebtedness. Interest rates payable on fixed-rate indebtedness typically are higher than the short-term variable interest rates that we pay on borrowings under our revolving credit facility. We also have other fixed-rate indebtedness that we may need or desire to refinance in the future at or prior to the applicable stated maturity. A rising interest rate environment could have an adverse impact on our share price and our ability to issue equity or incur debt for acquisitions or other purposes and to make dividends at our intended levels.

The expected phase out of LIBOR could impact the interest rates paid on our variable rate indebtedness and could cause our interest expense to increase.

A portion of our borrowing capacity and outstanding indebtedness bears interest at a variable rate based on LIBOR. On July 27, 2017, the Financial Conduct Authority (the authority that regulates LIBOR), or FCA, announced that it intends to stop compelling banks to submit rates for the calculation of LIBOR after 2021. Subsequently, on March 5, 2021, ICE Benchmark Administration Limited (the entity that calculates and publishes LIBOR), or IBA, and FCA made public statements regarding the future cessation of LIBOR. According to the FCA, IBA will permanently cease to publish each of the LIBOR settings on either December 31, 2021

or June 30, 2023. IBA did not identify any successor administrator in its announcement. The announced final publication date for 1-week and 2-month LIBOR settings and all settings for non-USD LIBOR was December 31, 2021. The announced final publication date for overnight, 1-month, 3-month, 6-month and 12-month LIBOR settings is June 30, 2023. It is unclear whether new methods of calculating LIBOR will be established such that it continues to exist after such end dates, and there is considerable uncertainty regarding the publication or representativeness of LIBOR beyond such end dates. The U.S. Federal Reserve, in conjunction with the Alternative Reference Rates Committee, is seeking to replace U.S. dollar LIBOR with a newly created index (the secured overnight financing rate or SOFR), calculated based on repurchase agreements backed by treasury securities.

The agreements that govern our variable rate indebtedness contain customary transition and fallback provisions in contemplation of the cessation of LIBOR. Nevertheless, at this time, it is not possible to predict the effect that these developments, any discontinuance, modification or other reforms to LIBOR or any other reference rate, or the establishment of alternative reference rates in the United Kingdom, the United States or elsewhere may have on LIBOR, other benchmarks or floating rate indebtedness. Uncertainty as to the nature of such potential discontinuance, modification, alternative reference rates or other reforms may materially adversely affect the trading market for securities linked to such benchmarks. Furthermore, the use of alternative reference rates or other reforms could cause the market value of, the applicable interest rate on and the amount of interest paid on our floating rate indebtedness to be materially different than expected and could materially adversely impact our ability to refinance such floating rate indebtedness or raise future indebtedness on a cost effective basis. Restricted access to capital markets and/or increased borrowing costs could have an adverse effect on our results of operations, cash flows, financial condition 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. Derivative transactions involve the risk that counterparties may be unable to satisfy their obligations to us. The risk of counterparty default is heightened in a poor economic environment. 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.

We do not insure against all potential losses, and, therefore, our business, financial condition, results of operations and cash flows could be adversely affected by unexpected liabilities and increased costs.

We maintain insurance coverage in amounts we believe to be prudent against many, but not all, potential liabilities arising from operating hazards. Uninsured liabilities arising from operating hazards such as explosions, fires, refinery or pipeline releases, cybersecurity breaches or other incidents involving our assets or operations can reduce the funds available to us for capital and investment spending and could have a material adverse effect on our business, financial condition, results of operations and cash flows. Historically, we also have maintained insurance coverage for physical damage and resulting business interruption to our major facilities, with significant self-insured retentions. In the future, we may not be able to maintain insurance of the types and amounts we desire at reasonable rates.

We have recorded goodwill and other intangible assets that could become further impaired and result in material non-cash charges to our results of operations.

We accounted for the Andeavor and other acquisitions using the acquisition method of accounting, which requires that the assets and liabilities of the acquired business be recorded to our balance sheet at their respective fair values as of the acquisition date. Any excess of the purchase consideration over the fair value of the acquired net assets is recognized as goodwill.

As of December 31, 2021, our balance sheet reflected \$8.3 billion and \$2.2 billion of goodwill and other intangible assets, respectively. We have in the past recorded significant impairments of our goodwill. To the extent the value of goodwill or intangible assets becomes further impaired, we may be required to incur additional material non-cash charges relating to such impairment. Our operating results may be significantly impacted from both the impairment and the underlying trends in the business that triggered the impairment.

Large capital projects can take years to complete, and market conditions could deteriorate significantly between the project approval date and the project startup date, negatively impacting project returns.

We have several large capital projects underway, including the activities associated with the conversion of the Martinez refinery to a renewable diesel facility. Delays in completing capital projects or making required changes or upgrades to our facilities could subject us to fines or penalties as well as affect our ability to supply certain products we produce. Such delays or cost increases may arise as a result of unpredictable factors, many of which are beyond our control, including:

- denials of, delays in receiving, or revocations of requisite regulatory approvals or permits;
- unplanned increases in the cost of construction materials or labor, whether due to inflation or other factors;
- disruptions in transportation of components or construction materials;
- adverse weather conditions, natural disasters or other events (such as equipment malfunctions, explosions, fires or spills) affecting our facilities, or those of vendors or suppliers;
- shortages of sufficiently skilled labor, or labor disagreements resulting in unplanned work stoppages;

- market-related increases in a project's debt or equity financing costs;
- global supply chain disruptions;
- nonperformance by, or disputes with, vendors, suppliers, contractors or subcontractors; and
- delays due to citizen, state or local political or activist pressure.

Moreover, our revenues may not increase immediately upon the expenditure of funds on a particular project. For instance, if we build a new pipeline, the construction will occur over an extended period of time and we may not receive any material increases in revenues until after completion of the project, if at all.

Any one or more of these factors could have a significant impact on our ongoing capital projects. If we were unable to make up the delays associated with such factors or to recover the related costs, or if market conditions change, it could materially and adversely affect our business, financial condition, results of operations and cash flows.

Legal and Regulatory Risks

We expect to continue to incur substantial capital expenditures and operating costs to meet the requirements of evolving environmental or other laws or regulations. Future environmental laws and regulations may impact our current business plans and reduce demand for our products and services.

Our business is subject to numerous environmental laws and regulations. These laws and regulations continue to increase in both number and complexity and affect our business. Laws and regulations expected to become more stringent relate to the following:

- the emission or discharge of materials into the environment,
- solid and hazardous waste management,
- the regulatory classification of materials currently or formerly used in our business,
- pollution prevention,
- climate change and greenhouse gas emissions,
- characteristics and composition of transportation fuels, including the quantity of renewable fuels that must be blended into transportation fuels,
- public and employee safety and health,
- permitting,
- inherently safer technology, and
- facility security.

The specific impact of laws and regulations on us and our competitors may vary depending on a number of factors, including the age and location of operating facilities, marketing areas, crude oil and feedstock sources, production processes and subsequent judicial interpretation of such laws and regulations. We have incurred and will continue to incur substantial capital, operating and maintenance, and remediation expenditures to modify operations, install pollution control equipment, perform site cleanups or curtail operations. We have incurred and may in the future incur liability for personal injury, property damage, natural resource damage or clean-up costs due to alleged contamination and/or exposure to chemicals such as benzene and MTBE. There is also increased regulatory interest in per- and polyfluoroalkyl substances ("PFAS"), which we expect will lead to increased monitoring and remediation obligations and potential liability related thereto. Such expenditures could materially and adversely affect our business, financial condition, results of operations and cash flows.

Increased regulation of hydraulic fracturing and other oil and gas production activities could result in reductions or delays in U.S. production of crude oil and natural gas, which could adversely affect our results of operations and financial condition.

While we do not conduct hydraulic fracturing operations, we do provide gathering, processing and fractionation services with respect to natural gas and natural gas liquids produced by our customers as a result of such operations. Our refineries are also supplied in part with crude oil produced from unconventional oil shale reservoirs. A range of federal, state and local laws and regulations currently govern or, in some cases, prohibit, hydraulic fracturing in some jurisdictions. Stricter laws, regulations and permitting processes may be enacted in the future. If federal, state and local legislation and regulatory initiatives relating to hydraulic fracturing or other oil and gas production activities are enacted or expanded, such efforts could impede oil and gas production, increase producers' cost of compliance, and result in reduced volumes available for our midstream assets to gather, process and fractionate.

The tax treatment of publicly traded partnerships or an investment in MPLX units could be subject to potential legislative, judicial or administrative changes and differing interpretations, possibly on a retroactive basis.

The present U.S. federal income tax treatment of publicly traded partnerships, including MPLX, or an investment in MPLX common units may be modified by administrative, legislative or judicial interpretation at any time. From time to time, the President and members of the U.S. Congress propose and consider substantive changes to the existing U.S. federal income tax

laws that would affect publicly traded partnerships, including proposals that would eliminate MPLX's ability to qualify for partnership tax treatment.

For example, the Biden Administration's May 2021 budget proposal included a proposal that would have repealed the application of the qualifying income exception to partnerships with income and gains from activities relating to fossil fuels for taxable years beginning after 2026.

We are unable to predict whether any such changes will ultimately be enacted. Any modification to the U.S. federal income tax laws and interpretations thereof may or may not be applied retroactively and could make it more difficult or impossible for MPLX to meet the exception for certain publicly traded partnerships to be treated as partnerships for U.S. federal income tax purposes or increase the amount of taxes payable by unitholders in publicly traded partnerships.

Climate change and greenhouse gas emission regulation could affect our operations, energy consumption patterns and regulatory obligations, any of which could affect our results of operations and financial condition.

Currently, multiple legislative and regulatory measures to address greenhouse gas (including carbon dioxide, methane and nitrous oxides) and other emissions are in various phases of consideration, promulgation or implementation. These include actions to develop international, federal, regional or statewide programs, which could require reductions in our greenhouse gas or other emissions, establish a carbon tax and decrease the demand for refined products. Requiring reductions in these emissions could result in increased costs to (i) operate and maintain our facilities, (ii) install new emission controls at our facilities and (iii) administer and manage any emissions programs, including acquiring emission credits or allotments.

For example, California and Washington have enacted cap-and-trade programs. Other states are proposing, or have already promulgated, low carbon fuel standards or similar initiatives to reduce emissions from the transportation sector. If we are unable to pass the costs of compliance on to our customers, sufficient credits are unavailable for purchase, we have to pay a significantly higher price for credits, or if we are otherwise unable to meet our compliance obligation, our financial condition and results of operations could be adversely affected.

Certain municipalities have also proposed or enacted restrictions on the installation of natural gas appliances and infrastructure in new residential or commercial construction, which could affect demand for the natural gas that MPLX transports and stores.

Regional and state climate change and air emissions goals and regulatory programs are complex, subject to change and considerable uncertainty due to a number of factors including technological feasibility, legal challenges and potential changes in federal policy. Increasing concerns about climate change and carbon intensity have also resulted in societal concerns and a number of international and national measures to limit greenhouse gas emissions. Additional stricter measures and investor pressure can be expected in the future and any of these changes may have a material adverse impact on our business or financial condition.

International climate change-related efforts, such as the 2015 United Nations Conference on Climate Change, which led to the creation of the Paris Agreement, may impact the regulatory framework of states whose policies directly influence our present and future operations. Though the United States had withdrawn from the Paris Agreement, President Biden issued an executive order recommitting the United States to the Paris Agreement on January 20, 2021. President Biden also issued an Executive Order on climate change in which he announced putting the U.S. on a path to achieve net-zero carbon emissions, economy-wide, by 2050. The Executive Order also calls for the federal government to pause oil and gas leasing on federal lands, reduce methane emissions from the oil and gas sector as quickly as possible, and requires federal permitting decisions to consider the effects of greenhouse gas emissions and climate change. In a second Executive Order, President Biden reestablished a working group to develop the social cost of carbon and the social cost of methane. The social cost of carbon and social cost of methane can be used to weigh the costs and benefits of proposed regulations. A higher social cost of carbon could support more stringent greenhouse gas emission regulation.

The scope and magnitude of the changes to U.S. climate change strategy under the Biden administration and future administrations, however, remain subject to the passage of legislation and interpretation and action of federal and state regulatory bodies; therefore, the impact to our industry and operations due to greenhouse gas regulation is unknown at this time.

Energy companies are subject to increasing environmental and climate-related litigation.

Governmental and other entities in various U.S. states have filed lawsuits against various energy companies, including us. The lawsuits allege damages as a result of climate change and the plaintiffs are seeking unspecified damages and abatement under various tort theories. Similar lawsuits may be filed in other jurisdictions. Additionally, private plaintiffs and government parties have undertaken efforts to shut down energy assets by challenging operating permits, the validity of easements or the compliance with easement conditions. For example, the Dakota Access Pipeline, in which MPLX has a minority interest, has been subject to litigation in which plaintiffs sought a permanent shutdown of the pipeline. There remains a high degree of uncertainty regarding the ultimate outcome of these types of proceedings, as well as their potential effect on our business, financial condition, results of operation and cash flows.

We are subject to risks associated with societal and political pressures and other forms of opposition to the development, transportation and use of carbon-based fuels. Such risks could adversely impact our business and ability to realize certain growth strategies.

We operate and develop our business with the expectation that regulations and societal sentiment will continue to enable the development, transportation and use of carbon-based fuels. However, policy decisions relating to the production, refining, transportation, storage and marketing of carbon-based fuels are subject to political pressures and the influence and protests of environmental and other special interest groups. Additionally, societal sentiment regarding carbon-based fuels may adversely impact our reputation and ability to attract and retain employees.

The approval process for storage and transportation projects has become increasingly challenging, due in part to state and local concerns related to pipelines, negative public perception regarding the oil and gas industry, and concerns regarding greenhouse gas emissions downstream of pipeline operations. Our expansion or construction projects may not be completed on schedule (or at all), or at the budgeted cost. We also may be required to incur additional costs and expenses in connection with the design and installation of our facilities due to their location and the surrounding terrain. We may be required to install additional facilities, incur additional capital and operating expenditures, or experience interruptions in or impairments of our operations to the extent that the facilities are not designed or installed correctly.

Increasing attention to environmental, social and governance matters may impact our business and financial results.

In recent years, increasing attention has been given to corporate activities related to environmental, social and governance (“ESG”) matters in public discourse and the investment community. A number of advocacy groups, both domestically and internationally, have campaigned for governmental and private action to promote ESG-related change at public companies, including, but not limited to, through the investment and voting practices of investment advisers, pension funds, universities and other members of the investing community. These activities include increasing attention and demands for action related to climate change and energy transition matters, such as promoting the use of substitutes to fossil fuel products and encouraging the divestment of fossil fuel equities, as well as pressuring lenders and other financial services companies to limit or curtail activities with fossil fuel companies. If this were to continue, it could have a material adverse effect on our access to capital. Members of the investment community have begun to screen companies such as ours for sustainability performance, including practices related to GHG emission reduction and energy transition strategies. If we are unable to find economically viable, as well as publicly acceptable, solutions that reduce our GHG emissions, reduce GHG intensity for new and existing projects, increase our non-fossil fuel product portfolio, and/or address other ESG-related stakeholder concerns, our business and results of operations could be materially and adversely affected.

Regulatory and other requirements concerning the transportation of crude oil and other commodities by rail may cause increases in transportation costs or limit the amount of crude oil that we can transport by rail.

We rely on a variety of systems to transport crude oil, including rail. Rail transportation is regulated by federal, state and local authorities. New regulations or changes in existing regulations could result in increased compliance expenditures. For example, in 2015, the U.S. Department of Transportation issued new standards and regulations applicable to crude-by-rail transportation (Enhanced Tank Car Standards and Operational Controls for High-Hazard Flammable Trains). These or other regulations that require the reduction of volatile or flammable constituents in crude oil that is transported by rail, change the design or standards for rail cars used to transport the crude oil we purchase, change the routing or scheduling of trains carrying crude oil, or require any other changes that detrimentally affect the economics of delivering North American crude oil by rail could increase the time required to move crude oil from production areas to our refineries, increase the cost of rail transportation and decrease the efficiency of shipments of crude oil by rail within our operations. Any of these outcomes could have a material adverse effect on our business and results of operations.

Historic or current operations could subject us to significant legal liability or restrict our ability to operate.

We currently are defending litigation and anticipate we will be required to defend new litigation in the future. Our operations, including those of MPLX, and those of our predecessors could expose us to litigation and civil claims by private plaintiffs for alleged damages related to contamination of the environment or personal injuries caused by releases of hazardous substances from our facilities, products liability, consumer credit or privacy laws, product pricing or antitrust laws or any other laws or regulations that apply to our operations. While an adverse outcome in most litigation matters would not be expected to be material to us, in class-action litigation, large classes of plaintiffs may allege damages relating to extended periods of time or other alleged facts and circumstances that could increase the amount of potential damages. Attorneys general and other government officials have in the past and may in the future pursue litigation in which they seek to recover civil damages from companies on behalf of a state or its citizens for a variety of claims, including violation of consumer protection and product pricing laws or natural resources damages. If we are not able to successfully defend such litigation, it may result in liability to our company that could materially and adversely affect our business, financial condition, results of operations and cash flows. In addition to substantial liability, plaintiffs in litigation may also seek injunctive relief which, if imposed, could have a material adverse effect on our future business, financial condition, results of operations and cash flows.

A portion of our workforce is unionized, and we may face labor disruptions that could materially and adversely affect our business, financial condition, results of operations and cash flows.

Approximately 3,762 of our employees are covered by collective bargaining agreements. Approximately 2,545 refinery employees are covered by collective bargaining agreements that were set to expire on January 31, 2022, but have been extended by mutual agreement, subject to a 24-hour written notice of cancellation by either party. The remaining 1,217 hourly represented employees are covered by collective bargaining agreements with expiration dates ranging from 2022 to 2026. These agreements may be renewed at an increased cost to us. In addition, we have experienced in the past, and may experience in the future, work stoppages as a result of labor disagreements. For example, approximately 170 workers at our St. Paul Park refinery were on strike from January 21, 2021 until July 5, 2021. Any prolonged work stoppages disrupting operations could have a material adverse effect on our business, financial condition, results of operations and cash flows.

In addition, California requires refinery owners to pay prevailing wages to contract craft workers and restricts refiners' ability to hire qualified employees to a limited pool of applicants. Legislation or changes in regulations could result in labor shortages, higher labor costs, and an increased risk that contract workers become joint employees, which could trigger bargaining issues, and wage and benefit consequences, especially during critical maintenance and construction periods.

One of our subsidiaries acts as the general partner of a master limited partnership, which may expose us to certain legal liabilities.

One of our subsidiaries acts as the general partner of MPLX, a master limited partnership. Our control of the general partner of MPLX may increase the possibility of claims of breach of fiduciary duties, including claims of conflicts of interest. Any liability resulting from such claims could have a material adverse effect on our future business, financial condition, results of operations and cash flows.

If foreign investment in us or MPLX exceeds certain levels, we could be prohibited from operating vessels engaged in U.S. coastwise trade, which could adversely affect our business, financial condition, results of operations and cash flows.

The Shipping Act of 1916 and Merchant Marine Act of 1920 (collectively, the "Maritime Laws"), generally require that vessels engaged in U.S. coastwise trade be owned by U.S. citizens. Among other requirements to establish citizenship, entities that own such vessels must be owned at least 75 percent by U.S. citizens. If we fail to maintain compliance with the Maritime Laws, we would be prohibited from operating vessels in the U.S. inland waters or otherwise in U.S. coastwise trade. Such a prohibition could materially and adversely affect our business, financial condition, results of operations and cash flows.

Our operations could be disrupted if we are unable to maintain or obtain real property rights required for our business.

We do not own all of the land on which certain of our assets are located, particularly our midstream assets, but rather obtain the rights to construct and operate such assets on land owned by third parties and governmental agencies for a specific period of time. Therefore, we are subject to the possibility of more burdensome terms and increased costs to retain necessary land use if our leases, rights-of-way or other property rights lapse, terminate or are reduced or it is determined that we do not have valid leases, rights-of-way or other property rights. For example, a portion of the Tesoro High Plains pipeline in North Dakota remains shut down following delays in renewing a right-of-way necessary for the operation of a section of the pipeline. Any loss of or reduction in our real property rights, including loss or reduction due to legal, governmental or other actions or difficulty renewing leases, right-of-way agreements or permits on satisfactory terms or at all, could have a material adverse effect on our business, financial condition, results of operations and cash flows.

Certain of our facilities are located on Native American tribal lands and are subject to various federal and tribal approvals and regulations, which can increase our costs and delay or prevent our efforts to conduct planned operations.

Various federal agencies within the U.S. Department of the Interior, particularly the Bureau of Indian Affairs, along with each Native American tribe, regulate natural gas and oil operations on Native American tribal lands. In addition, each Native American tribe is a sovereign nation having the right to enforce laws and regulations and to grant approvals independent from federal, state and local statutes and regulations. These tribal laws and regulations include various taxes, fees, requirements to employ Native American tribal members and other conditions that apply to operators and contractors conducting operations on Native American tribal lands. Persons conducting operations on tribal lands are generally subject to the Native American tribal court system. In addition, if our relationships with any of the relevant Native American tribes were to deteriorate, we could face significant risks to our ability to continue operations on Native American tribal lands. One or more of these factors may increase our cost of doing business on Native American tribal lands and impact the viability of, or prevent or delay our ability to conduct operations on such lands.

The Court of Chancery of the State of Delaware will be, to the extent permitted by law, the sole and exclusive forum for substantially all disputes between us and our shareholders.

Our Restated Certificate of Incorporation provides that the Court of Chancery of the State of Delaware will be the sole and exclusive forum for:

- any derivative action or proceeding brought on behalf of MPC;
- any action asserting a claim of breach of a fiduciary duty owed by any director or officer of MPC to MPC or its stockholders
- any action asserting a claim against MPC arising pursuant to any provision of the General Corporation Law of the State of Delaware, MPC's Restated Certificate of Incorporation, any Preferred Stock Designation or the Bylaws of MPC; or
- any other action asserting a claim against MPC or any Director or officer of MPC that is governed by or subject to the internal affairs doctrine for choice of law purposes.

The forum selection provision may restrict a stockholder's ability to bring a claim against us or directors or officers of MPC in a forum that it finds favorable, which may discourage stockholders from bringing such claims at all. Alternatively, if a court were to find the forum selection provision contained in our Restated Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in another forum, which could materially adversely affect our business, financial condition and results of operations. However, the forum selection provision does not apply to any claims, actions or proceedings arising under the Securities Act or the Exchange Act.

Provisions in our corporate governance documents could operate to delay or prevent a change in control of our company, dilute the voting power or reduce the value of our capital stock or affect its liquidity.

The existence of some provisions within our restated certificate of incorporation and amended and restated bylaws could discourage, delay or prevent a change in control of us that a stockholder may consider favorable. These include provisions:

- providing that our board of directors fixes the number of members of the board;
- providing for the division of our board of directors into three classes with staggered terms;
- providing that only our board of directors may fill board vacancies;
- limiting who may call special meetings of stockholders;
- prohibiting stockholder action by written consent, thereby requiring stockholder action to be taken at a meeting of the stockholders;
- establishing advance notice requirements for nominations of candidates for election to our board of directors or for proposing matters that can be acted on by stockholders at stockholder meetings;
- establishing supermajority vote requirements for certain amendments to our restated certificate of incorporation;
- providing that our directors may only be removed for cause;
- authorizing a large number of shares of common stock that are not yet issued, which would allow our board of directors to issue shares to persons friendly to current management, thereby protecting the continuity of our management, or which could be used to dilute the stock ownership of persons seeking to obtain control of us; and
- authorizing the issuance of "blank check" preferred stock, which could be issued by our board of directors to increase the number of outstanding shares and thwart a takeover attempt.

Our restated certificate of incorporation also authorizes us to issue, without the approval of our stockholders, one or more classes or series of preferred stock having such designation, powers, preferences and relative, participating, optional and other special rights, including preferences over our common stock respecting dividends and distributions, as our board of directors generally may determine. The terms of one or more classes or series of preferred stock could dilute the voting power or reduce the value of our common stock. For example, we could grant holders of preferred stock the right to elect some number of our board of directors in all events or on the happening of specified events or the right to veto specified transactions. Similarly, the repurchase or redemption rights or liquidation preferences we could assign to holders of preferred stock could affect the residual value of our common stock.

Finally, to facilitate compliance with the Maritime Laws, our restated certificate of incorporation limits the aggregate percentage ownership by non-U.S. citizens of our common stock or any other class of our capital stock to 23 percent of the outstanding shares. We may prohibit transfers that would cause ownership of our common stock or any other class of our capital stock by non-U.S. citizens to exceed 23 percent. Our restated certificate of incorporation also authorizes us to effect any and all measures necessary or desirable to monitor and limit foreign ownership of our common stock or any other class of our capital stock. These limitations could have an adverse impact on the liquidity of the market for our common stock if holders are unable to transfer shares to non-U.S. citizens due to the limitations on ownership by non-U.S. citizens. Any such limitation on the liquidity of the market for our common stock could adversely impact the market price of our common stock.

Strategic Transaction Risks

We may fail to realize all of the anticipated benefits of the Speedway sale.

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven. We may not realize some or all the expected benefits of the sale. For example, we may be unable to utilize fully the proceeds from the sale as anticipated or capture the value we expect from our plans to strengthen our balance sheet and return capital to our shareholders. Following the completion of the sale, our diversification of revenue sources diminished, and our business, financial condition, results of operations and cash flows may be subject to increased volatility as a result.

General Risk Factors

Significant stockholders may attempt to effect changes at our company or acquire control over our company, which could impact the pursuit of business strategies and adversely affect our results of operations and financial condition.

Our stockholders may from time to time engage in proxy solicitations, advance stockholder proposals or otherwise attempt to effect changes or acquire control over our company. Campaigns by stockholders to effect changes at publicly traded companies are sometimes led by investors seeking to increase short-term stockholder value through actions such as financial restructuring, increased debt, special dividends, stock repurchases or sales of assets or the entire company. Responding to proxy contests and other actions by activist stockholders can be costly and time-consuming and could divert the attention of our board of directors and senior management from the management of our operations and the pursuit of our business strategies. As a result, stockholder campaigns could adversely affect our results of operations and financial condition.

Future acquisitions will involve the integration of new assets or businesses and may present substantial risks that could adversely affect our business, financial conditions, results of operations and cash flows.

Future transactions involving the addition of new assets or businesses will present risks, which may include, among others:

- inaccurate assumptions about future synergies, revenues, capital expenditures and operating costs;
- an inability to successfully integrate, or a delay in the successful integration of, assets or businesses we acquire;
- a decrease in our liquidity resulting from using a portion of our available cash or borrowing capacity under our revolving credit agreement to finance transactions;
- a significant increase in our interest expense or financial leverage if we incur additional debt to finance transactions;
- the assumption of unknown environmental and other liabilities, losses or costs for which we are not indemnified or for which our indemnity is inadequate;
- the diversion of management's attention from other business concerns;
- the loss of customers or key employees from the acquired business; and
- the incurrence of other significant charges, such as impairment of goodwill or other intangible assets, asset devaluation or restructuring charges.

Compliance with and changes in tax laws could materially and adversely impact our financial condition, results of operations and cash flows.

We are subject to extensive tax liabilities, including federal and state income taxes, transactional taxes, and payroll, franchise, withholding and property taxes. New tax laws and regulations and changes in existing tax laws and regulations could result in increased expenditures by us for tax liabilities in the future and could materially and adversely impact our financial condition, results of operations and cash flows.

Additionally, many tax liabilities are subject to periodic audits by taxing authorities, and such audits could subject us to interest and penalties.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

We believe that our properties and facilities are adequate for our operations and that our facilities are adequately maintained. See the following sections for details of our assets by segment.

REFINING & MARKETING

The table below sets forth the location and crude oil refining capacity for each of our refineries as of December 31, 2021. Refining throughput can exceed crude oil refining capacity due to the processing of other charge and blendstocks in addition to crude oil and the timing of planned turnaround and major maintenance activity.

<u>Refinery</u>	<u>Crude Oil Refining Capacity (mbpcd)</u>
<i>Gulf Coast Region</i>	
Galveston Bay, Texas City, Texas	593
Garyville, Louisiana	585
Subtotal Gulf Coast region	<u>1,178</u>
<i>Mid-Continent Region</i>	
Catlettsburg, Kentucky	291
Robinson, Illinois	253
Detroit, Michigan	140
El Paso, Texas	133
St. Paul Park, Minnesota	105
Canton, Ohio	100
Mandan, North Dakota	71
Salt Lake City, Utah	66
Subtotal Mid-Continent region	<u>1,159</u>
<i>West Coast Region</i>	
Los Angeles, California	363
Anacortes, Washington	119
Kenai, Alaska	68
Subtotal West Coast region	<u>550</u>
<i>Total</i>	<u><u>2,887</u></u>

The Dickinson, North Dakota, renewable fuels facility has the capacity to produce 184 million gallons per year of renewable diesel from corn oil, soybean oil, fats, and greases. The company also progressed activities associated with the conversion of the Martinez refinery to a renewable diesel facility. The full capacity of the Martinez facility is expected to be approximately 730 million gallons per year.

The following table sets forth the approximate number of locations where jobbers maintain branded outlets, marketing fuels under the Marathon, ARCO, Shell, Mobil, Tesoro and other brands, as of December 31, 2021.

Location	Number of Branded Outlets
Alabama	395
Alaska	42
Arizona	83
California	109
Colorado	12
District of Columbia	2
Florida	664
Georgia	384
Idaho	105
Illinois	199
Indiana	640
Iowa	4
Kentucky	513
Louisiana	38
Maryland	55
Massachusetts	1
Mexico	279
Michigan	761
Minnesota	291
Mississippi	106
Nevada	15
New Mexico	41
New York	56
North Carolina	208
North Dakota	114
Ohio	820
Oregon	42
Pennsylvania	87
Rhode Island	2
South Carolina	115
South Dakota	33
Tennessee	409
Texas	5
Utah	99
Virginia	171
Washington	85
West Virginia	111
Wisconsin	58
Wyoming	5
Total	7,159

The Refining & Marketing segment sells transportation fuels through long-term fuel supply contracts to direct dealer locations, primarily under the ARCO brand. The following table sets forth the number of direct dealer locations by state as of December 31, 2021.

Location	Number of Locations
Arizona	68
California	955
Nevada	63
Total	1,086

The following table sets forth details about our Refining & Marketing owned and operated terminals as of December 31, 2021. See the Midstream - MPLX section for information with respect to MPLX owned and operated terminals.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (<i>thousand barrels</i>)
Light Products Terminals:		
Alaska	1	306
New York	1	328
Subtotal light products terminals	2	634
Asphalt Terminals:		
Florida	1	263
Indiana	1	121
Kentucky	4	549
Louisiana	1	54
Michigan	1	12
New York	1	417
Ohio	4	2,207
Pennsylvania	1	451
Tennessee	2	483
Subtotal asphalt terminals	16	4,557
Total owned and operated terminals	18	5,191

MIDSTREAM - MPLX

The following tables set forth certain information relating to MPLX's crude oil, refined products and water pipeline, gathering systems and storage assets as of December 31, 2021.

Pipeline System or Storage Asset	Diameter (inches)	Length (miles)	Capacity ^(a)
Total crude oil pipeline systems ^{(b)(c)(d)}	2" - 48"	8,752	Various
Total refined products pipeline systems ^{(b)(e)(f)}	4" - 42"	6,465	Various
Water pipeline systems:			
Belfield water system	3" - 4"	103	Various
Green River water system	4" - 8"	11	Various
Total		114	
Barge Docks (<i>mbpd</i>)			2,010
Storage assets: (<i>mbbls</i>):			
Refining Logistics ^(g)			95,271
Tank Farms			35,144
Caverns			4,764

^(a) Capacity for the Barge Docks is shown as 100 percent of the throughput capacity. Capacity for Tank Farms is shown as 100 percent of the available storage capacity. Capacity for caverns is shown as the storage commitment in mbbls.

^(b) Includes pipelines leased from third parties.

^(c) Includes approximately 1,916 miles of pipeline in which MPLX has a 9 percent ownership interest, 168 miles of pipeline in which MPLX has a 35 percent ownership interest, 48 miles of pipeline in which MPLX has a 41 percent ownership interest, 57 miles of pipeline in which MPLX has a 59 percent ownership interest, 522 miles of pipeline in which MPLX has an 11 percent ownership interest, 107 miles of pipeline in which MPLX has a 67 percent ownership interest and 975 miles of pipeline in which MPLX has a 17 percent ownership interest.

^(d) Includes approximately 1,161 miles of inactive pipeline.

^(e) Includes approximately 1,830 miles of pipeline in which MPLX has a 25 percent ownership interest, 87 miles of pipeline in which MPLX has a 65 percent ownership interest, 78 miles of pipeline in which MPLX has a 25 percent interest, 323 miles of pipeline in which MPLX has an 8 percent interest, 498 miles of pipeline in which MPLX has a 38 percent interest and 17 miles of pipeline in which MPLX has a 50 percent interest.

^(f) Includes approximately 201 miles of inactive pipeline.

^(g) Refining logistics assets primarily include tankage.

The following table sets forth details about MPLX owned and operated terminals as of December 31, 2021. Additionally, MPLX operates one leased terminal and has partial ownership interest in one terminal.

Owned and Operated Terminals	Number of Terminals	Tank Storage Capacity (thousand barrels)
Refined Products Terminals:		
Alabama	2	443
Alaska	3	1,572
California	8	3,483
Florida	4	3,383
Georgia	4	982
Idaho	3	1,000
Illinois	4	1,124
Indiana	6	3,217
Kentucky	6	2,587
Louisiana	2	5,404
Michigan	8	2,440
Minnesota	1	13
New Mexico	3	481
North Carolina	3	1,356
North Dakota	1	—
Ohio	12	3,200
Pennsylvania	1	390
South Carolina	1	371
Tennessee	4	1,149
Texas	1	73
Utah	1	21
Washington	4	920
West Virginia	2	1,587
Subtotal light products terminals	84	35,196
Asphalt Terminals		
Arizona	3	554
California	3	786
Minnesota	1	529
Nevada ^(a)	1	283
New Mexico	1	38
Texas	1	194
Subtotal asphalt terminals	10	2,384
Total owned and operated terminals	94	37,580

^(a) MPLX accounts for this terminal as an equity method investment.

The following table sets forth details about MPLX barges and towboats as of December 31, 2021.

Class of Equipment	Number in Class	Capacity (thousand barrels)
Inland tank barges ^(a)	297	7,832
Inland towboats	23	N/A

^(a) All of our barges are double-hulled.

The following tables set forth certain information relating to MPLX's consolidated and operated joint venture gas processing facilities, fractionation facilities, natural gas gathering systems, NGL pipelines and natural gas pipelines as of and for the year ended December 31, 2021. All throughputs and utilizations included are weighted-averages for days in operation.

Gas Processing Complexes	Design Throughput Capacity (MMcf/d)	Natural Gas Throughput (MMcf/d) ^(a)	Utilization of Design Capacity ^(a)
Marcellus Operations	6,320	5,639	91 %
Utica Operations	1,325	482	36 %
Southern Appalachia Operations	495	231	47 %
Southwest Operations ^{(b)(c)}	2,125	1,301	66 %
Bakken Operations	185	149	81 %
Rockies Operations	1,177	429	36 %
Total	11,627	8,231	72 %

^(a) Natural gas throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(b) Centrahoma Processing LLC's processing capacity of 550 MMcf/d and actual throughput of 170 MMcf/d are not included in this table as MPLX owns a non-operating 40 percent interest in this joint venture.

^(c) The Southwest Operations include throughput for a complex which was sold by MPLX on February 12, 2021. The capacity for this facility is not included in the table above. The processing volumes calculated for the number of days MPLX owned these assets during 2021 were 96 MMcf/d.

Fractionation & Condensate Stabilization Complexes	Design Throughput Capacity (mbpd)	NGL Throughput (mbpd) ^(a)	Utilization of Design Capacity ^(a)
Marcellus Operations	413	314	76 %
Utica Operations	23	13	57 %
Southern Appalachia Operations	24	12	50 %
Bakken Operations	33	23	70 %
Rockies Operations	5	4	80 %
Total ^(b)	498	366	73 %

^(a) NGL throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(b) The total does not include throughput for a complex which was sold by MPLX on February 12, 2021. The fractionated volumes calculated for the number of days MPLX owned these assets during 2021 were 11 mbpd and the throughput for the year was 1 mbpd.

De-ethanization Complexes	Design Throughput Capacity (mbpd)	NGL Throughput (mbpd) ^(a)	Utilization of Design Capacity ^(a)
Marcellus Operations	269	191	71 %
Utica Operations	40	5	13 %
Rockies Operations	5	—	— %
Total ^(b)	314	196	63 %

^(a) NGL throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(b) The total does not include throughput for a complex which was sold by MPLX on February 12, 2021. The fractionated volumes calculated for the number of days MPLX owned these assets during 2021 were 6 mbpd and the throughput for the year was 1 mbpd.

Natural Gas Gathering Systems	Design Throughput Capacity (MMcf/d)	Natural Gas Throughput (MMcf/d) ^(a)	Utilization of Design Capacity ^(a)
Marcellus Operations	1,547	1,336	86 %
Utica Operations	3,183	1,690	53 %
Southwest Operations	2,960	1,494	54 %
Bakken Operations	189	150	79 %
Rockies Operations ^(b)	1,486	461	31 %
Total	9,365	5,131	56 %

^(a) Natural gas throughput is a weighted average for days in operation. The utilization of design capacity has been calculated using the weighted average design throughput capacity.

^(b) This region does not include MPLX's operated joint venture, Rendezvous Gas Services, L.L.C. ("RGS"), which has a gathering capacity of 1,032 MMcf/d; this system supports other systems which are included in the Rockies region and that throughput is presented in the table above. The third party volumes gathered for RGS during the year ended December 31, 2021 were 127 MMcf/d.

The following tables set forth certain information relating to MPLX's NGL pipelines as of December 31, 2021.

NGL Pipelines	Diameter (inches)	Length (miles)	Design Throughput Capacity (mbpd)
Marcellus Operations	4" - 20"	442	Various
Utica Operations	4" - 12"	119	Various
Southern Appalachia Operations	6" - 8"	138	35
Southwest Operations ^(a)	6"	50	39
Bakken Operations	8" - 12"	84	80
Rockies Operations	8"	10	15

^(a) Includes 38 miles of inactive pipeline.

MIDSTREAM - MPC-RETAINED ASSETS AND INVESTMENTS

The following tables set forth certain information related to our crude oil and refined products pipeline systems not owned by MPLX.

As of December 31, 2021, we had partial ownership interests in the following pipeline companies.

Pipeline Company	Diameter (inches)	Length (miles)	Ownership Interest	Operated by MPL
Crude oil pipeline companies:				
Capline Pipeline Company LLC	40"	644	33%	Yes
Gray Oak Pipeline, LLC	8"-30"	845	25%	No
LOOP ^(a)	48"	48	10%	No
Total		1,489		
Refined products pipeline companies:				
Ascension Pipeline Company LLC	12"	32	50%	No
Centennial Pipeline LLC ^(b)	24"-26"	793	50%	Yes
Muskegon Pipeline LLC	10"-12"	170	60%	Yes
Wolverine Pipe Line Company	6"-18"	798	6%	No
Total		1,793		

^(a) Represents interest retained by MPC and excludes MPLX's 40.7 percent ownership interest in LOOP. Pipeline mileage is excluded from total as it is included with MPLX assets.

^(b) All system pipeline miles are inactive.

As of December 31, 2021, we had a partial ownership interest in the following crude oil terminal.

Terminal	Ownership Interest	Tank Storage Capacity (million barrels)
South Texas Gateway Terminal LLC	25%	8.6

The following table sets forth details about the assets held by two ocean vessel joint ventures in which we hold a 50% interest as of December 31, 2021.

Class of Equipment	Number in Class	Capacity (thousand barrels)
Jones Act product tankers ^(a)	4	1,320
750 Series ATB vessels ^(b)	3	990

^(a) Represents ownership through our indirect noncontrolling interest in Crowley Ocean Partners.

^(b) Represents ownership through our indirect noncontrolling interest in Crowley Blue Water Partners.

ITEM 3. LEGAL PROCEEDINGS

We are the subject of, or a party to, a number of pending or threatened legal actions, contingencies and commitments involving a variety of matters, including laws and regulations relating to the environment. While it is possible that an adverse result in one or more of the lawsuits or proceedings in which we are a defendant could be material to us, based upon current information and our experience as a defendant in other matters, we believe that these lawsuits and proceedings, individually or in the aggregate, will not have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Item 103 of Regulation S-K promulgated by the SEC requires disclosure of certain environmental matters when a governmental authority is a party to the proceedings and such proceedings involve potential monetary sanctions, unless we reasonably believe that the matter will result in no monetary sanctions, or in monetary sanctions, exclusive of interest and costs, of less than \$300,000.

Climate Change Litigation

Governmental and other entities in various states have filed climate-related lawsuits against a number of energy companies, including MPC. The lawsuits allege damages as a result of climate change and the plaintiffs are seeking unspecified damages and abatement under various tort theories. Similar lawsuits may be filed in other jurisdictions. The names of the courts in which the proceedings are pending and the dates instituted are as follows:

Plaintiff	Date Instituted	Name of Court(s) where pending
County of San Mateo, California	July 17, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
County of Marin, California	July 17, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
City of Imperial Beach, California	July 17, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
County of Santa Cruz, California	December 20, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
City of Santa Cruz, California	December 20, 2017	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
City of Richmond, California	January 22, 2018	U.S. District Court (Northern District of California); U.S. Court of Appeals for the Ninth Circuit
State of Rhode Island	July 2, 2018	Superior Court of Providence County; U.S. Court of Appeals for the First Circuit
Mayor and City Council of Baltimore, Maryland	July 20, 2018	Circuit Court of Baltimore City; U.S. Court of Appeals for the Fourth Circuit
Pacific Coast Federation of Fishermen's Associations, Inc.	November 14, 2018	U.S. District Court (Northern District of California)
City and County of Honolulu, Hawaii	March 9, 2020	U.S. District Court (District of Hawaii); U.S. Court of Appeals for the Ninth Circuit; Circuit Court of the First Circuit (State of Hawaii)
City of Charleston, South Carolina	September 9, 2020	U.S. District Court (District of South Carolina)
State of Delaware	September 10, 2020	U.S. District Court (District of Delaware); U.S. Court of Appeals for the Third Circuit

<u>Plaintiff</u>	<u>Date Instituted</u>	<u>Name of Court(s) where pending</u>
County of Maui, Hawaii	October 12, 2020	U.S. District Court (District of Hawaii); U.S. Court of Appeals for the Ninth Circuit; Circuit Court of the First Circuit (State of Hawaii)
City of Annapolis, Maryland	February 22, 2021	U.S. District Court (District of Maryland)
Anne Arundel County, Maryland	April 26, 2021	U.S. District Court (District of Maryland)

Dakota Access Pipeline

MPLX holds a 9.19 percent indirect interest in a joint venture (“Dakota Access”) that owns and operates the Dakota Access Pipeline and Energy Transfer Crude Oil Pipeline projects, collectively referred to as the Bakken Pipeline system or DAPL. In 2020, the U.S. District Court for the District of Columbia (the “D.D.C.”) ordered the U.S. Army Corps of Engineers (“Army Corps”), which granted permits and an easement for the Bakken Pipeline system, to prepare an environmental impact statement (“EIS”) relating to an easement under Lake Oahe in North Dakota. The D.D.C. later vacated the easement. The EIS is currently expected to be completed in the second half of 2022.

In May 2021, the D.D.C. denied a renewed request for an injunction to shut down the pipeline while the EIS is being prepared. In June 2021, the D.D.C. issued an order dismissing without prejudice the tribes’ claims against the Dakota Access Pipeline. The litigation could be reopened or new litigation challenging the EIS, once completed, could be filed. The pipeline remains operational.

MPLX has entered into a Contingent Equity Contribution Agreement whereby it, along with the other joint venture owners in the Bakken Pipeline system, has agreed to make equity contributions to the joint venture upon certain events occurring to allow the entities that own and operate the Bakken Pipeline system to satisfy their senior note payment obligations. The senior notes were issued to repay amounts owed by the pipeline companies to fund the cost of construction of the Bakken Pipeline system. If the pipeline were temporarily shut down, MPLX would have to contribute its 9.19 percent pro rata share of funds required to pay interest accruing on the notes and any portion of the principal that matures while the pipeline is shutdown. MPLX also expects to contribute its 9.19 percent pro rata share of any costs to remediate any deficiencies to reinstate the permit and/or return the pipeline into operation. If the vacatur of the easement permit results in a permanent shutdown of the pipeline, MPLX would have to contribute its 9.19 percent pro rata share of the cost to redeem the bonds (including the 1% redemption premium required pursuant to the indenture governing the notes) and any accrued and unpaid interest. As of December 31, 2021, our maximum potential undiscounted payments under the Contingent Equity Contribution Agreement were approximately \$230 million.

Tesoro High Plains Pipeline

In July 2020, Tesoro High Plains Pipeline Company, LLC (“THPP”), a subsidiary of MPLX, received a Notification of Trespass Determination from the Bureau of Indian Affairs (“BIA”) relating to a portion of the Tesoro High Plains Pipeline that crosses the Fort Berthold Reservation in North Dakota. The notification demanded the immediate cessation of pipeline operations and assessed trespass damages of approximately \$187 million. On appeal, the Assistant Secretary - Indian Affairs vacated the BIA’s trespass order and remanded to the Regional Director for the BIA Great Plains Region to issue a new decision based on specified criteria. On December 15, 2020, the Regional Director of the BIA issued a new trespass notice to THPP, finding that THPP was in trespass and assessing trespass damages of approximately \$4 million (including interest). The order also required that THPP immediately cease and desist use of the portion of the pipeline that crosses the property at issue. THPP has complied with the Regional Director’s December 15, 2020 notice. In March 2021, THPP received a copy of an order purporting to vacate all orders related to THPP’s alleged trespass issued by the BIA between July 2, 2020 and January 14, 2021. The order directs the Regional Director of the BIA to reconsider the issue of THPP’s alleged trespass and issue a new order, if necessary, after all interested parties have had an opportunity to be heard. On April 23, 2021, THPP filed a lawsuit in the District of North Dakota against the United States of America, the U.S. Department of the Interior and the BIA (together, the U.S. Government Parties”) challenging the March order purporting to vacate all previous orders related to THPP’s alleged trespass. On February 8, 2022, the U.S. Government Parties filed their answer to THPP’s suit, asserting counterclaims for trespass and ejectment. The U.S. Government Parties claim THPP is in continued trespass with respect to the pipeline and seek disgorgement of pipeline profits from June 1, 2013 to present, removal of the pipeline and remediation. We intend to vigorously defend ourselves against these counterclaims. We continue to work towards a settlement of this matter with holders of the property rights at issue.

Martinez Refinery

We are currently negotiating the settlement of 99 NOVs received from the Bay Area Air Quality Management District (“BAAQMD”). The NOVs were issued from 2011 to 2018 and allege violations of air quality regulations and the idled Martinez refinery’s air permit. We cannot currently estimate the timing of the resolution of these matters.

On July 18, 2016, the U.S. Department of Justice (“DOJ”) lodged a complaint on behalf of EPA and a Consent Decree in the U.S. Court for the Western District of Texas. Among other things, the Consent Decree required that the Martinez refinery meet certain annual emission limits for NOx by July 1, 2018. In 2018, TRMC informed EPA that it would need additional time to satisfy requirements of the Consent Decree. In 2019, TRMC and the United States entered into an agreement to amend the Consent Decree to resolve these issues. In light of the actions to strategically reposition the Martinez refinery to a renewable diesel facility, we are renegotiating the Consent Decree modification. Subject to final approval by the court, we expect that, contingent

on TRMC completing the conversion of the Martinez refinery to renewable diesel production, the renegotiated Consent Decree modification will no longer require the installation of a Selective Catalytic Reduction system to control NOx emissions from the now-idled fluid catalytic cracking unit, but will result in an increased civil penalty.

Gathering and Processing

As previously disclosed, MPLX has been negotiating with EPA with respect to multiple alleged violations of the National Emission Standards for Hazardous Air Pollutants by the Chapita, Coyote Wash, Island, River Bend and Wonsits Valley Compressor Stations in Utah. We are in the process of finalizing a settlement with EPA pursuant to which MPLX expects to pay a cash penalty in excess of \$300,000 and enter into a consent decree covering MPLX gas plants and compressor stations located in Utah, North Dakota and Wyoming. We expect the settlement will be finalized later in 2022.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

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

Our common stock is listed on the NYSE and traded under the symbol "MPC." As of February 15, 2022, there were 28,357 registered holders of our common stock.

Issuer Purchases of Equity Securities

The following table sets forth a summary of our purchases during the quarter ended December 31, 2021, of equity securities that are registered by MPC pursuant to Section 12 of the Securities Exchange Act of 1934, as amended:

Period	Total Number of Shares Purchased ^(a)	Average Price Paid per Share ^(b)	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs	Millions of Dollars	
					Maximum Dollar Value of Shares that May Yet Be Purchased Under the Plans or Programs ^(c)
10/01/2021-10/31/2021	7,999,599	\$ 65.67	7,996,619	\$	7,517
11/01/2021-11/30/2021	16,968,226	63.95	16,968,158		6,432
12/01/2021-12/31/2021	18,475,376	63.16	18,475,376		5,265
Total	43,443,201	63.93	43,440,153		

^(a) The amounts in this column include 2,980, 68 and 0 shares of our common stock delivered by employees to MPC, upon vesting of restricted stock, to satisfy tax withholding requirements in October, November and December, respectively.

^(b) Amounts in this column reflect the weighted average price paid for shares repurchased under our share repurchase authorizations and for shares tendered to us in satisfaction of employee tax withholding obligations upon the vesting of restricted stock granted under our stock plans. The weighted average price includes commissions paid to brokers during the quarter.

^(c) On April 30, 2018, we announced that our board of directors had approved a \$5 billion share repurchase authorization in addition to the remaining authorization pursuant to the May 31, 2017 announcement. On May 14, 2021, we announced that our board of directors had approved an additional \$7.1 billion share repurchase authorization. On February 2, 2022, we announced that our board of directors had approved an additional \$5 billion share repurchase authorization, which authorization is not reflected in this column. These share repurchase authorizations have no expiration date.

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

All statements in this section, other than statements of historical fact, are forward-looking statements that are inherently uncertain. See "Disclosures Regarding Forward-Looking Statements" and Item 1A. Risk Factors for a discussion of the factors that could cause actual results to differ materially from those projected in these statements. The following information concerning our business, results of operations and financial condition should also be read in conjunction with the information included under Item 1. Business, Item 1A. Risk Factors and Item 8. Financial Statements and Supplementary Data.

EXECUTIVE SUMMARY

Business Update

For the twelve months ended December 31, 2021, we continued to see recovery in the environment in which our business operates, albeit in some markets and regions more or less than others. The increased availability of vaccinations and the reductions in travel and business restrictions appeared to drive increased economic activity, including the opening of many businesses and schools, as well as more in-person interaction broadly. Demand for gasoline and distillates, excluding jet fuel, have returned to near 2019 pre-pandemic levels. Permanent remote work and teleconferencing arrangements may continue to impact demand for our refined products. While we have seen improved results through 2021, we are unable to predict the potential effects that further resurgences of COVID-19 may have on our financial position and results.

In response to this business environment, we continue to focus on the following priorities for our business:

Strengthen Competitive Position of Assets

We are committed to positioning our assets so that we are a leader in operational, financial, and sustainability performance and are evaluating the strength and fit of assets in our portfolio. Our goal is that each individual asset generates free-cash-flow back to the business and contributes to shareholder returns. With our investments we are focused on high returning projects that we believe will enhance the competitiveness of our portfolio, including our investments in sustainable fuels and technologies that lower our carbon intensity as the global energy mix evolves.

Improve Commercial Performance

We are focused on leveraging advantaged raw material selection, new approaches in the commercial space to be more dynamic amidst changing market conditions, and achieving technology improvements to advance our commercial performance. A near-term focus has been securing advantaged renewable feedstocks as we continue to advance our renewable fuels production capabilities. This includes exploring joint venture opportunities and strategic alliances within the renewable fuels value chain.

Continued Capital Discipline and Focus on Low-Cost Culture

We are committed to achieving operational excellence by reducing costs, improving efficiency, driving operational improvements and being disciplined in capital allocation. This means lowering our costs in all aspects of our business and challenging ourselves to be disciplined in every dollar we spend across our organization. We look to optimize our portfolio of investment opportunities to ensure efficient deployment of capital focusing on projects with the highest returns.

In connection with our commitment to lower cost and strengthen the competitive position of our assets, in the third quarter of 2020, we announced strategic actions to lay a foundation for long-term success, including plans to optimize our assets and structurally lower costs in 2021 and beyond. These actions included indefinitely idling the Gallup refinery, initiating actions to strategically reposition the Martinez refinery to a renewable diesel facility and the approval of an involuntary workforce reduction plan. Our results for the year ended December 31, 2021 reflect the favorable effects from these cost reduction actions.

Many uncertainties remain with respect to COVID-19, and we are unable to predict the ultimate economic impacts from COVID-19 and how quickly the U.S. and economies around the world can recover once the pandemic ultimately subsides. However, the adverse impact of the economic effects on MPC have been and may continue to be significant.

Commitment to Sustainability

Our approach to sustainability spans the environmental, social and governance dimensions of our business. That means strengthening resiliency by lowering the carbon intensity and conserving natural resources; innovating for the future by investing in renewables and emerging technologies; and embedding sustainability in decision-making and in how we engage our people and many stakeholders. Specifically, we established a 2030 target to reduce our absolute Scope 3 - Category 11 GHG emissions by 15% below 2019 levels. Additionally, MPLX established a new 2030 target to reduce methane emissions intensity by 75% below 2016 levels. The reduction target applies to MPLX's natural gas gathering and processing operations and represents an expansion of the existing 2025 target, established in 2020, to reduce methane emissions intensity by 50% below 2016 levels.

Strategic Updates

On February 2, 2022, we announced our board of directors approved an incremental \$5.0 billion share repurchase authorization. The authorization has no expiration date. As of December 31, 2021, MPC had \$5.27 billion remaining under its share repurchase authorizations prior to this additional authorization.

On December 14, 2021, we finalized the formation of a joint venture with Archer-Daniels-Midland Company (“ADM”) for the production of soybean oil to supply rapidly growing demand for renewable diesel fuel. The joint venture, which is named Green Bison Soy Processing, LLC, will own and operate a soybean processing complex in Spiritwood, North Dakota, with ADM owning 75 percent of the joint venture and MPC owning 25 percent. When complete in 2023, the Spiritwood facility will source and process local soybeans and supply the resulting soybean oil exclusively to MPC. The Spiritwood complex is expected to produce approximately 600 million pounds of refined soybean oil annually, enough feedstock for approximately 75 million gallons of renewable diesel per year.

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven for cash proceeds of \$21.38 billion. This transaction resulted in a pretax gain of \$11.68 billion (\$8.02 billion after income taxes) after deducting the book value of the net assets and certain other adjustments. MPC remains committed to executing its plan to use the net proceeds from the sale to strengthen the balance sheet and return capital to shareholders.

In connection with the Speedway sale, our board of directors approved an additional \$7.1 billion share repurchase authorization bringing total share repurchase authorizations to \$10.0 billion prior to the June tender offer discussed below.

- During 2021, including the modified Dutch auction tender offer discussed below, MPC repurchased approximately 76 million shares of its common stock and paid approximately \$4.65 billion of cash, with an additional \$85 million of cash paid in the first quarter of 2022 in connection with the settlement of certain late December repurchases.
- During the second quarter of 2021, MPC completed a modified Dutch auction tender offer, purchasing 15,573,365 shares of its common stock at a purchase price of \$63.00 per share, for an aggregate purchase price of approximately \$981 million, excluding fees and expenses related to the tender offer.

During 2021, we reduced debt through the following actions:

- On December 2, 2021, all of the \$1.25 billion outstanding aggregate principal amount of MPC's 4.5% senior notes due May 2023 and the \$850 million outstanding aggregate principal amount of MPC's 4.75% senior notes due December 2023, including the portion of such notes for which Andeavor LLC was the obligor, were redeemed at a price equal to par, plus a make-whole premium calculated in accordance with the terms of the senior notes and accrued and unpaid interest to, but not including, the redemption date. MPC funded the redemption amount with cash on hand.
- In June 2021, we redeemed all of the \$300 million outstanding aggregate principal amount of MPC's 5.125% senior notes due April 2024 at a price equal to 100.854% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.
- In May 2021, we repaid all outstanding commercial paper borrowings, which, along with cash, had been used to finance the fourth quarter 2020 repayments of two series of MPC's senior notes in the aggregate total principal amount of \$1.13 billion.
- On March 1, 2021, we repaid the \$1 billion outstanding aggregate principal amount of MPC's 5.125% senior notes due March 2021.

On February 24, 2021, we announced our plan to strategically reposition the Martinez refinery to a renewable diesel facility. Converting the Martinez facility from refining petroleum to manufacturing renewable fuels signals our strong commitment to producing a substantial level of lower carbon-intensity fuels in California. As envisioned, the Martinez facility would start producing approximately 260 million gallons per year of renewable diesel by the second half of 2022, with pretreatment capabilities coming online in 2023. The facility is expected to be capable of producing approximately 730 million gallons per year by the end of 2023.

The Dickinson, North Dakota, renewable fuels facility began operations at the end of 2020 and reached full design operating capacity in the second quarter of 2021. The facility has the capacity to produce 184 million gallons per year of renewable diesel from corn oil, soybean oil, fats, and greases. The produced renewable diesel generates federal RINs and LCFS credits when sold in California or similar markets. These instruments are used to help meet our Renewable Fuel Standard and LCFS compliance obligations as a petroleum fuel producer.

Effective Tax Rate

Our effective income tax rate is affected by the weighting of income from our wholly owned operations versus net income attributable to noncontrolling interests. Additionally, tax rate differences can arise from non-forecasted discrete items. During operating environments when refining margins approximate historical averages, we generally expect our effective tax rate to be between 18 percent and 21 percent, excluding discrete tax items. A reconciliation of the statutory tax rate of 21 percent to our

effective tax rate of 9 percent for the period ended December 31, 2021 is included in Item 8. Financial Statements and Supplementary Data – Note 14.

Results

Select results for continuing operations for 2021 and 2020 are reflected in the following table.

<u>(In millions)</u>	2021	2020
Refining & Marketing ^(a)	\$ 1,016	\$ (5,189)
Midstream	4,061	3,708
Corporate	(696)	(800)
Items not allocated to segments:		
Impairment and idling expenses ^(b)	(81)	(9,741)
Restructuring expenses ^(c)	—	(367)
Litigation	—	84
Gain on sale of assets	—	66
Transaction-related costs ^(d)	—	(8)
Income (loss) from continuing operations	<u>4,300</u>	<u>(12,247)</u>
Net interest and other financial costs	<u>1,483</u>	<u>1,365</u>
Income (loss) from continuing operations before income taxes	2,817	(13,612)
Provision (benefit) for income taxes on continuing operations	264	(2,430)
Income (loss) from continuing operations, net of tax	<u>\$ 2,553</u>	<u>\$ (11,182)</u>

^(a) Includes LIFO liquidation charge of \$561 million for 2020.

^(b) 2021 includes impairment expenses related to long-lived assets and equity method investments. 2020 includes impairments of goodwill, equity method investments and long-lived assets.

^(c) 2020 restructuring expenses include \$195 million for exit costs related to the Martinez and Gallup refineries and \$172 million of employee separation costs.

^(d) 2020 includes costs incurred in connection with the Midstream strategic review.

Select results for discontinued operations are reflected in the following table.

<u>(In millions)</u>	2021	2020
Speedway	\$ 613	\$ 1,701
Gain on sale of assets	11,682	—
Transaction-related costs ^(a)	(46)	(114)
Income from discontinued operations	<u>12,249</u>	<u>1,587</u>
Net interest and other financial costs	<u>6</u>	<u>20</u>
Income from discontinued operations before income taxes	12,243	1,567
Provision for income taxes on discontinued operations	3,795	362
Income from discontinued operations, net of tax	<u>\$ 8,448</u>	<u>\$ 1,205</u>

^(a) Costs related to the Speedway separation.

The following table includes net income (loss) per diluted share data.

<u>Net income (loss) per diluted share</u>	2021	2020
Continuing operations	\$ 2.02	\$ (16.99)
Discontinued operations	13.22	1.86
Net income (loss) attributable to MPC	<u>\$ 15.24</u>	<u>\$ (15.13)</u>

Net income attributable to MPC increased \$19.56 billion, or \$30.37 per diluted share, in 2021 compared to 2020 primarily due to the gain on the sale of Speedway, the absence of impairment expenses and a LIFO liquidation charge and increases in average refined product sales prices and volumes, partially offset by a partial period of income from discontinued operations due to the sale of the Speedway business on May 14, 2021.

See Item 8. Financial Statements and Supplementary Data – Note 5 for additional information on discontinued operations.

Refer to the Results of Operations section for a discussion of financial results by segment for the three years ended December 31, 2021.

MPLX

We received limited partner distributions of \$2.16 billion and \$1.79 billion from MPLX during 2021 and 2020, respectively. The increase in 2021 is primarily due to a special distribution amount of \$0.5750 per common unit in the third quarter of 2021. We owned approximately 647 million MPLX common units at December 31, 2021 with a market value of \$19.16 billion based on the December 31, 2021 closing unit price of \$29.59. On January 25, 2022, MPLX declared a quarterly cash distribution of \$0.7050 per common unit, which was paid February 14, 2022. As a result, MPLX made distributions totaling \$715 million to its common unitholders. MPC's portion of this distribution was approximately \$456 million.

During the year ended December 31, 2021, MPLX repurchased 23 million common units at an average cost per unit of \$27.52 and paid \$630 million of cash. As of December 31, 2021, \$337 million remained available under the authorization for future repurchases.

See Item 8. Financial Statements and Supplementary Data – Note 6 for additional information on MPLX.

OVERVIEW OF SEGMENTS

Refining & Marketing

Refining & Marketing segment income from operations depends largely on our Refining & Marketing margin, refining operating costs, refining planned turnarounds, distribution costs, depreciation expenses and refinery throughputs. Our total refining capacity was 2,887 mbpcd, 2,874 mbpcd and 3,067 mbpcd as of December 31, 2021, 2020 and 2019, respectively.

Our Refining & Marketing margin is the difference between the prices of refined products sold and the costs of crude oil and other charge and blendstocks refined, including the costs to transport these inputs to our refineries and the costs of products purchased for resale. The crack spread is a measure of the difference between market prices for refined products and crude oil, commonly used by the industry as a proxy for the refining margin. Crack spreads can fluctuate significantly, particularly when prices of refined products do not move in the same relationship as the cost of crude oil. As a performance benchmark and a comparison with other industry participants, we calculate Gulf Coast, Mid-Continent and West Coast crack spreads that we believe most closely track our operations and slate of products. The following will be used for these crack-spread calculations:

- The Gulf Coast crack spread uses three barrels of MEH crude producing two barrels of USGC CBOB gasoline and one barrel of USGC ULSD. In the first quarter of 2021, we transitioned to MEH crude from LLS crude;
- The Mid-Continent crack spread uses three barrels of WTI crude producing two barrels of Chicago CBOB gasoline and one barrel of Chicago ULSD; and
- The West Coast crack spread uses three barrels of ANS crude producing two barrels of LA CARBOB and one barrel of LA CARB Diesel.

Our refineries process a variety of sweet and sour grades of crude oil, which typically can be purchased at a discount to the crude oils referenced in our Gulf Coast, Mid-Continent and West Coast crack spreads. The amount of these discounts, which we refer to as the sweet differential and the sour differential, can vary significantly, causing our Refining & Marketing margin to differ from blended crack spreads. In general, larger sweet and sour differentials will enhance our Refining & Marketing margin.

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

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

(In millions, after-tax)

Blended crack spread sensitivity ^(a) (per \$1.00/barrel change)	\$	800
Sour differential sensitivity ^(b) (per \$1.00/barrel change)		375
Sweet differential sensitivity ^(c) (per \$1.00/barrel change)		375
Natural gas price sensitivity ^(d) (per \$1.00/MMBtu)		250

^(a) Crack spread based on 40 percent MEH, 40 percent WTI and 20 percent ANS with Gulf Coast, Mid-Continent and West Coast product pricing, respectively, and assumes all other differentials and pricing relationships remain unchanged.

^(b) Sour crude oil basket consists of the following crudes: ANS, Argus Sour Crude Index, Maya and Western Canadian Select. We assume approximately 50 percent of the crude processed at our refineries in 2022 will be sour crude.

^(c) Sweet crude oil basket consists of the following crudes: Bakken, Brent, MEH, WTI-Cushing and WTI-Midland. We assume approximately 50 percent of the crude processed at our refineries in 2022 will be sweet crude.

^(d) This is consumption based exposure for our Refining & Marketing segment and does not include the sales exposure for our Midstream segment.

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

- the selling prices realized for refined products;
- the types of crude oil and other charge and blendstocks processed;
- our refinery yields;
- the cost of products purchased for resale;
- the impact of commodity derivative instruments used to hedge price risk;
- the potential impact of LCM adjustments to inventories in periods of declining prices: and
- the potential impact of LIFO liquidation charges due to draw-downs from historic inventory levels.

Inventories are stated at the lower of cost or market. Costs of crude oil, refinery feedstocks and refined products are stated under the LIFO inventory costing method and aggregated on a consolidated basis for purposes of assessing if the cost basis of these inventories may have to be written down to market values. At December 31, 2021, market values for refined products exceed their cost basis and, therefore, there is no LCM inventory valuation reserve at the end of the year. Based on movements of refined product prices, future inventory valuation adjustments could have a negative effect to earnings. Such losses are subject to reversal in subsequent periods if prices recover.

Refining & Marketing segment income from operations is also affected by changes in refining operating costs and refining planned turnaround costs in addition to committed distribution costs. Changes in operating costs are primarily driven by the cost of energy used by our refineries, including purchased natural gas, and the level of maintenance costs. Refining planned turnarounds, requiring temporary shutdown of certain refinery operating units, are periodically performed at each refinery. Distribution costs primarily include long-term agreements with MPLX, as discussed below, which are based on committed volumes and will negatively impact income from operations in periods when throughput or sales are lower or refineries are idled.

The following table lists the refineries that had significant planned turnaround and major maintenance activities for each of the last three years.

Year	Refinery
2021	Catlettsburg, Galveston Bay, Mandan and Robinson
2020	Canton, Catlettsburg, El Paso, Galveston Bay, Garyville, Kenai, Los Angeles and Salt Lake City
2019	Catlettsburg, Gallup, Galveston Bay, Garyville, Los Angeles, Martinez, Robinson and St. Paul Park

We have various long-term, fee-based commercial agreements with MPLX. Under these agreements, MPLX, which is reported in our Midstream segment, provides transportation, storage, distribution and marketing services to our Refining & Marketing segment. Certain of these agreements include commitments for minimum quarterly throughput and distribution volumes of crude oil and refined products and minimum storage volumes of crude oil, refined products and other products. Certain other agreements include commitments to pay for 100 percent of available capacity for certain marine transportation and refining logistics assets.

Midstream

Our Midstream segment transports, stores, distributes and markets crude oil and refined products, principally for our Refining & Marketing segment. The profitability of our pipeline transportation operations primarily depends on tariff rates and the volumes shipped through the pipelines. The profitability of our marine operations primarily depends on the quantity and availability of our vessels and barges. The profitability of our light product terminal operations primarily depends on the throughput volumes at these terminals. The profitability of our fuels distribution services primarily depends on the sales volumes of certain refined products. The profitability of our refining logistics operations depends on the quantity and availability of our refining logistics assets. A majority of the crude oil and refined product shipments on our pipelines and marine vessels and the refined product throughput at our terminals serve our Refining & Marketing segment. Our refining logistics assets and fuels distribution services are used solely by our Refining & Marketing segment.

As discussed above in the Refining & Marketing section, MPLX, which is reported in our Midstream segment, has various long-term, fee-based commercial agreements related to services provided to our Refining & Marketing segment. Under these agreements, MPLX has received various commitments of minimum throughput, storage and distribution volumes as well as commitments to pay for all available capacity of certain assets. The volume of crude oil that we transport is directly affected by the supply of, and refiner demand for, crude oil in the markets served directly by our crude oil pipelines, terminals and marine operations. Key factors in this supply and demand balance are the production levels of crude oil by producers in various regions or fields, the availability and cost of alternative modes of transportation, the volumes of crude oil processed at refineries and refinery and transportation system maintenance levels. The volume of refined products that we transport, store, distribute and market is directly affected by the production levels of, and user demand for, refined products in the markets served by our refined product pipelines and marine operations. In most of our markets, demand for gasoline and distillate peaks during the summer

driving season, which extends from May through September of each year, and declines during the fall and winter months. As with crude oil, other transportation alternatives and system maintenance levels influence refined product movements.

Our Midstream segment also gathers and processes natural gas and NGLs. NGL and natural gas prices are volatile and are impacted by changes in fundamental supply and demand, as well as market uncertainty, availability of NGL transportation and fractionation capacity and a variety of additional factors that are beyond our control. Our Midstream segment profitability is affected by prevailing commodity prices primarily as a result of processing or conditioning at our own or third-party processing plants, purchasing and selling or gathering and transporting volumes of natural gas at index-related prices and the cost of third-party transportation and fractionation services. To the extent that commodity prices influence the level of natural gas drilling by our producer customers, such prices also affect profitability.

RESULTS OF OPERATIONS

The following discussion includes comments and analysis relating to our results of operations for the years ended December 31, 2021, 2020 and 2019. This discussion should be read in conjunction with Item 8. Financial Statements and Supplementary Data and is intended to provide investors with a reasonable basis for assessing our historical operations, but should not serve as the only criteria for predicting our future performance.

Consolidated Results of Operations

<u>(In millions)</u>	2021	2020	2021 vs. 2020 Variance	2019	2020 vs. 2019 Variance
Revenues and other income:					
Sales and other operating revenues ^(a)	\$ 119,983	\$ 69,779	\$ 50,204	\$ 111,148	\$ (41,369)
Income (loss) from equity method investments	458	(935)	1,393	312	(1,247)
Net gain on disposal of assets	21	70	(49)	278	(208)
Other income	468	118	350	127	(9)
Total revenues and other income	<u>120,930</u>	<u>69,032</u>	<u>51,898</u>	<u>111,865</u>	<u>(42,833)</u>
Costs and expenses:					
Cost of revenues (excludes items below)	110,008	65,733	44,275	99,228	(33,495)
Impairment expense	—	8,426	(8,426)	1,197	7,229
Depreciation and amortization	3,364	3,375	(11)	3,225	150
Selling, general and administrative expenses	2,537	2,710	(173)	3,192	(482)
Restructuring expenses	—	367	(367)	—	367
Other taxes	721	668	53	561	107
Total costs and expenses	<u>116,630</u>	<u>81,279</u>	<u>35,351</u>	<u>107,403</u>	<u>(26,124)</u>
Income (loss) from continuing operations	4,300	(12,247)	16,547	4,462	(16,709)
Net interest and other financial costs	1,483	1,365	118	1,229	136
Income (loss) from continuing operations before income taxes	2,817	(13,612)	16,429	3,233	(16,845)
Provision (benefit) for income taxes on continuing operations	264	(2,430)	2,694	784	(3,214)
Income (loss) from continuing operations, net of tax	2,553	(11,182)	13,735	2,449	(13,631)
Income from discontinued operations, net of tax	8,448	1,205	7,243	806	399
Net income (loss)	11,001	(9,977)	20,978	3,255	(13,232)
Less net income (loss) attributable to:					
Redeemable noncontrolling interest	100	81	19	81	—
Noncontrolling interests	1,163	(232)	1,395	537	(769)
Net income (loss) attributable to MPC	<u>\$ 9,738</u>	<u>\$ (9,826)</u>	<u>\$ 19,564</u>	<u>\$ 2,637</u>	<u>\$ (12,463)</u>

^(a) In accordance with discontinued operations accounting, Speedway sales to retail customers and net results are reflected in Income from discontinued operations, net of tax, and Refining & Marketing intercompany sales to Speedway are presented as third-party sales through the close of the sale on May 14, 2021.

2021 Compared to 2020

Net income attributable to MPC increased \$19.56 billion in 2021 compared to 2020, primarily due to the gain on the sale of Speedway, the absence of impairment expenses and a LIFO liquidation charge and increases in average refined product sales

prices and volumes, partially offset by a partial period of income from discontinued operations due to the sale of the Speedway business on May 14, 2021. See Segment Results for additional information.

Total revenues and other income increased \$51.90 billion in 2021 compared to 2020 primarily due to:

- increased sales and other operating revenues of \$50.20 billion primarily due to increased average refined product sales prices of \$0.80 per gallon, or 65 percent, and refined product sales volumes of 203 mbpd, or 6 percent, largely due to continuing economic recovery from the impact of the COVID-19 pandemic in 2020;
- increased income from equity method investments of \$1.39 billion largely due to impairments of equity method investments of \$1.32 billion in 2020 primarily driven by the effects of COVID-19 and the decline in commodity prices; and
- increased other income of \$350 million primarily due to higher income on RIN sales.

Total costs and expenses increased \$35.35 billion in 2021 compared to 2020 primarily due to:

- increased cost of revenues of \$44.28 billion primarily due to higher refined product sales volumes in addition to higher crude oil and refined product raw material costs, partially offset by the absence of a LIFO liquidation charge in 2020 of \$561 million;
- decreased impairment expense of \$8.43 billion due to impairments recorded for goodwill and long-lived assets in 2020 primarily driven by the effects of COVID-19 and the decline in commodity prices in the prior year;
- decreased selling, general and administrative expenses of \$173 million mainly due to cost reductions realized from our 2020 workforce reduction and other cost control efforts; and
- decreased restructuring expenses of \$367 million related to the idling of the Martinez and Gallup refineries and costs related to our announced workforce reduction in 2020. See Item 8. Financial Statements and Supplementary Data – Note 19 for additional information.

Net interest and other financial costs increased \$118 million largely due to debt retirement expenses related to the redemption of MPC senior notes and pension settlement losses of \$75 million, partially offset by decreased interest expense due to lower MPLX and MPC borrowings. We capitalized interest of \$73 million in 2021 and \$129 million in 2020. See Item 8. Financial Statements and Supplementary Data – Note 13 for further details.

We recorded a combined federal, state and foreign income tax expense of \$264 million for the year ended December 31, 2021, which was lower than the tax computed at the U.S. statutory rate primarily due to certain permanent tax benefits related to net income attributable to noncontrolling interests and a change in benefit related to the net operating loss (“NOL”) carryback provided under the Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”), partially offset by state taxes. We recorded a combined federal, state and foreign income tax benefit of \$2.43 billion for the year ended December 31, 2020, which is lower than the tax computed at the U.S. statutory rate primarily due to a significant amount of our pre-tax loss consisting of non-tax deductible goodwill impairment charges, partially offset by the tax rate differential resulting from the NOL carryback provided under the CARES Act. Additionally, our effective tax rate is generally benefited by our noncontrolling interest in MPLX, but this benefit was lower for the year ended December 31, 2020 due to goodwill and other impairment charges recorded by MPLX. See Item 8. Financial Statements and Supplementary Data – Note 14 for further details.

Net income attributable to noncontrolling interests increased \$1.40 billion mainly due to an increase in MPLX’s net income largely due to impairment expense recognized during 2020.

2020 Compared to 2019

Net income attributable to MPC decreased \$12.46 billion in 2020 compared to 2019 primarily due to impairment expenses for goodwill and long-lived assets of \$8.43 billion, impairments of equity method investments of \$1.32 billion, decreased refined product sales volumes, prices and margin, a charge of \$561 million to reflect a LIFO liquidation in our crude oil and refined product inventories and restructuring expenses of \$367 million. These changes were partially offset by reduced operating costs and increased income from discontinued operations, which represents the Speedway business. See Segment Results for additional information.

Total revenues and other income decreased \$42.83 billion in 2020 compared to 2019 primarily due to:

- decreased sales and other operating revenues of \$41.37 billion primarily due to decreased Refining & Marketing segment refined product sales volumes, which decreased 513 mbpd, or 14 percent, and lower average refined product sales prices, which decreased \$0.55 per gallon, or 31 percent, largely due to reduced travel and business operations associated with the COVID-19 pandemic;
- decreased income from equity method investments of \$1.25 billion largely due to impairments of equity method investments of \$1.32 billion primarily driven by the effects of the COVID-19 pandemic and the decline in commodity prices; and

- decreased net gain on disposal of assets of \$208 million mainly due to the absence of \$259 million of non-cash gains related to obtaining equity investments in Capline Pipeline Company LLC and The Andersons in exchange for contributing assets in 2019. This decrease was offset by net gains on disposal of assets in 2020 largely due to the sale of three asphalt terminals and other Refining & Marketing assets.

Total costs and expenses decreased \$26.12 billion in 2020 compared to 2019 primarily due to:

- decreased cost of revenues of \$33.50 billion primarily due to reduced business operations and travel associated with the COVID-19 pandemic, partially offset by increased cost of revenues of \$561 million to reflect LIFO liquidations for our crude oil and refined product inventories. The costs of inventories in the historical LIFO layers liquidated were higher than current costs, which resulted in the LIFO liquidation charge;
- impairment expense of \$8.43 billion recorded in 2020 for goodwill and long-lived assets of \$7.39 billion and \$1.03 billion, respectively, primarily driven by the effects of COVID-19 and the decline in commodity prices. It also includes impairment of long-lived assets primarily related to the repositioning of the Martinez refinery compared to impairment expense of \$1.20 billion recorded in 2019 primarily related to MPLX goodwill associated with the ANDX gathering and processing businesses acquired as part of the Andeavor acquisition;
- decreased selling, general and administrative expenses of \$482 million mainly due to decreases in salaries and employee-related expenses, transaction-related expenses, credit card processing fees for brand customers and contract services expenses;
- restructuring expense of \$367 million related to the idling of the Martinez and Gallup refineries and costs related to our announced workforce reduction. See Item 8. Financial Statements and Supplementary Data – Note 19 for additional information; and
- increased other taxes of \$107 million primarily due to increased property and environmental taxes of approximately \$78 million and \$69 million, respectively. Property taxes increased in the current period mainly due to the absence of property tax refunds and tax exemptions received in 2019 and environmental taxes increased largely due to the reinstatement of the Oil Spill Tax in 2020, which was not in effect for all of 2019. These increases were offset by a state tax refund and reduced payroll tax expenses.

Net interest and other financial costs increased \$136 million largely due to increased MPC borrowings and foreign currency exchange losses and decreased interest income. We capitalized interest of \$129 million in 2020 and \$158 million in 2019. See Item 8. Financial Statements and Supplementary Data – Note 13 for further details.

Provision for income taxes on continuing operations decreased \$3.21 billion primarily due to decreased income before taxes of \$16.85 billion. The effective tax rate of 18 percent in 2020 is lower than the U.S. statutory rate of 21 percent, primarily due to a significant amount of our pre-tax loss consisting of non-tax deductible goodwill impairment charges, partially offset by the tax rate differential resulting from the expected NOL carryback provided under the CARES Act. Additionally, our effective tax rate is generally benefited by our noncontrolling interest in MPLX, but this benefit was lower for the year ended December 31, 2020 due to goodwill and other impairment charges recorded by MPLX. The effective tax rate of 24 percent in 2019 is higher than the U.S. statutory rate of 21 percent, primarily due to permanent tax differences related to goodwill impairment and state and local tax expense, partially offset by permanent tax differences related to net income attributable to noncontrolling interests. See Item 8. Financial Statements and Supplementary Data – Note 14 for further details.

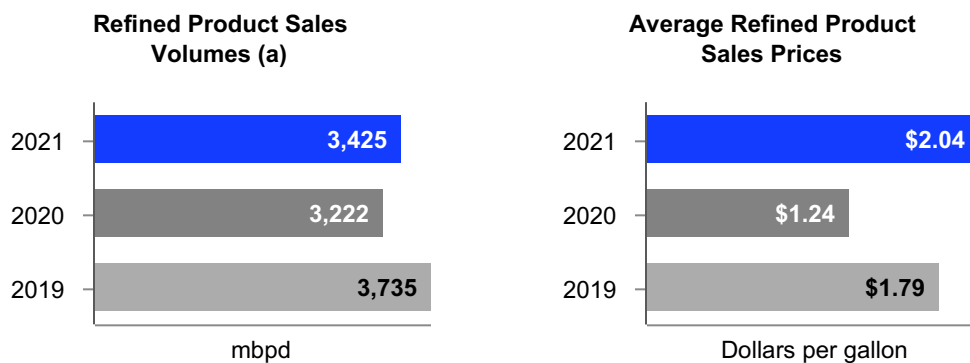
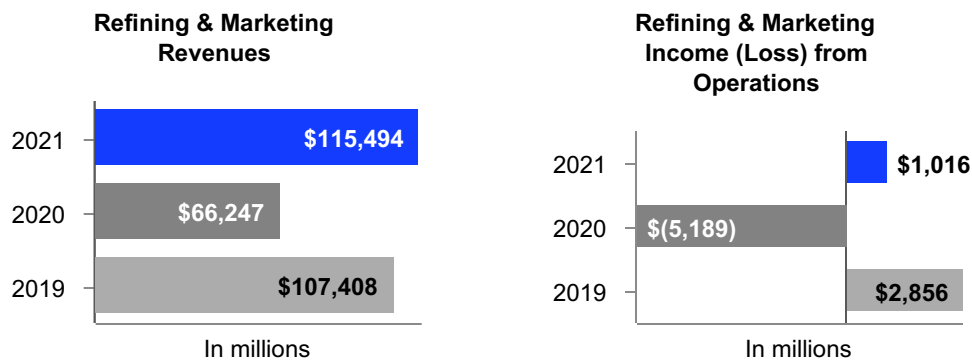
Noncontrolling interests decreased \$769 million mainly due to MPLX's net loss primarily resulting from impairment expense recognized during 2020.

Segment Results

Our Refining & Marketing and Midstream segment income (loss) from continuing operations was approximately \$5.08 billion, \$(1.48) billion and \$6.45 billion for the years ended December 31, 2021, 2020 and 2019, respectively.

Refining & Marketing

The following includes key financial and operating data for 2021, 2020 and 2019.



^(a) Includes intersegment sales to Midstream and sales destined for export.

Refining & Marketing Operating Statistics	2021	2020	2019
Net refinery throughput (<i>mbpd</i>)	2,799	2,583	3,112
Refining & Marketing margin, excluding LIFO liquidation charge ^{(a)(b)}	\$ 13.36	\$ 8.96	\$ 14.77
LIFO liquidation charge	—	(0.59)	—
Refining & Marketing margin per barrel ^{(a)(b)}	13.36	8.37	14.77
<i>Less:</i>			
Refining operating costs per barrel ^(c)	5.02	5.68	5.66
Storm impacts on refining operating cost ^(d)	0.05	—	—
Distribution costs per barrel	5.04	5.37	4.52
Refining planned turnaround costs per barrel	0.57	0.88	0.65
Depreciation and amortization per barrel	1.83	1.96	1.58
<i>Plus:</i>			
Biodiesel tax credit ^(e)	—	—	0.08
Other per barrel ^(f)	0.14	0.03	0.08
Refining & Marketing segment income (loss) per barrel	\$ 0.99	\$ (5.49)	\$ 2.52
Fees paid to MPLX included in distribution costs above	\$ 3.40	\$ 3.66	\$ 2.84

^(a) Sales revenue less cost of refinery inputs and purchased products, divided by net refinery throughput.

^(b) See “Non-GAAP Measures” section for reconciliation and further information regarding this non-GAAP measure.

^(c) Includes refining operating and major maintenance costs. Excludes planned turnaround and depreciation and amortization expense.

^(d) Storms in the first and third quarters of 2021 resulted in higher costs, including maintenance and repairs.

^(e) Reflects a benefit of \$93 million in 2019 for the biodiesel tax credit attributable to volumes blended in 2018.

^(f) Includes income from equity method investments, net gain on disposal of assets and other income.

The following table presents certain benchmark prices in our marketing areas and market indicators that we believe are helpful in understanding the results of our Refining & Marketing segment. The benchmark crack spreads below do not reflect the market cost of RINs necessary to meet EPA renewable volume obligations for attributable products under the Renewable Fuel Standard.

<u>Benchmark spot prices (dollars per gallon)</u>	<u>2021</u>	<u>2020</u>	<u>2019</u>
Chicago CBOB unleaded regular gasoline	\$ 2.02	\$ 1.07	\$ 1.67
Chicago ultra-low sulfur diesel	2.06	1.19	1.86
USGC CBOB unleaded regular gasoline	2.01	1.10	1.63
USGC ultra-low sulfur diesel	2.01	1.20	1.88
LA CARBOB	2.20	1.28	1.98
LA CARB diesel	2.10	1.30	2.01
<u>Market Indicators (dollars per barrel)</u>			
WTI	\$ 68.11	\$ 39.34	\$ 57.04
MEH	69.01	—	—
LLS	—	41.15	62.69
ANS	70.56	42.28	65.04
Crack Spreads			
Mid-Continent WTI 3-2-1	\$ 10.95	\$ 5.34	\$ 14.61
USGC MEH 3-2-1	8.89	—	—
USGC LLS 3-2-1	—	3.77	8.22
West Coast ANS 3-2-1	13.80	9.26	17.30
Blended 3-2-1 ^(a)	10.70	5.64	12.83
Crude Oil Differentials			
Sweet	\$ (0.47)	\$ (1.07)	\$ (2.35)
Sour	(4.05)	(3.45)	(3.15)

^(a) The blended crack spreads for 2021 and the fourth quarter of 2020 are weighted 40 percent of the USGC crack spread, 40 percent of the Mid-Continent crack spread and 20 percent of the West Coast crack spread. The blended crack spreads for the first three quarters of 2020 and all of 2019 are weighted 38 percent of the USGC crack spread, 38 percent of the Mid-Continent crack spread and 24 percent of the West Coast crack spread. These blends are based on MPC's refining capacity by region in each period. Beginning in the first quarter of 2021, the prompt price for USGC was transitioned from LLS to MEH.

2021 Compared to 2020

Refining & Marketing segment revenues increased \$49.25 billion primarily due to increased average refined product sales prices of \$0.80 per gallon and higher refined product sales volumes, which increased 203 mbpd.

Refinery crude oil capacity utilization was 91 percent during 2021 and net refinery throughputs increased 216 mbpd primarily due to continuing economic recovery from the impact of the COVID-19 pandemic in 2020.

Refining & Marketing segment income from operations increased \$6.21 billion primarily driven by higher blended crack spreads.

Refining & Marketing margin, excluding LIFO liquidation charge, was \$13.36 per barrel for 2021 compared to \$8.96 per barrel for 2020. Refining & Marketing margin is affected by the market indicators shown earlier, which use spot market values and an estimated mix of crude purchases and product sales. Based on the market indicators and our crude oil throughput, we estimate a net positive impact of \$5.0 billion on Refining & Marketing margin, primarily due to higher crack spreads. Our reported Refining & Marketing margin differs from market indicators due to the mix of crudes purchased and their costs, the effects of market structure on our crude oil acquisition prices, RIN prices on the crack spread and other items like refinery yields and other feedstock variances, direct dealer fuel margin, and for 2020, a LIFO liquidation charge of \$561 million. These factors had an estimated net positive impact on Refining & Marketing segment income from operations of approximately \$700 million, including the LIFO liquidation charge, in 2021 compared to 2020.

For the year ended December 31, 2021, refining operating costs, excluding depreciation and amortization and storm impacts, were \$5.13 billion. This was a decrease of \$241 million, or \$0.66 per barrel, compared to the year ended December 31, 2020 as we took actions to reduce costs in response to the economic effects of the COVID-19 pandemic, including idling portions of our refining capacity, partially offset by an increase in energy costs largely as a result of higher natural gas prices.

Distribution costs, excluding depreciation and amortization, were \$5.15 billion and \$5.08 billion for 2021 and 2020, respectively, and include fees paid to MPLX of \$3.47 billion and \$3.46 billion for 2021 and 2020, respectively. On a per barrel basis, distribution costs, excluding depreciation and amortization, decreased \$0.33 due to increased throughput.

Refining planned turnaround costs decreased \$250 million, or \$0.31 per barrel, due to the timing of turnaround activity and an increase in throughput.

Depreciation and amortization per barrel decreased by \$0.13, primarily due to an increase in throughput partially offset by an increase in costs.

We purchase RINs to satisfy a portion of our RFS2 compliance. Our expenses associated with purchased RINs were \$1.49 billion in 2021 and \$606 million in 2020 and are included in Refining & Marketing margin. The increase in 2021 was primarily due to higher weighted average RIN costs.

2020 Compared to 2019

Refining & Marketing segment revenues decreased \$41.16 billion primarily due to lower refined product sales volumes, which decreased 513 mbpd, and decreased average refined product sales prices of \$0.55 per gallon.

Refinery crude oil capacity utilization was 82 percent during 2020 and net refinery throughputs decreased 529 mbpd primarily due to reducing throughputs during the COVID-19 pandemic.

Refining & Marketing segment income from operations decreased \$8.05 billion primarily driven by lower blended crack spreads.

Refining & Marketing margin, excluding LIFO liquidation charge, was \$8.96 per barrel for 2020 compared to \$14.77 per barrel for 2019. Refining & Marketing margin is affected by the market indicators shown earlier, which use spot market values and an estimated mix of crude purchases and product sales. Based on the market indicators and our crude oil throughput, we estimate a net negative impact of \$9.75 billion on Refining & Marketing margin, primarily due to lower crack spreads. Our reported Refining & Marketing margin differs from market indicators due to the mix of crudes purchased and their costs, the effects of market structure on our crude oil acquisition prices, RIN prices on the crack spread and other items like refinery yields and other feedstock variances, direct dealer fuel margin, and for 2020, a LIFO liquidation charge of \$561 million. For 2019, the Refining & Marketing segment income from operations also reflects a benefit of \$93 million for the biodiesel tax credit attributable to volumes blended in 2018. These factors had an estimated net positive impact on Refining & Marketing segment income from operations of approximately \$800 million, including the LIFO liquidation charge, in 2020 compared to 2019.

For the year ended December 31, 2020, refining operating costs, excluding depreciation and amortization, were \$5.37 billion. This was a decrease of \$1.06 billion, and a per barrel increase of \$0.02 due to lower refinery throughput, compared to the year ended December 31, 2019 as we took actions to reduce costs in response to the economic effects of COVID-19, including operating at lower throughput at our refineries and idling portions of our refining capacity. Net refinery throughput was 529 mbpd lower in 2020.

Distribution costs, excluding depreciation and amortization, were \$5.08 billion and \$5.13 billion for 2020 and 2019, respectively, and include fees paid to MPLX of \$3.46 billion and \$3.22 billion for 2020 and 2019, respectively. On a per barrel basis, distribution costs, excluding depreciation and amortization, increased \$0.85 primarily due to lower throughput partially offset by a decrease in costs.

Refining planned turnaround costs increased \$92 million, or \$0.23 per barrel, due to the timing of turnaround activity and a decrease in throughput.

Depreciation and amortization per barrel increased by \$0.38, primarily due to a decrease in throughput and increased costs.

We purchase RINs to satisfy a portion of our RFS2 compliance. Our expenses associated with purchased RINs were \$606 million in 2020 and \$356 million in 2019 and are included in Refining & Marketing margin. The increase in 2020 was primarily due to higher weighted average RIN costs, partially offset by a decrease in our RIN obligations.

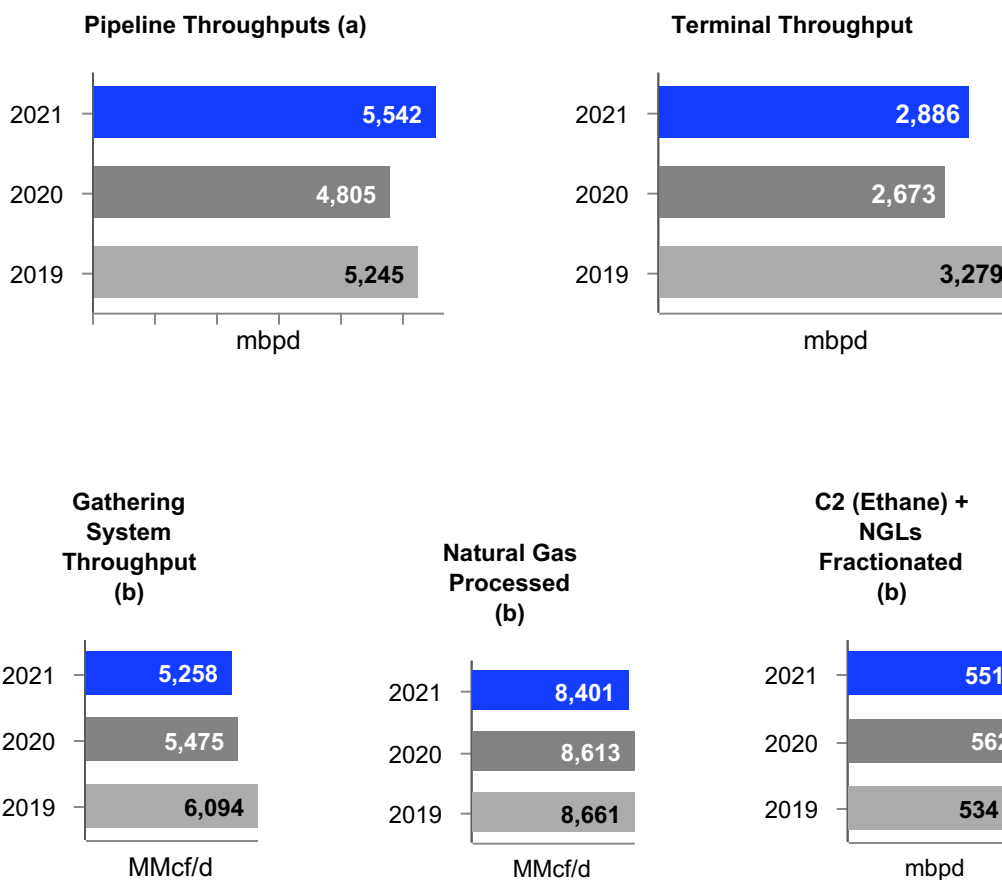
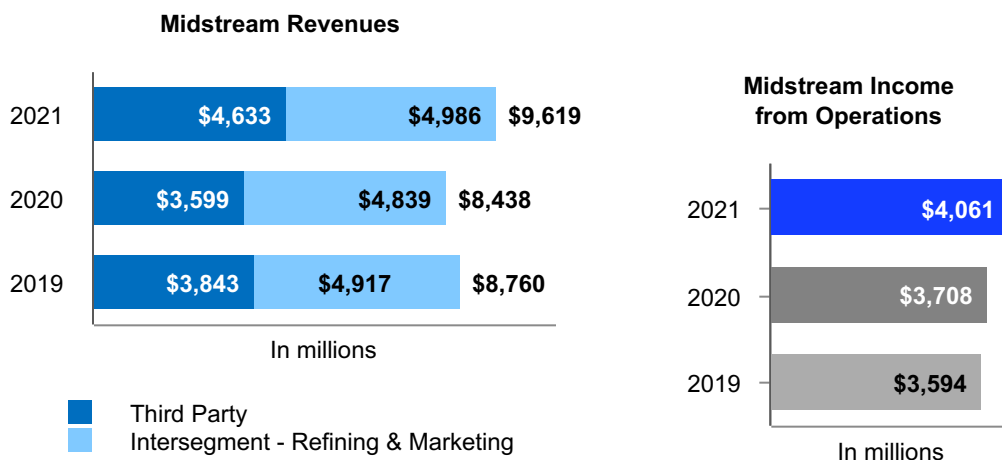
Supplemental Refining & Marketing Statistics

	2021	2020	2019
Refining & Marketing Operating Statistics			
Crude oil capacity utilization percent ^(a)	91	82	96
Refinery throughputs (<i>mbpd</i>):			
Crude oil refined	2,621	2,418	2,902
Other charge and blendstocks	178	165	210
Net refinery throughput	<u>2,799</u>	<u>2,583</u>	<u>3,112</u>
Sour crude oil throughput percent	47	49	48
Sweet crude oil throughput percent	53	51	52
Refined product yields (<i>mbpd</i>):			
Gasoline	1,446	1,314	1,560
Distillates ^(b)	965	905	1,087
Feedstocks and petrochemicals ^(b)	250	244	315
Asphalt	91	81	87
Propane	52	51	55
Heavy fuel oil	31	28	49
Total	<u>2,835</u>	<u>2,623</u>	<u>3,153</u>
Refined product export sales volumes (<i>mbpd</i>) ^(c)	371	340	397

^(a) Based on calendar-day capacity, which is an annual average that includes down time for planned maintenance and other normal operating activities.

^(b) Product yields include renewable production.

^(c) Represents fully loaded export cargoes for each time period. These sales volumes are included in the total sales volumes amounts.



^(a) On owned common-carrier pipelines, excluding equity method investments.

^(b) Includes amounts related to MPLX operated unconsolidated equity method investments on a 100 percent basis.

Benchmark Prices	2021	2020	2019
Natural Gas NYMEX HH (\$ per MMBtu)	\$ 3.72	\$ 2.13	\$ 2.53
C2 + NGL Pricing (\$ per gallon) ^(a)	\$ 0.87	\$ 0.43	\$ 0.52

^(a) C2 + NGL pricing based on Mont Belvieu prices assuming an NGL barrel of approximately 35 percent ethane, 35 percent propane, six percent Iso-Butane, 12 percent normal butane and 12 percent natural gasoline.

2021 Compared to 2020

Midstream segment revenue and segment income from operations increased \$1.18 billion and \$353 million, respectively. Results benefited from higher revenue, primarily due to higher natural gas prices, higher pipeline and terminal throughputs and lower operating expenses, partially offset by a decrease in marine transportation fees.

2020 Compared to 2019

Midstream segment revenue decreased \$322 million primarily due to decreased demand for the products that we produce and transport due to macro-economic conditions in 2020 in addition to lower natural gas prices.

In 2020, Midstream segment income from operations increased \$114 million mainly due to stable, fee-based earnings in the 2020 business environment, contributions from organic growth projects and reduced operating expenses.

Corporate

Key Financial Information (in millions)	2021	2020	2019
Corporate ^(a)	\$ (696)	\$ (800)	\$ (833)

^(a) Corporate costs consist primarily of MPC's corporate administrative expenses and costs related to certain non-operating assets, except for corporate overhead expenses attributable to MPLX, which are included in the Midstream segment.

2021 Compared to 2020

Corporate expenses decreased \$104 million in 2021 compared to 2020 largely due to cost reductions realized from our 2020 workforce reduction and other cost control efforts.

2020 Compared to 2019

Corporate expenses decreased \$33 million in 2020 compared to 2019 largely due to decreased salaries and contract services expenses, partially offset by increased expenses due to an information systems integration project. 2020 and 2019 corporate expenses include expenses of \$26 million and \$28 million, respectively, which are no longer allocable to Speedway due to discontinued operations accounting.

Items not Allocated to Segments

Our chief operating decision maker evaluates the performance of our segments using segment income from operations. Items identified in the table below are either believed to be non-recurring in nature or not believed to be allocable, controlled by the segment or are not tied to the operational performance of the segment.

Key Financial Information (in millions)	2021	2020	2019
Items not allocated to segments:			
Impairment and idling expenses	\$ (81)	\$ (9,741)	\$ (1,239)
Restructuring expense	—	(367)	—
Litigation	—	84	(22)
Gain on sale of assets	—	66	—
Transaction-related costs ^(a)	—	(8)	(153)
Equity method investment restructuring gains	—	—	259

^(a) 2020 and 2019 include costs incurred in connection with the Midstream strategic review and other related efforts. 2019 includes employee severance, retention and other costs related to the acquisition of Andeavor. Costs incurred in connection with the Speedway separation are included in discontinued operations.

2021 Compared to 2020

Total items not allocated to segments included impairment expense of \$81 million related to the divestiture, abandonment or closure of certain assets within our Midstream segment.

Unallocated items in 2020 include impairment charges of \$9.74 billion which includes \$8.43 billion related to goodwill and long-lived assets and \$1.32 billion related to equity method investments. See Item 8. Financial Statements and Supplementary Data – Note 7 for additional information.

During 2020, we indefinitely idled our Gallup refinery, initiated actions to strategically reposition our Martinez refinery to a renewable diesel facility and approved an involuntary workforce reduction plan. In connection with these strategic actions, we recorded restructuring expenses of \$367 million for the year ended December 31, 2020. See Item 8. Financial Statements and Supplementary Data – Note 19 for additional information.

Other unallocated items in 2020 include a favorable litigation settlement of \$84 million and gain on sale of assets of \$66 million related to the sale of three asphalt terminals and certain other Refining & Marketing assets.

2020 Compared to 2019

Unallocated items in 2019 include \$259 million of non-cash gains related to obtaining equity investments in Capline LLC and The Andersons in exchange for contributing assets.

In 2019, other unallocated items also include transaction-related costs of \$153 million and a litigation reserve adjustment of \$22 million. The transaction-related costs recognized during the year include the recognition of an obligation for vacation benefits provided to former Andeavor employees in the first quarter as well as employee retention, severance and other costs and the Midstream strategic review and other related efforts.

Impairment charges of \$1.24 billion in 2019 primarily relate to MPLX goodwill associated with the ANDX gathering and processing businesses acquired as part of the Andeavor acquisition.

Non-GAAP Financial Measure

Management uses a financial measure to evaluate our operating performance that is calculated and presented on the basis of methodologies other than in accordance with GAAP. We believe this non-GAAP financial measure is useful to investors and analysts to assess our ongoing financial performance because, when reconciled to its most comparable GAAP financial measure, it provides 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. This measure should not be considered a substitute for, or superior to, measures of financial performance prepared in accordance with GAAP, and our calculation thereof may not be comparable to similarly titled measures reported by other companies. The non-GAAP financial measure we use is as follows:

Refining & Marketing Margin

Refining margin is defined as sales revenue less the cost of refinery inputs and purchased products and excludes other items reflected in the table below.

Reconciliation of Refining & Marketing income (loss) from operations to Refining & Marketing gross margin and Refining & Marketing margin

<i>(In millions)</i>	2021	2020	2019
Refining & Marketing income (loss) from operations	\$ 1,016	\$ (5,189)	\$ 2,856
<i>Plus (Less):</i>			
Selling, general and administrative expenses	2,021	2,030	2,211
Income from equity method investments	(59)	(2)	(11)
Net gain on disposal of assets	(6)	(1)	(8)
Other income	(369)	(35)	(43)
Refining & Marketing gross margin	2,603	(3,197)	5,005
<i>Plus (Less):</i>			
Operating expenses (excluding depreciation and amortization)	9,806	9,694	10,710
Depreciation and amortization	1,870	1,857	1,780
Gross margin and other income excluded from Refining & Marketing margin ^(a)	(485)	(365)	(621)
Other taxes included in Refining & Marketing margin	(142)	(79)	(11)
Biodiesel tax credit	—	—	(93)
Refining & Marketing margin	<u>\$ 13,652</u>	<u>\$ 7,910</u>	<u>\$ 16,770</u>

^(a) Reflects the gross margin, excluding depreciation and amortization, of other related operations included in the Refining & Marketing segment and processing of credit card transactions on behalf of certain of our marketing customers, net of other income.

LIQUIDITY AND CAPITAL RESOURCES

Cash Flows

Our cash and cash equivalents balance for continuing operations was \$5.29 billion at December 31, 2021 compared to \$415 million at December 31, 2020. Cash and cash equivalents for discontinued operations was \$140 million at December 31, 2020. Net cash provided by (used in) operating activities, investing activities and financing activities for the past three years is presented in the following table.

<i>(In millions)</i>	2021	2020	2019
Net cash provided by (used in):			
Operating activities - continuing operations	\$ 8,384	\$ 807	\$ 7,976
Operating activities - discontinued operations	(4,024)	1,612	1,465
Total operating activities	4,360	2,419	9,441
Investing activities - continuing operations	(6,517)	(2,922)	(5,777)
Investing activities - discontinued operations	21,314	(335)	(484)
Total investing activities	14,797	(3,257)	(6,261)
Financing activities	(14,419)	(135)	(3,376)
Total increase (decrease) in cash	\$ 4,738	\$ (973)	\$ (196)

Operating Activities

Continuing Operations

Net cash provided by operating activities from continuing operations increased \$7.58 billion in 2021 compared to 2020, primarily due to an increase in operating results and a favorable change in working capital of \$633 million. Net cash provided by operating activities decreased \$7.17 billion in 2020 compared to 2019, primarily due to a decrease in operating results and an unfavorable change in working capital of \$43 million. The above changes in working capital exclude changes in short-term debt.

For 2021, changes in working capital were a net \$947 million source of cash, primarily due to the effect of increases in energy commodity prices and volumes at the end of the year on working capital. Accounts payable increased primarily due to increases in crude prices and volumes. Current receivables increased primarily due to higher crude and refined product prices and volumes.

For 2020, changes in working capital were a net \$314 million source of cash, primarily due to the effect of decreases in energy commodity prices, inventory and refined product volumes on working capital. Accounts payable decreased primarily due to lower crude payable prices. Current receivables decreased primarily due to lower crude and refined product receivable prices and refined product volumes. Inventories decreased mainly due to decreases in refined product, crude and materials and supplies inventories.

For 2019, changes in working capital were a net \$357 million source of cash, primarily due to the effect of increases in energy commodity prices and volumes on working capital. Accounts payable increased primarily due to higher crude oil payable prices and volumes. Current receivables increased primarily due to increases in crude and refined product receivable volumes and prices. Inventories increased primarily due to increases in refined product and materials and supplies inventories partially offset by a decrease in crude inventory.

Discontinued Operations

Net cash used in operating activities from discontinued operations was \$4.02 billion in 2021 primarily due to tax payments related to the sale of Speedway, partially offset by a partial year of business income due to the sale of Speedway on May 14, 2021. Net cash provided by operating activities from discontinued operations in 2020 and 2019 include Speedway business income.

Investing Activities

Continuing Operations

Net cash used in investing activities from continuing operations were \$6.52 billion, \$2.92 billion and \$5.78 billion in 2021, 2020 and 2019, respectively.

- In 2021, proceeds from the sale of Speedway were used to purchase \$12.50 billion of short-term investments and cash of \$5.41 billion and \$1.54 billion was provided by the maturities and sales, respectively, of short-term investments. The cash provided by maturities and sales of short-term investments was primarily used to fund our return of capital initiatives announced as part of the Speedway sale.

- Cash used for additions to property, plant and equipment was \$1.46 billion in 2021, compared to \$2.79 billion in 2020 and \$4.81 billion in 2019, primarily due to spending in our Refining & Marketing and Midstream segments in 2021. See discussion of capital expenditures and investments under the “Capital Spending” section.
- Net investments were a use of cash of \$171 million in 2021 compared to \$348 million in 2020 and \$966 million in 2019. Investments in 2021 primarily include midstream projects and our joint venture with ADM. The decrease from 2020 is due to the completion of the South Texas Gateway Terminal, the Gray Oak Pipeline and the Whistler Pipeline projects which were included in 2020 net investments. Investments in 2019 are largely due to investments in connection with the Gray Oak Pipeline, which began initial start-up in the fourth quarter of 2019, the Wink to Webster Pipeline, the Whistler Pipeline and other Midstream projects.
- Cash provided by disposal of assets totaled \$153 million, \$150 million and \$47 million in 2021, 2020 and 2019, respectively. In 2021, we primarily sold Midstream assets and in 2020, we sold three asphalt terminals and other Refining & Marketing assets.

The consolidated statements of cash flows exclude changes to the consolidated balance sheets that did not affect cash. A reconciliation of additions to property, plant and equipment to total capital expenditures and investments follows for each of the last three years.

<i>(In millions)</i>	2021	2020	2019
Additions to property, plant and equipment per consolidated statements of cash flows	\$ 1,464	\$ 2,787	\$ 4,810
Asset retirement expenditures	—	—	1
Increase (decrease) in capital accruals	141	(518)	(303)
Total capital expenditures	1,605	2,269	4,508
Investments in equity method investees	210	485	1,064
Total capital expenditures and investments	<u>\$ 1,815</u>	<u>\$ 2,754</u>	<u>\$ 5,572</u>

Discontinued Operations

Net cash provided by investing activities from discontinued operations in 2021 primarily includes the \$21.38 billion proceeds from the sale of Speedway, partially offset primarily by cash used for Speedway capital expenditures of \$177 million. Net cash used in investing activities for discontinued operations for 2020 and 2019 primarily includes Speedway capital expenditures.

Financing Activities

Financing activities were a use of cash of \$14.42 billion in 2021, \$135 million in 2020 and \$3.38 billion in 2019.

- During 2021, we reduced debt through the following actions:
 - On December 2, 2021, all of the \$1.25 billion outstanding aggregate principal amount of MPC's 4.5% senior notes due May 2023 and the \$850 million outstanding aggregate principal amount of MPC's 4.75% senior notes due December 2023, including the portion of such notes for which Andeavor LLC was the obligor, were redeemed at a price equal to par, plus a make-whole premium calculated in accordance with the terms of the senior notes and accrued and unpaid interest to, but not including, the redemption date. MPC funded the redemption amount with cash on hand.
 - In June 2021, we redeemed all of the \$300 million outstanding aggregate principal amount of MPC's 5.125% senior notes due April 2024 at a price equal to 100.854% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.
 - In May 2021, we repaid all outstanding commercial paper borrowings, which, along with cash had been used to finance the fourth quarter 2020 repayments of two series of MPC's senior notes in the aggregate total principal amount of \$1.13 billion.
 - On March 1, 2021, we repaid the \$1 billion outstanding aggregate principal amount of MPC's 5.125% senior notes due March 2021.
- In 2021, MPLX redeemed \$1.75 billion of senior notes and had net borrowings of \$300 million under its revolving credit facility.
- During 2020, MPC issued \$2.5 billion of senior notes, redeemed \$1.13 billion of senior notes, borrowed and repaid \$4.23 billion under its revolving credit facility and borrowed and repaid \$3.55 billion under its trade receivables facility. MPLX issued \$3.0 billion of senior notes, which were used to repay \$1.0 billion of outstanding borrowings under its term loan, \$1.0 billion of floating rate senior notes and to redeem \$750 million of fixed rate senior notes, and had net borrowings of \$175 million under its revolving credit facility.

- During 2019, MPLX issued \$2.0 billion of floating rate notes, the proceeds of which were used to repay various outstanding MPLX borrowings and for general business purposes, and had net borrowings of \$1.0 billion under its term loan agreement. In addition, MPLX repaid \$500 million of senior notes. See Item 8. Financial Statements and Supplementary Data – Note 22 for additional information on our long-term debt.
- Cash used in common stock repurchases totaled \$4.65 billion in 2021 and \$1.95 billion in 2019. See the “Capital Requirements” section for further discussion of our stock repurchases.
- Cash used in dividend payments totaled \$1.48 billion in 2021, \$1.51 billion in 2020 and \$1.40 billion in 2019. The increase in 2020 is primarily due to an increase in our base dividend, partially offset by a reduction of shares resulting from share repurchases in 2019. Dividends per share were \$2.32 in 2021, \$2.32 in 2020 and \$2.12 in 2019.
- Cash used in distributions to noncontrolling interests totaled \$1.45 billion in 2021, \$1.24 billion in 2020 and \$1.25 billion in 2019. The increase in 2021 is primarily due to an increase in MPLX’s distribution per common unit, mainly due to a special distribution amount of \$0.5750 per common unit in the third quarter of 2021, partially offset by a reduction of MPLX common units resulting from common unit repurchases in 2021 and 2020.
- Cash used in repurchases of noncontrolling interests increased \$597 million in 2021 compared to 2020 due to MPLX’s repurchases of its common units. See Item 8. Financial Statements and Supplementary Data – Note 6 for additional information on MPLX.

Derivative Instruments

See Item 7A. Quantitative and Qualitative Disclosures about Market Risk for a discussion of derivative instruments and associated market risk.

Capital Resources

MPC, Excluding MPLX

We control MPLX through our ownership of the general partner, however, the creditors of MPLX do not have recourse to MPC’s general credit through guarantees or other financial arrangements. The assets of MPLX can only be used to settle its own obligations and its creditors have no recourse to our assets. Therefore, in the following table, we present the liquidity of MPC, excluding MPLX. MPLX liquidity is discussed in the following section.

Our liquidity, excluding MPLX, totaled \$15.83 billion at December 31, 2021 consisting of:

<i>(In millions)</i>	December 31, 2021		
	Total Capacity	Outstanding Borrowings	Available Capacity
Bank revolving credit facility ^(a)	\$ 5,000	\$ 1	\$ 4,999
Trade receivables facility ^(b)	250	250	—
Total	<u>\$ 5,250</u>	<u>\$ 251</u>	\$ 4,999
Cash and cash equivalents and short-term investments ^(c)			<u>10,826</u>
Total liquidity			<u><u>15,825</u></u>

^(a) Outstanding borrowings include \$1 million in letters of credit outstanding under this facility.

^(b) The committed capacity of the trade receivables securitization facility is \$100 million. The facility allows the banks to make loans and issue letters of credit of up to \$400 million in excess of the committed capacity at their discretion if there is available borrowing capacity. Outstanding borrowings include \$250 million in letters of credit outstanding under this facility.

^(c) Excludes \$13 million of MPLX cash and cash equivalents.

Because of the alternatives available to us, including internally generated cash flow and access to capital markets and a commercial paper program, we believe that our short-term and long-term liquidity is adequate to fund not only our current operations, but also our near-term (less than twelve months) and long-term funding requirements, including capital spending programs, the repurchase of shares of our common stock, dividend payments, defined benefit plan contributions, repayment of debt maturities and other amounts that may ultimately be paid in connection with contingencies.

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven for cash proceeds of \$21.38 billion. This transaction resulted in a pretax gain of \$11.68 billion (\$8.02 billion after income taxes) after deducting the book value of the net assets and certain other adjustments. We utilized a portion of the Speedway sale net proceeds to structurally reduce debt and return capital to shareholders through share repurchases. The remaining proceeds are included in our liquidity as cash and cash equivalents and short-term investments.

During 2021, we reduced debt through the following actions:

- On December 2, 2021, all of the \$1.25 billion outstanding aggregate principal amount of MPC’s 4.5% senior notes due May 2023 and the \$850 million outstanding aggregate principal amount of MPC’s 4.75% senior notes due December

2023, including the portion of such notes for which Andeavor LLC was the obligor, were redeemed at a price equal to par, plus a make-whole premium calculated in accordance with the terms of the senior notes and accrued and unpaid interest to, but not including, the redemption date. MPC funded the redemption amount with cash on hand.

- In June 2021, we redeemed all of the \$300 million outstanding aggregate principal amount of MPC's 5.125% senior notes due April 2024 at a price equal to 100.854% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.
- In May 2021, we repaid all outstanding commercial paper borrowings, which, along with cash had been, used to finance the fourth quarter 2020 repayments of two series of MPC's senior notes in the aggregate total principal amount of \$1.13 billion.
- On March 1, 2021, we repaid the \$1 billion outstanding aggregate principal amount of MPC's 5.125% senior notes due March 2021.

Effective June 18, 2021, we terminated our \$1.0 billion unsecured 364-day revolving credit facility due in September 2021 and on June 23, 2021, we reduced the capacity under our trade receivables securitization facility from \$750 million to \$100 million. On September 30, 2021, we entered into a new trade receivables securitization facility, which provides for committed borrowing and letter of credit issuing capacity of up to \$100 million and uncommitted capacity up to \$400 million. This facility replaces our previous trade receivables securitization facility that expired on July 16, 2021.

We have a commercial paper program that allows us to have a maximum of \$2.0 billion in commercial paper outstanding, with maturities up to 397 days from the date of issuance. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under our bank revolving credit facilities. At December 31, 2021, we had no borrowings outstanding under the commercial paper program.

The MPC credit agreement and trade receivables facility contain representations and warranties, affirmative and negative covenants and events of default that we consider usual and customary for agreements of these types. The financial covenant included in the MPC credit agreement requires us to maintain, as of the last day of each fiscal quarter, a ratio of Consolidated Net Debt to Total Capitalization (as defined in the MPC credit agreement) of no greater than 0.65 to 1.00. Other covenants restrict us and/or certain of our subsidiaries from incurring debt, creating liens on assets and entering into transactions with affiliates. As of December 31, 2021, we were in compliance with the covenants contained in the MPC credit agreement and our trade receivables facility, including the financial covenant with a ratio of Consolidated Net Debt to Total Capitalization of 0.08 to 1.00.

Our intention is to maintain an investment-grade credit profile. As of February 1, 2022, the credit ratings on our senior unsecured debt are as follows.

<u>Company</u>	<u>Rating Agency</u>	<u>Rating</u>
MPC	Moody's	Baa2 (stable outlook)
	Standard & Poor's	BBB (stable outlook)
	Fitch	BBB (stable outlook)

The ratings reflect the respective views of the rating agencies. Although it is our intention to maintain a credit profile that supports an investment-grade rating, there is no assurance that these ratings will continue for any given period of time. The ratings may be revised or withdrawn entirely by the rating agencies if, in their respective judgments, circumstances so warrant.

The MPC credit agreement does not contain credit rating triggers that would result in the acceleration of interest, principal or other payments in the event that our credit ratings are downgraded. However, any downgrades of our senior unsecured debt could increase the applicable interest rates, yields and other fees payable under such agreements and may limit our flexibility to obtain financing in the future, including to refinance existing indebtedness. In addition, a downgrade of our senior unsecured debt rating to below investment-grade levels could, under certain circumstances, impact our ability to purchase crude oil on an unsecured basis and could result in us having to post letters of credit under existing transportation services or other agreements.

See Item 8. Financial Statements and Supplementary Data – Note 22 for further discussion of our debt.

MPLX

MPLX's liquidity totaled \$3.26 billion at December 31, 2021 consisting of:

<i>(In millions)</i>	December 31, 2021		
	Total Capacity	Outstanding Borrowings	Available Capacity
MPLX bank revolving credit facility	\$ 3,500	\$ 300	\$ 3,200
MPC intercompany loan agreement	1,500	1,450	50
Total	<u>\$ 5,000</u>	<u>\$ 1,750</u>	\$ 3,250
Cash and cash equivalents			13
Total liquidity			<u>\$ 3,263</u>

On September 3, 2021 MPLX redeemed, at par value, all of the \$1.0 billion aggregate principal amount of floating rate senior notes due September 2022. MPLX primarily funded the redemption with borrowings under the MPC intercompany loan agreement.

The MPLX credit agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for an agreement of this type. The financial covenant requires MPLX to maintain a ratio of Consolidated Total Debt as of the end of each fiscal quarter to Consolidated EBITDA (both as defined in the MPLX credit agreement) for the prior four fiscal quarters of no greater than 5.0 to 1.0 (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. Other covenants restrict MPLX and/or certain of its subsidiaries from incurring debt, creating liens on assets and entering into transactions with affiliates. As of December 31, 2021, MPLX was in compliance with the covenants, including the financial covenant with a ratio of Consolidated Total Debt to Consolidated EBITDA of 3.7 to 1.0.

Our intention is to maintain an investment-grade credit profile for MPLX. As of February 1, 2022, the credit ratings on MPLX's senior unsecured debt are as follows.

<u>Company</u>	<u>Rating Agency</u>	<u>Rating</u>
MPLX	Moody's	Baa2 (stable outlook)
	Standard & Poor's	BBB (stable outlook)
	Fitch	BBB (stable outlook)

The ratings reflect the respective views of the rating agencies. Although it is our intention to maintain a credit profile that supports an investment-grade rating for MPLX, there is no assurance that these ratings will continue for any given period of time. The ratings may be revised or withdrawn entirely by the rating agencies if, in their respective judgments, circumstances so warrant.

The agreements governing MPLX's debt obligations do not contain credit rating triggers that would result in the acceleration of interest, principal or other payments in the event that MPLX credit ratings are downgraded. However, any downgrades of MPLX senior unsecured debt could increase the applicable interest rates, yields and other fees payable under such agreements. In addition, a downgrade of MPLX senior unsecured debt ratings to below investment-grade levels may limit MPLX's ability to obtain future financing, including to refinance existing indebtedness.

See Item 8. Financial Statements and Supplementary Data – Note 22 for further discussion of MPLX's debt.

Capital Requirements

Capital Spending

MPC's capital investment plan for 2022 totals approximately \$1.7 billion for capital projects and investments, excluding capitalized interest, potential acquisitions and MPLX's capital investment plan. MPC's 2022 capital investment plan includes all of the planned capital spending for Refining & Marketing, and Corporate as well as a portion of the planned capital investments for Midstream. The remainder of the planned capital spending for Midstream reflects the capital investment plan for MPLX. We continuously evaluate our capital plan and make changes as conditions warrant. The 2022 capital investment plan for MPC and MPLX and capital expenditures and investments for each of the last three years are summarized by segment below.

<i>(In millions)</i>	2022 Plan	2021	2020	2019
Capital expenditures and investments: ^(a)				
MPC, excluding MPLX				
Refining & Marketing	\$ 1,625	\$ 911	\$ 1,170	\$ 2,045
Midstream - Other	10	50	221	360
Corporate and Other ^(b)	100	105	80	100
Total MPC, excluding MPLX	<u>\$ 1,735</u>	<u>\$ 1,066</u>	<u>\$ 1,471</u>	<u>\$ 2,505</u>
MPC discontinued operations - Speedway	\$ —	\$ 177	\$ 277	\$ 561
Midstream - MPLX	\$ 900	\$ 681	\$ 1,177	\$ 2,930

^(a) Capital expenditures include changes in capital accruals.

^(b) Excludes capitalized interest of \$68 million, \$106 million and \$137 million for 2021, 2020 and 2019, respectively. The 2022 capital investment plan excludes capitalized interest.

Refining & Marketing

The Refining & Marketing segment's forecasted 2022 capital spending and investments is approximately \$1.63 billion. This amount includes approximately \$800 million of growth capital for renewables projects, primarily the Martinez facility conversion, and \$525 million of growth capital focused on on-going projects such as the STAR project and projects that we expect will help us reduce future operating costs. Maintenance capital is expected to be approximately \$300 million which is essential to maintain the safety, integrity and reliability of our assets.

Major capital projects completed over the last three years have focused on refinery optimization, production of higher value products, increased capacity to upgrade residual fuel oil and expanded export capacity. We also focused on projects such as the Martinez facility conversion, the STAR project at our Galveston Bay refinery, which is scheduled to complete in 2022, and projects expected to reduce future operating costs.

Midstream

MPLX's capital investment plan includes approximately \$700 million of organic growth capital, \$140 million of maintenance capital and a \$60 million investment in unconsolidated affiliates for the repayment of MPLX's 9.19 percent indirect share of the Bakken Pipeline joint venture's debt due in 2022. The growth capital plan is directed towards logistics projects in support of MPC's Martinez Renewable Fuels project, projects in the Permian and Bakken basins and investments in the Permian basin supporting the BANGL and Whistler pipelines. These long-haul NGL and natural gas logistics systems transport product to the U.S. Gulf Coast. Other growth projects include the addition of approximately 200 MMcf/d of processing capacity in the Delaware basin in the Permian to meet increasing producer customer demand and 68 mbpd of de-ethanization capacity in the Marcellus, both of which are expected to be completed in 2022.

Major capital projects over the last three years included investments for the development of natural gas and natural gas liquids infrastructure to support MPLX's producer customers, primarily in the Marcellus, Utica and Permian regions and development of various crude oil and refined petroleum products infrastructure projects.

The remaining Midstream segment's forecasted 2022 capital spend, excluding MPLX, is approximately \$10 million which primarily relates to investments in equity affiliates.

Corporate and Other

The 2022 capital forecast includes approximately \$100 million to support corporate activities. Major projects over the last three years included upgrades to information technology systems.

Share Repurchases

Since January 1, 2012, our board of directors has approved \$25.05 billion in total share repurchase authorizations and we have repurchased a total of \$19.78 billion of our common stock, leaving approximately \$5.27 billion available for repurchases as of December 31, 2021. On February 2, 2022, we announced our board of directors approved an incremental \$5.0 billion share repurchase authorization. The authorization has no expiration date. The table below summarizes our total share repurchases. See Item 8. Financial Statements and Supplementary Data – Note 11 for further discussion of the share repurchase plans.

<i>(In millions, except per share data)</i>	2021	2020	2019
Number of shares repurchased	76	—	34
Cash paid for shares repurchased	\$ 4,654	\$ —	\$ 1,950
Average cost per share	\$ 62.65	\$ —	\$ 58.87

We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, tender offers, accelerated share repurchases or open market solicitations for shares, some of which may be effected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be suspended or discontinued at any time.

MPLX Unit Repurchases

During the year ended December 31, 2021, MPLX repurchased 23 million common units at an average cost per unit of \$27.52 and paid \$630 million of cash. As of December 31, 2021, \$337 million remained under the authorization for future repurchases.

MPLX may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, tender offers, accelerated unit repurchases or open market solicitations for units, some of which may be effected through Rule 10b5-1 plans. The timing and amount of repurchases will depend upon several factors, including market and business conditions, and repurchases may be initiated, suspended or discontinued at any time. The repurchase authorization has no expiration date.

See Item 8. Financial Statements and Supplementary Data – Note 6 for further discussion of the MPLX unit repurchase program.

Cash Commitments

Contractual Obligations

We have purchase commitments primarily consisting of obligations to purchase and transport crude oil used in our refining operations. As of December 31, 2021, we had purchase obligations for crude oil of \$15.13 billion, with \$14.66 billion payable within 12 months, and crude oil transportation obligations of \$7.28 billion, with \$451 million payable within 12 months. These contracts include variable price arrangements. For purposes of this disclosure we have estimated prices to be paid primarily based on futures curves for the commodities to the extent available. Our contractual obligations do not include our contractual obligations to MPLX under various fee-based commercial agreements as these transactions are eliminated in the consolidated financial statements.

At December 31, 2021, we have non-cancelable obligations to acquire property, plant and equipment of \$565 million, with \$543 million payable within 12 months.

At December 31, 2021, we have aggregate principal amount of outstanding debt of \$25.35 billion, with \$500 million payable within 12 months. See Item 8. Financial Statements and Supplementary Data – Note 22 for additional information on our debt.

Our other contractual obligations primarily consist of finance and operating leases and pension and post-retirement obligations, for which additional information is included in Item 8. Financial Statements and Supplementary Data – Notes 28 and 26, respectively.

Other Cash Commitments

On January 27, 2022, we announced our board of directors approved a \$0.58 per share dividend, payable March 10, 2022 to shareholders of record at the close of business on February 16, 2022.

We may, from time to time, repurchase our senior notes and preferred units in the open market, in tender offers, in privately-negotiated transactions or otherwise in such volumes, at such prices and upon such other terms as we deem appropriate.

TRANSACTIONS WITH RELATED PARTIES

See Item 8. Financial Statements and Supplementary Data – Note 9 for discussion of activity with related parties.

ENVIRONMENTAL MATTERS AND COMPLIANCE COSTS

We have incurred and may continue to incur substantial capital, operating and maintenance, and remediation expenditures as a result of environmental laws and regulations. If these expenditures, as with all costs, are not ultimately reflected in the prices of our products and services, our operating results will be adversely affected. We believe that substantially all of our competitors must comply with similar environmental laws and regulations. However, the specific impact on each competitor may vary depending on a number of factors, including the age and location of its operating facilities, marketing areas, production processes and whether it is also engaged in the petrochemical business or the marine transportation of crude oil and refined products.

Legislation and regulations pertaining to fuel specifications, climate change and greenhouse gas emissions have the potential to materially adversely impact our business, financial condition, results of operations and cash flows, including costs of compliance and permitting delays. The extent and magnitude of these adverse impacts cannot be reliably or accurately estimated at this time because specific regulatory and legislative requirements have not been finalized and uncertainty exists with respect to the measures being considered, the costs and the time frames for compliance, and our ability to pass compliance costs on to our customers.

Our environmental expenditures, including non-regulatory expenditures, for each of the last three years were:

<i>(In millions)</i>	2021	2020	2019
Capital	\$ 118	\$ 121	\$ 528
Compliance: ^(a)			
Operating and maintenance	819	469	547
Remediation ^(b)	54	40	56
Total	<u>\$ 991</u>	<u>\$ 630</u>	<u>\$ 1,131</u>

^(a) Based on the American Petroleum Institute's definition of environmental expenditures.

^(b) These amounts include spending charged against remediation reserves, where permissible, but exclude non-cash provisions recorded for environmental remediation.

We accrue for environmental remediation activities when the responsibility to remediate is probable and the amount of associated costs can be reasonably estimated. As environmental remediation matters proceed toward ultimate resolution or as additional remediation obligations arise, charges in excess of those previously accrued may be required.

New or expanded environmental requirements, which could increase our environmental costs, may arise in the future. It is not possible to predict all of the ultimate costs of compliance, including remediation costs that may be incurred and penalties that may be imposed.

Our environmental capital expenditures accounted for 8 percent, 6 percent and 12 percent of capital expenditures, for 2021, 2020 and 2019, respectively, excluding acquisitions. Our environmental capital expenditures are expected to be approximately \$32 million, or 1 percent, of total planned capital expenditures in 2022. Actual expenditures may vary as the number and scope of environmental projects are revised as a result of improved technology or changes in regulatory requirements and could increase if additional projects are identified or additional requirements are imposed.

For more information on environmental regulations that impact us, or could impact us, see Item 1. Business – Regulatory Matters and Item 1A. Risk Factors.

CRITICAL ACCOUNTING ESTIMATES

The preparation of financial statements in accordance with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the respective reporting periods. Accounting estimates are considered to be critical if (1) the nature of the estimates and assumptions is material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change; and (2) the impact of the estimates and assumptions on financial condition or operating performance is material. Actual results could differ from the estimates and assumptions used.

Fair Value Estimates

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. There are three approaches for measuring the fair value of assets and liabilities: the market approach, the income approach and the cost approach, each of which includes multiple valuation techniques. The market approach uses prices and other relevant information generated by market transactions involving identical or comparable assets or liabilities. The income approach uses valuation techniques to measure fair value by converting future amounts, such as cash flows or earnings, into a single present value amount using current market expectations about those future amounts. The cost approach is based on the amount that would currently be required to replace the service capacity of an asset. This is often

referred to as current replacement cost. The cost approach assumes that the fair value would not exceed what it would cost a market participant to acquire or construct a substitute asset of comparable utility, adjusted for obsolescence.

The fair value accounting standards do not prescribe which valuation technique should be used when measuring fair value and does not prioritize among the techniques. These standards establish a fair value hierarchy that prioritizes the inputs used in applying the various valuation techniques. Inputs broadly refer to the assumptions that market participants use to make pricing decisions, including assumptions about risk. Level 1 inputs are given the highest priority in the fair value hierarchy while Level 3 inputs are given the lowest priority. The three levels of the fair value hierarchy are as follows:

- Level 1 – Observable inputs that reflect unadjusted quoted prices for identical assets or liabilities in active markets as of the measurement date. Active markets are those in which transactions for the asset or liability occur in sufficient frequency and volume to provide pricing information on an ongoing basis.
- Level 2 – Observable market-based inputs or unobservable inputs that are corroborated by market data. These are inputs other than quoted prices in active markets included in Level 1, which are either directly or indirectly observable as of the measurement date.
- Level 3 – Unobservable inputs that are not corroborated by market data and may be used with internally developed methodologies that result in management's best estimate of fair value.

Valuation techniques that maximize the use of observable inputs are favored. Assets and liabilities are classified in their entirety based on the lowest priority level of input that is significant to the fair value measurement. The assessment of the significance of a particular input to the fair value measurement requires judgment and may affect the placement of assets and liabilities within the levels of the fair value hierarchy. We use an income or market approach for recurring fair value measurements and endeavor to use the best information available. See Item 8. Financial Statements and Supplementary Data – Note 20 for disclosures regarding our fair value measurements.

Significant uses of fair value measurements include:

- assessment of impairment of long-lived assets;
- assessment of impairment of intangible assets;
- assessment of impairment of goodwill;
- assessment of impairment of equity method investments;
- recorded values for assets acquired and liabilities assumed in connection with acquisitions; and
- recorded values of derivative instruments.

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

Fair value calculated for the purpose of testing our long-lived assets, intangible assets, goodwill and equity method investments for impairment is estimated using the expected present value of future cash flows method and comparative market prices when appropriate. Significant judgment is involved in performing these fair value estimates since the results are based on forecasted financial information prepared using significant assumptions including:

- *Future operating performance.* Our estimates of future operating performance are based on our analysis of various supply and demand factors, which include, among other things, industry-wide capacity, our planned utilization rate, end-user demand, capital expenditures and economic conditions. Such estimates are consistent with those used in our planning and capital investment reviews.
- *Future volumes.* Our estimates of future refinery, pipeline throughput and natural gas and natural gas liquid processing volumes are based on internal forecasts prepared by our Refining & Marketing and Midstream segments operations personnel. Assumptions about the effects of the COVID-19 pandemic on our future volumes are inherently subjective and contingent upon the duration of the pandemic, which is difficult to forecast.
- *Discount rate commensurate with the risks involved.* We apply a discount rate to our cash flows based on a variety of factors, including market and economic conditions, operational risk, regulatory risk and political risk. This discount rate is also compared to recent observable market transactions, if possible. A higher discount rate decreases the net present value of cash flows.
- *Future capital requirements.* These are based on authorized spending and internal forecasts.

Assumptions about the effects of the COVID-19 pandemic and the macroeconomic environment are inherently subjective and contingent upon the duration of the pandemic and its impact on the macroeconomic environment, which is difficult to forecast. We base our fair value estimates on projected financial information which we believe to be reasonable. However, actual results may differ from these projections.

The need to test for impairment can be based on several indicators, including a significant reduction in prices of or demand for products produced, a weakened outlook for profitability, a significant reduction in pipeline throughput volumes, a significant reduction in natural gas or natural gas liquids processed, a significant reduction in refining margins, other changes to contracts or

changes in the regulatory environment. The following sections detail our critical accounting estimates related to impairment assessments for long-lived assets, goodwill and equity method investments.

Long-lived Asset Impairment Assessments

Long-lived assets used in operations are assessed for impairment whenever changes in facts and circumstances indicate that the carrying value of the assets may not be recoverable based on the expected undiscounted future cash flow of an asset group. For purposes of impairment evaluation, long-lived assets must be grouped at the lowest level for which independent cash flows can be identified, which generally is the refinery and associated distribution system level for Refining & Marketing segment assets, and the plant level or pipeline system level for Midstream segment assets. If the sum of the undiscounted estimated pretax cash flows is less than the carrying value of an asset group, fair value is calculated, and the carrying value is written down to the calculated fair value.

Goodwill Impairment Assessments

Unlike long-lived assets, goodwill is subject to annual, or more frequent if necessary, impairment testing at the reporting unit level. A goodwill impairment loss is measured as the amount by which a reporting unit's carrying value exceeds its fair value, without exceeding the recorded amount of goodwill.

At December 31, 2021, MPC had four reporting units with goodwill totaling approximately \$8.26 billion. The majority of this balance is comprised of the Midstream reporting units, including \$1.1 billion for the MPLX Crude Gathering reporting unit and \$6.6 billion for the MPLX Transportation & Storage reporting unit. For the annual impairment assessment as of November 30, 2021, management performed only a qualitative assessment for two reporting units as we determined it was more likely than not that the fair value of the reporting units exceeded the carrying value. A quantitative assessment was last performed on these reporting units at March 31, 2020, which indicated fair value exceeded carrying value by approximately 52 and 270 percent. A quantitative assessment was performed for the remaining two reporting units, which resulted in the fair value of the reporting units exceeding their carrying value by 23 percent and 51 percent. The fair values of the reporting units were determined based on applying both a discounted cash flow method, or income approach, as well as a market approach. An increase of one percentage point to the discount rate used to estimate the fair value of the reporting units would not have resulted in a goodwill impairment charge as of November 30, 2021. For Refining & Marketing reporting units, significant assumptions used to estimate the reporting units' fair value included estimates of future cash flows and market information for comparable assets. For Midstream reporting units, which comprise the majority of the goodwill balance, significant assumptions that were used to estimate the reporting units' fair values under the discounted cash flow method included management's best estimates of the discount rate, as well as estimates of future cash flows, which are impacted primarily by producer customers' development plans, which impact future volumes and capital requirements. If estimates for future cash flows, which are impacted by future margins on products produced or sold, future volumes, and capital requirements, were to decline, the overall reporting units' fair values would decrease, resulting in potential goodwill impairment charges. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment tests will prove to be an accurate prediction of the future.

Equity Method Investment Impairment Assessment

Equity method investments are assessed for impairment whenever factors indicate an other than temporary loss in value. Factors providing evidence of such a loss include the fair value of an investment that is less than its carrying value, absence of an ability to recover the carrying value or the investee's inability to generate income sufficient to justify our carrying value. At December 31, 2021, we had \$5.41 billion of investments in equity method investments recorded on our consolidated balance sheet.

An estimate of the sensitivity to net income resulting from impairment calculations is not practicable, given the numerous assumptions (e.g., pricing, volumes and discount rates) that can materially affect our estimates. That is, unfavorable adjustments to some of the above listed assumptions may be offset by favorable adjustments in other assumptions.

See Item 8. Financial Statements and Supplementary Data – Note 16 for additional information on our equity method investments. See Item 8. Financial Statements and Supplementary Data – Note 18 for additional information on our goodwill and intangibles, including a table summarizing our recorded goodwill by segment.

Derivatives

We record all derivative instruments at fair value. Substantially all of our commodity derivatives are cleared through exchanges which provide active trading information for identical derivatives and do not require any assumptions in arriving at fair value. Fair value estimation for all our derivative instruments is discussed in Item 8. Financial Statements and Supplementary Data – Note 20. Additional information about derivatives and their valuation may be found in Item 7A. Quantitative and Qualitative Disclosures about Market Risk.

Variable Interest Entities

We evaluate all legal entities in which we hold an ownership or other pecuniary interest to determine if the entity is a VIE. Our interests in a VIE are referred to as variable interests. Variable interests can be contractual, ownership or other pecuniary interests in an entity that change with changes in the fair value of the VIE's assets. When we conclude that we hold an interest in

a VIE we must determine if we are the entity's primary beneficiary. A primary beneficiary is deemed to have a controlling financial interest in a VIE. This controlling financial interest is evidenced by both (a) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (b) the obligation to absorb losses that could potentially be significant to the VIE or the right to receive benefits that could potentially be significant to the VIE. We consolidate any VIE when we determine that we are the primary beneficiary. We must disclose the nature of any interests in a VIE that is not consolidated.

Significant judgment is exercised in determining that a legal entity is a VIE and in evaluating our interest in a VIE. We use primarily a qualitative analysis to determine if an entity is a VIE. We evaluate the entity's need for continuing financial support; the equity holder's lack of a controlling financial interest; and/or if an equity holder's voting interests are disproportionate to its obligation to absorb expected losses or receive residual returns. We evaluate our interests in a VIE to determine whether we are the primary beneficiary. We use a primarily qualitative analysis to determine if we are deemed to have a controlling financial interest in the VIE, either on a standalone basis or as part of a related party group. We continually monitor our interests in legal entities for changes in the design or activities of an entity and changes in our interests, including our status as the primary beneficiary to determine if the changes require us to revise our previous conclusions.

Changes in the design or nature of the activities of a VIE, or our involvement with a VIE, may require us to reconsider our conclusions on the entity's status as a VIE and/or our status as the primary beneficiary. Such reconsideration requires significant judgment and understanding of the organization. This could result in the deconsolidation or consolidation of the affected subsidiary, which would have a significant impact on our financial statements.

Variable Interest Entities are discussed in Item 8. Financial Statements and Supplementary Data – Note 8.

Pension and Other Postretirement Benefit Obligations

Accounting for pension and other postretirement benefit obligations involves numerous assumptions, the most significant of which relate to the following:

- the discount rate for measuring the present value of future plan obligations;
- the expected long-term return on plan assets;
- the rate of future increases in compensation levels;
- health care cost projections; and
- the mortality table used in determining future plan obligations.

We utilize the work of third-party actuaries to assist in the measurement of these obligations. We have selected different discount rates for each of our pension plans and retiree health and welfare based on the projected benefit payment patterns of each individual plan. The selected rates are compared to various similar bond indexes for reasonableness. In determining the assumed discount rates, we use our third-party actuaries' discount rate models. These models calculate an equivalent single discount rate for the projected benefit plan cash flows using yield curves derived from Aa or higher corporate bond yields. The yield curves represent a series of annualized individual spot discount rates from 0.5 to 99 years. The bonds used have an average rating of Aa or higher from a recognized rating agency and generally only non-callable bonds are included. Outlier bonds that have a yield to maturity that deviate significantly from the average yield within each maturity grouping are not included. Each issue is required to have at least \$300 million par value outstanding.

Of the assumptions used to measure the year-end obligations and estimated annual net periodic benefit cost, the discount rate has the most significant effect on the periodic benefit cost reported for the plans. Decreasing the discount rates of 2.90 percent for our pension plans and 2.75 percent for our other postretirement benefit plans by 0.25 percent would increase pension obligations and other postretirement benefit plan obligations by \$104 million and \$23 million, respectively, and would increase defined benefit pension expense and other postretirement benefit plan expense by \$13 million and \$1 million, respectively.

The long-term asset rate of return assumption considers the asset mix of the plans (currently targeted at approximately 50 percent equity securities and 50 percent fixed income securities for the primary funded pension plan), past performance and other factors. Certain components of the asset mix are modeled with various assumptions regarding inflation and returns. In addition, our long-term asset rate of return assumption is compared to those of other companies and to historical returns for reasonableness. We used the 5.75 percent long-term rate of return to determine our 2021 defined benefit pension expense. After evaluating activity in the capital markets, along with the current and projected plan investments, we increased the asset rate of return for our primary plan to 6.00 percent effective for 2022. Decreasing the 6.00 percent asset rate of return assumption by 0.25 percentage points would increase our defined benefit pension expense by \$7 million.

Compensation change assumptions are based on historical experience, anticipated future management actions and demographics of the benefit plans.

Health care cost trend assumptions are developed based on historical cost data, the near-term outlook and an assessment of likely long-term trends.

We utilized the 2021 mortality tables from the U.S. Society of Actuaries.

Item 8. Financial Statements and Supplementary Data – Note 26 includes detailed information about the assumptions used to calculate the components of our annual defined benefit pension and other postretirement plan expense, as well as the obligations and accumulated other comprehensive loss reported on the year-end balance sheets.

ACCOUNTING STANDARDS NOT YET ADOPTED

As discussed in Item 8. Financial Statements and Supplementary Data – Note 3 to our audited consolidated financial statements, certain new financial accounting pronouncements will be effective for our financial statements in the future.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

GENERAL

We are exposed to market risks related to the volatility of crude oil and refined product prices. We employ various strategies, including the use of commodity derivative instruments, to hedge the risks related to these price fluctuations. We are also exposed to market risks related to changes in interest rates and foreign currency exchange rates. As of December 31, 2021, we did not have any financial derivative instruments to hedge the risks related to interest rate fluctuations; however, we have used them in the past, and we continually monitor the market and our exposure and may enter into these agreements again in the future. We are at risk for changes in fair value of all of our derivative instruments; however, such risk should be mitigated by price or rate changes related to the underlying commodity or financial transaction.

We believe that our use of derivative instruments, along with our risk assessment procedures and internal controls, does not expose us to material adverse consequences. While the use of derivative instruments could materially affect our results of operations in particular quarterly or annual periods, we believe that the use of these instruments will not have a material adverse effect on our financial position or liquidity.

See Item 8. Financial Statements and Supplementary Data – Notes 20 and 21 for more information about the fair value measurement of our derivatives, as well as the amounts recorded in our consolidated balance sheets and statements of income. We do not designate any of our commodity derivative instruments as hedges for accounting purposes.

Commodity Price Risk

Refining & Marketing

Our strategy is to obtain competitive prices for our products and allow operating results to reflect market price movements dictated by supply and demand. We use a variety of commodity derivative instruments, including futures, swaps and options, as part of an overall program to hedge commodity price risk. We also do a limited amount of trading not directly related to our physical transactions.

We use derivative instruments related to the acquisition of foreign-sourced crude oil and ethanol blended with refined petroleum products to hedge price risk associated with market volatility between the time we purchase the product and when we use it in the refinery production process or it is blended. In addition, we may use commodity derivative instruments on fixed price contracts for the sale of refined products to hedge risk by converting the refined product sales to market-based prices. The majority of these derivatives are exchange-traded contracts but we also enter into over-the-counter swaps, options and over-the-counter options. We closely monitor and hedge our exposure to market risk on a daily basis in accordance with policies approved by our board of directors. Our positions are monitored daily by a risk control group to ensure compliance with our stated risk management policy.

Midstream

NGL and natural gas prices are volatile and are impacted by changes in fundamental supply and demand, as well as market uncertainty, availability of NGL transportation and fractionation capacity and a variety of additional factors that are beyond MPLX's control. MPLX may at times use a variety of commodity derivative instruments, including futures and options, as part of an overall program to economically hedge commodity price risk. A portion of MPLX's profitability is directly affected by prevailing commodity prices primarily as a result of purchasing and selling NGLs and natural gas at index-related prices. To the extent that commodity prices influence the level of drilling by MPLX producer customers, such prices also indirectly affect profitability. MPLX may enter into derivative contracts, which are primarily swaps traded on the OTC market as well as fixed price forward contracts. MPLX's risk management policy does not allow it to enter into speculative positions with its derivative contracts. Execution of MPLX's hedge strategy and the continuous monitoring of commodity markets and its open derivative positions are carried out by its hedge committee, comprised of members of senior management.

To mitigate MPLX's cash flow exposure to fluctuations in the price of NGLs, it may use NGL derivative swap contracts. A small portion of its NGL price exposure may be managed by using crude oil contracts. To mitigate MPLX's cash flow exposure to fluctuations in the price of natural gas, it may use natural gas derivative swap contracts, taking into account the partial offset of its long and short natural gas positions resulting from normal operating activities.

MPLX would be exposed to additional commodity risk in certain situations such as if producers under-deliver or over-deliver products or if processing facilities are operated in different recovery modes. In the event that MPLX has derivative positions in excess of the product delivered or expected to be delivered, the excess derivative positions may be terminated.

MPLX management conducts a standard credit review on counterparties to derivative contracts, and it has provided the counterparties with a guaranty as credit support for its obligations. MPLX uses standardized agreements that allow for offset of certain positive and negative exposures in the event of default or other terminating events, including bankruptcy.

Open Derivative Positions and Sensitivity Analysis

The following table includes the composition of net losses/gains on our commodity derivative positions for the years ended December 31, 2021 and 2020, respectively.

<i>(In millions)</i>	2021	2020
Realized gain (loss) on settled derivative positions	\$ (359)	\$ 69
Unrealized gain (loss) on open net derivative positions	(21)	38
Net gain (loss)	\$ (380)	\$ 107

See Item 8. Financial Statements and Supplementary Data – Note 21 for additional information on our open derivative positions at December 31, 2021.

Sensitivity analysis of the incremental effects on income from operations (“IFO”) of hypothetical 10 percent and 25 percent increases and decreases in commodity prices for open commodity derivative instruments as of December 31, 2021 is provided in the following table.

<i>(In millions)</i>	Change in IFO from a Hypothetical Price Increase of		Change in IFO from a Hypothetical Price Decrease of	
	10%	25%	10%	25%
As of December 31, 2021				
Crude	\$ 7	\$ 17	\$ (7)	\$ (17)
Refined products	(17)	(42)	17	42
Blending products	(7)	(17)	7	17
Soybean oil	(13)	(31)	13	31

We remain at risk for possible changes in the market value of commodity derivative instruments; however, such risk should be mitigated by price changes in the underlying physical commodity. Effects of these offsets are not reflected in the above sensitivity analysis.

We evaluate our portfolio of commodity derivative instruments on an ongoing basis and add or revise strategies in anticipation of changes in market conditions and in risk profiles. Changes to the portfolio after December 31, 2021 would cause future IFO effects to differ from those presented above.

Interest Rate Risk

Our use of fixed or variable-rate debt directly exposes us to interest rate risk. Fixed rate debt, such as our senior notes, exposes us to changes in the fair value of our debt due to changes in market interest rates. Fixed rate debt also exposes us to the risk that we may need to refinance maturing debt with new debt at higher rates or that our current fixed rate debt may be higher than the current market. Variable-rate debt, such as borrowings under our revolving credit facilities, exposes us to short-term changes in market rates that impact our interest expense. A portion of our borrowing capacity and outstanding indebtedness bears interest at a variable rate based on LIBOR. On July 27, 2017, the Financial Conduct Authority (the authority that regulates LIBOR), or FCA, announced that it intends to stop compelling banks to submit rates for the calculation of LIBOR after 2021. Subsequently, on March 5, 2021, ICE Benchmark Administration Limited (the entity that calculates and publishes LIBOR), or IBA, and FCA made public statements regarding the future cessation of LIBOR. According to the FCA, IBA will permanently cease to publish each of the LIBOR settings on either December 31, 2021 or June 30, 2023. IBA did not identify any successor administrator in its announcement. The announced final publication date for 1-week and 2-month LIBOR settings and all settings for non-USD LIBOR was December 31, 2021. The announced final publication date for overnight, 1-month, 3-month, 6-month and 12-month LIBOR settings is June 30, 2023. It is unclear whether new methods of calculating LIBOR will be established such that it continues to exist after such end dates, and there is considerable uncertainty regarding the publication or representativeness of LIBOR beyond such end dates. The U.S. Federal Reserve, in conjunction with the Alternative Reference Rates Committee, is seeking to replace U.S. dollar LIBOR with a newly created index (the secured overnight financing rate or SOFR), calculated based on repurchase agreements backed by treasury securities. The agreements that govern our variable rate indebtedness contain customary transition and fallback provisions in contemplation of the cessation of LIBOR. We continue to monitor developments regarding the cessation of LIBOR and transition to an alternate benchmark rate, but do not expect it to have a material impact on our financial position, results of operation or cash flows. Nevertheless, at this time, it is not possible to predict the effect that these developments, any discontinuance, modification or other reforms to LIBOR or any other reference rate, or

the establishment of alternative reference rates in the United Kingdom, the United States or elsewhere may have on LIBOR, other benchmarks or floating rate indebtedness. See Item 8. Financial Statements and Supplementary Data – Note 22 for additional information on our debt.

Sensitivity analysis of the effect of a hypothetical 100-basis-point change in interest rates on long-term debt, including the portion classified as current and excluding finance leases, as of December 31, 2021 is provided in the following table. The fair value of cash and cash equivalents, receivables, accounts payable and accrued interest approximate carrying value and, in addition to short-term investments which are recorded at fair value, are relatively insensitive to changes in interest rates due to the short-term maturity of the instruments. Accordingly, these instruments are excluded from the table.

<i>(In millions)</i>	Fair Value ^(a)	Change in Fair Value ^(b)	Change in Net Income for the Twelve Months Ended December 31, 2021 ^(c)
Long-term debt			
Fixed-rate	\$ 28,054	\$ 2,610	n/a
Variable-rate	\$ 300	—	\$ 16

^(a) Fair value was based on market prices, where available, or current borrowing rates for financings with similar terms and maturities.

^(b) Assumes a 100-basis point decrease in the weighted average yield-to-maturity at December 31, 2021.

^(c) Assumes a 100-basis-point change in interest rates. The change in net income was based on the weighted average balance of debt outstanding for the year ended December 31, 2021.

See Item 8. Financial Statements and Supplementary Data – Note 20 for additional information on the fair value of our debt.

Foreign Currency Exchange Rate Risk

We are impacted by foreign exchange rate fluctuations related to some of our purchases of crude oil denominated in Canadian dollars and some of our sales of finished products denominated in Mexican pesos. Derivatives utilized to hedge our market risk exposure to these foreign exchange rate fluctuations were not material in 2021.

Counterparty Risk

MPLX is subject to risk of loss resulting from nonpayment by its customers to whom it provides services, leases assets, or sells natural gas or NGLs. MPLX believes that certain contracts where it sells NGLs and acts as its producer customers' agent would allow it to pass those losses through to its customers, thus reducing its risk, when it is selling NGLs and acting as its producer customers' agent. Its credit exposure related to these customers is represented by the value of its trade receivables or lease receivables. Where exposed to credit risk, MPLX analyzes the customer's financial condition prior to entering into a transaction or agreement, establishes credit terms and monitors the appropriateness of these terms on an ongoing basis. In the event of a customer default, MPLX may sustain a loss and its cash receipts could be negatively impacted.

We are subject to risk of loss resulting from nonpayment or nonperformance by counterparties to our derivative contracts. Our credit exposure related to commodity derivative instruments is represented by the fair value of contracts with a net positive fair value at the reporting date. Outstanding instruments expose us to credit loss in the event of nonperformance by the counterparties to the agreements. Should the creditworthiness of one or more of our counterparties decline, our ability to mitigate nonperformance risk is limited to a counterparty agreeing to either a voluntary termination and subsequent cash settlement or a novation of the derivative contract to a third party. In the event of a counterparty default, we may sustain a loss and our cash receipts could be negatively impacted.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

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MANAGEMENT’S RESPONSIBILITIES FOR FINANCIAL STATEMENTS

The accompanying consolidated financial statements of Marathon Petroleum Corporation and its subsidiaries (“MPC”) are the responsibility of management and have been prepared in conformity with accounting principles generally accepted in the United States of America. They necessarily include some amounts that are based on best judgments and estimates. The financial information displayed in other sections of this Annual Report on Form 10-K is consistent with these consolidated financial statements.

MPC seeks to assure the objectivity and integrity of its financial records by careful selection of its managers, by organizational arrangements that provide an appropriate division of responsibility and by communications programs aimed at assuring that its policies and methods are understood throughout the organization.

The board of directors pursues its oversight role in the area of financial reporting and internal control over financial reporting through its Audit Committee. This committee, composed solely of independent directors, regularly meets (jointly and separately) with the independent registered public accounting firm, management and internal auditors to monitor the proper discharge by each of their responsibilities relative to internal accounting controls and the consolidated financial statements.

/s/ Michael J. Hennigan

*Michael J. Hennigan
President and
Chief Executive Officer*

/s/ Maryann T. Mannen

*Maryann T. Mannen
Executive Vice President and
Chief Financial Officer*

/s/ C. Kristopher Hagedorn

*C. Kristopher Hagedorn
Senior Vice President and
Controller*

MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

MPC’s 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, as amended). An evaluation of the design and effectiveness of our internal control over financial reporting, based on the framework in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission, was conducted under the supervision and with the participation of management, including our chief executive officer and chief financial officer. Based on the results of this evaluation, MPC’s management concluded that its internal control over financial reporting was effective as of December 31, 2021.

The effectiveness of MPC’s internal control over financial reporting as of December 31, 2021 has been audited by PricewaterhouseCoopers LLP, an independent registered public accounting firm, as stated in their report which is included herein.

/s/ Michael J. Hennigan

*Michael J. Hennigan
President and
Chief Executive Officer*

/s/ Maryann T. Mannen

*Maryann T. Mannen
Executive Vice President and
Chief Financial Officer*

Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of Marathon Petroleum Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheets of Marathon Petroleum Corporation and its subsidiaries (the “Company”) as of December 31, 2021 and 2020, and the related consolidated statements of income, of comprehensive income, of equity and redeemable noncontrolling interest and of cash flows for each of the three years in the period ended December 31, 2021, including the related notes (collectively referred to as the “consolidated financial statements”). We also have audited the Company’s internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO).

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control - Integrated Framework* (2013) issued by the COSO.

Basis for Opinions

The Company’s management is responsible for these consolidated financial statements, 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 opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (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 audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud, and whether effective internal control over financial reporting was maintained in all material respects.

Our audits of the consolidated financial statements 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. 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 audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

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 (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) 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 (iii) 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.

Critical Audit Matters

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 (i) relates to accounts or disclosures that are material to the consolidated financial statements and (ii) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters 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.

Goodwill Impairment Test – Crude Gathering Reporting Unit

As described in Note 18 to the consolidated financial statements and as disclosed by management, the Company's consolidated goodwill balance was \$8.3 billion as of December 31, 2021, which includes, within the Midstream segment, the goodwill associated with MPLX's Crude Gathering reporting unit of \$1.1 billion. Management annually evaluates goodwill for impairment as of November 30, as well as whenever events or changes in circumstances indicate it is more likely than not that the fair value of a reporting unit with goodwill is less than its carrying amount. The fair value of the MPLX Crude Gathering reporting unit was determined based on applying both a discounted cash flow method, or income approach, as well as a market approach. Significant assumptions that were used to estimate the reporting unit's fair value under the discounted cash flow method included management's best estimates of the discount rate, as well as estimates of future cash flows, which are impacted primarily by producer customers' development plans, which impact future volumes and capital requirements.

The principal considerations for our determination that performing procedures relating to the goodwill impairment test of the Crude Gathering reporting unit of the Midstream segment is a critical audit matter are (i) the significant judgment by management when determining the fair value of the reporting unit; and (ii) the high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating audit evidence relating to management's significant assumption related to future volumes.

Addressing the matter involved performing procedures and evaluating audit evidence in connection with forming our overall opinion on the consolidated financial statements. These procedures included testing the effectiveness of controls relating to management's goodwill impairment test, including controls over the determination of the fair value of the Crude Gathering reporting unit. These procedures also included, among others (i) testing management's process for determining the fair value of the reporting unit; (ii) evaluating the appropriateness of the income and market approaches used; (iii) testing the completeness and accuracy of underlying data used by management in the approaches; and (iv) evaluating the reasonableness of the significant assumption related to future volumes. Evaluating the assumption related to future volumes involved (i) considering whether the assumption used was reasonable considering past performance of the reporting unit, producer customers' historical and future production volumes, and industry outlook reports; and (ii) considering whether the assumption was consistent with evidence obtained in other areas of the audit.

/s/ PricewaterhouseCoopers LLP

Toledo, Ohio

February 24, 2022

We have served as the Company's auditor since 2010.

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF INCOME

(In millions, except per share data)

	2021	2020	2019
Revenues and other income:			
Sales and other operating revenues	\$ 119,983	\$ 69,779	\$ 111,148
Income (loss) from equity method investments ^(a)	458	(935)	312
Net gain on disposal of assets	21	70	278
Other income	468	118	127
Total revenues and other income	<u>120,930</u>	<u>69,032</u>	<u>111,865</u>
Costs and expenses:			
Cost of revenues (excludes items below)	110,008	65,733	99,228
Impairment expense	—	8,426	1,197
Depreciation and amortization	3,364	3,375	3,225
Selling, general and administrative expenses	2,537	2,710	3,192
Restructuring expenses	—	367	—
Other taxes	721	668	561
Total costs and expenses	<u>116,630</u>	<u>81,279</u>	<u>107,403</u>
Income (loss) from continuing operations	4,300	(12,247)	4,462
Net interest and other financial costs	1,483	1,365	1,229
Income (loss) from continuing operations before income taxes	2,817	(13,612)	3,233
Provision (benefit) for income taxes on continuing operations	264	(2,430)	784
Income (loss) from continuing operations, net of tax	2,553	(11,182)	2,449
Income from discontinued operations, net of tax	8,448	1,205	806
Net income (loss)	<u>11,001</u>	<u>(9,977)</u>	<u>3,255</u>
Less net income (loss) attributable to:			
Redeemable noncontrolling interest	100	81	81
Noncontrolling interests	1,163	(232)	537
Net income (loss) attributable to MPC	<u>\$ 9,738</u>	<u>\$ (9,826)</u>	<u>\$ 2,637</u>
Per share data (See Note 10)			
Basic:			
Continuing operations	\$ 2.03	\$ (16.99)	\$ 2.78
Discontinued operations	13.31	1.86	1.22
Net income (loss) per share	<u>\$ 15.34</u>	<u>\$ (15.13)</u>	<u>\$ 4.00</u>
Weighted average shares outstanding	634	649	659
Diluted:			
Continuing operations	\$ 2.02	\$ (16.99)	\$ 2.76
Discontinued operations	13.22	1.86	1.21
Net income (loss) per share	<u>\$ 15.24</u>	<u>\$ (15.13)</u>	<u>\$ 3.97</u>
Weighted average shares outstanding	638	649	664

^(a) 2020 includes impairment expense. See Note 7 for further information.

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

<i>(Millions of dollars)</i>	2021	2020	2019
Net income (loss)	\$ 11,001	\$ (9,977)	\$ 3,255
Defined benefit plans:			
Actuarial changes, net of tax of \$91, \$(51) and \$(40), respectively	276	(157)	(147)
Prior service, net of tax of \$58, \$(11) and \$(17), respectively	175	(34)	(27)
Other, net of tax of \$(2), \$— and \$(1), respectively	(6)	(1)	(2)
Other comprehensive income (loss)	445	(192)	(176)
Comprehensive income (loss)	11,446	(10,169)	3,079
Less comprehensive income (loss) attributable to:			
Redeemable noncontrolling interest	100	81	81
Noncontrolling interests	1,163	(232)	537
Comprehensive income (loss) attributable to MPC	\$ 10,183	\$ (10,018)	\$ 2,461

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED BALANCE SHEETS

<i>(Millions of dollars, except share data)</i>	December 31,	
	2021	2020
Assets		
Cash and cash equivalents	\$ 5,291	\$ 415
Short-term investments	5,548	—
Receivables, less allowance for doubtful accounts of \$40 and \$18, respectively	11,034	5,760
Inventories	8,055	7,999
Other current assets	568	2,724
Assets held for sale	—	11,389
Total current assets	30,496	28,287
Equity method investments	5,409	5,422
Property, plant and equipment, net	37,440	39,035
Goodwill	8,256	8,256
Right of use assets	1,372	1,521
Other noncurrent assets	2,400	2,637
Total assets	\$ 85,373	\$ 85,158
Liabilities		
Accounts payable	\$ 13,700	\$ 7,803
Payroll and benefits payable	911	732
Accrued taxes	1,231	1,105
Debt due within one year	571	2,854
Operating lease liabilities	438	497
Other current liabilities	1,047	822
Liabilities held for sale	—	1,850
Total current liabilities	17,898	15,663
Long-term debt	24,968	28,730
Deferred income taxes	5,638	6,203
Defined benefit postretirement plan obligations	1,015	2,121
Long-term operating lease liabilities	927	1,014
Deferred credits and other liabilities	1,346	1,207
Total liabilities	51,792	54,938
Commitments and contingencies (see Note 29)		
Redeemable noncontrolling interest	965	968
Equity		
Preferred stock, no shares issued and outstanding (par value \$0.01 per share, 30 million shares authorized)	—	—
Common stock:		
Issued – 984 million and 980 million shares (par value \$0.01 per share, 2 billion shares authorized)	10	10
Held in treasury, at cost – 405 million and 329 million shares	(19,904)	(15,157)
Additional paid-in capital	33,262	33,208
Retained earnings	12,905	4,650
Accumulated other comprehensive loss	(67)	(512)
Total MPC stockholders' equity	26,206	22,199
Noncontrolling interests	6,410	7,053
Total equity	32,616	29,252
Total liabilities, redeemable noncontrolling interest and equity	\$ 85,373	\$ 85,158

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS

<i>(Millions of dollars)</i>	2021	2020	2019
Operating activities:			
Net income (loss)	\$ 11,001	\$ (9,977)	\$ 3,255
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Amortization of deferred financing costs and debt discount	79	69	33
Impairment expense	—	8,426	1,197
Depreciation and amortization	3,364	3,375	3,225
Pension and other postretirement benefits, net	(499)	220	(68)
Deferred income taxes	(169)	(241)	807
Net gain on disposal of assets	(21)	(70)	(278)
(Income) loss from equity method investments	(458)	935	(312)
Distributions from equity method investments	652	577	569
Income from discontinued operations	(8,448)	(1,205)	(806)
Changes in income tax receivable	2,089	(1,807)	(358)
Net recognized (gains) losses on investments and derivatives	16	45	(8)
Changes in operating assets and liabilities, net of effects of businesses acquired:			
Current receivables	(5,299)	1,465	(1,717)
Inventories	(33)	1,750	(362)
Current accounts payable and accrued liabilities	6,260	(2,927)	2,453
Right of use assets and operating lease liabilities, net	3	(19)	(9)
All other, net	(153)	191	355
Cash provided by operating activities - continuing operations	8,384	807	7,976
Cash provided by (used in) operating activities - discontinued operations	(4,024)	1,612	1,465
Net cash provided by operating activities	4,360	2,419	9,441
Investing activities:			
Additions to property, plant and equipment	(1,464)	(2,787)	(4,810)
Acquisitions, net of cash acquired	—	—	(129)
Disposal of assets	153	150	47
Investments – acquisitions and contributions	(210)	(485)	(1,064)
– redemptions, repayments and return of capital	39	137	98
Purchases of short-term investments	(12,498)	—	—
Sales of short-term investments	1,544	—	—
Maturities of short-term investments	5,406	—	—
All other, net	513	63	81
Cash used in investing activities - continuing operations	(6,517)	(2,922)	(5,777)
Cash provided by (used in) investing activities - discontinued operations	21,314	(335)	(484)
Net cash provided by (used in) investing activities	14,797	(3,257)	(6,261)
Financing activities:			
Commercial paper – issued	7,414	2,055	—
– repayments	(8,437)	(1,031)	—
Long-term debt – borrowings	12,150	17,082	14,274
– repayments	(17,400)	(15,380)	(13,073)

<i>(Millions of dollars)</i>	2021	2020	2019
Debt issuance costs	—	(50)	(22)
Issuance of common stock	106	11	10
Common stock repurchased	(4,654)	—	(1,950)
Dividends paid	(1,484)	(1,510)	(1,398)
Distributions to noncontrolling interests	(1,449)	(1,244)	(1,245)
Contributions from noncontrolling interests	—	—	97
Repurchases of noncontrolling interests	(630)	(33)	—
All other, net	(35)	(35)	(69)
Net cash used in financing activities	<u>(14,419)</u>	<u>(135)</u>	<u>(3,376)</u>
Net change in cash, cash equivalents and restricted cash	<u>\$ 4,738</u>	<u>\$ (973)</u>	<u>\$ (196)</u>

Cash, cash equivalents and restricted cash balances:^(a)

Continuing operations - beginning of year	416	1,395	1,519
Discontinued operations - beginning of year ^(b)	140	134	206
Less: Discontinued operations - end of year ^(b)	—	140	134
Continuing operations - end of year	<u>\$ 5,294</u>	<u>\$ 416</u>	<u>\$ 1,395</u>

^(a) Restricted cash is included in other current assets on our consolidated balance sheets.

^(b) Reported as assets held for sale on our consolidated balance sheets.

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

MARATHON PETROLEUM CORPORATION
CONSOLIDATED STATEMENTS OF EQUITY AND REDEEMABLE NONCONTROLLING INTEREST

	MPC Stockholders' Equity									
	Common Stock		Treasury Stock		Additional Paid-in Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Non- controlling Interests	Total Equity	Redeemable Non- controlling Interest
	Shares	Amount	Shares	Amount						
<i>(Shares in millions; amounts in millions of dollars)</i>										
Balance as of December 31, 2018	975	\$ 10	(295)	\$(13,175)	\$ 33,729	\$ 14,755	\$ (144)	\$ 8,874	\$ 44,049	\$ 1,004
Net income	—	—	—	—	—	2,637	—	537	3,174	81
Dividends declared on common stock (\$2.12 per share)	—	—	—	—	—	(1,402)	—	—	(1,402)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(1,164)	(1,164)	(81)
Contributions from noncontrolling interests	—	—	—	—	—	—	—	97	97	—
Other comprehensive loss	—	—	—	—	—	—	(176)	—	(176)	—
Shares repurchased	—	—	(34)	(1,950)	—	—	—	—	(1,950)	—
Stock-based compensation	3	—	—	(18)	112	—	—	7	101	—
Equity transactions of MPLX & ANDX	—	—	—	—	(684)	—	—	94	(590)	(36)
Balance as of December 31, 2019	978	\$ 10	(329)	\$(15,143)	\$ 33,157	\$ 15,990	\$ (320)	\$ 8,445	\$ 42,139	\$ 968
Net income (loss)	—	—	—	—	—	(9,826)	—	(232)	(10,058)	81
Dividends declared on common stock (\$2.32 per share)	—	—	—	—	—	(1,514)	—	—	(1,514)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(1,163)	(1,163)	(81)
Other comprehensive loss	—	—	—	—	—	—	(192)	—	(192)	—
Stock-based compensation	2	—	—	(14)	92	—	—	8	86	—
Equity transactions of MPLX	—	—	—	—	(41)	—	—	(5)	(46)	—
Balance as of December 31, 2020	980	\$ 10	(329)	\$(15,157)	\$ 33,208	\$ 4,650	\$ (512)	\$ 7,053	\$ 29,252	\$ 968
Net income	—	—	—	—	—	9,738	—	1,163	10,901	100
Dividends declared on common stock (\$2.32 per share)	—	—	—	—	—	(1,483)	—	—	(1,483)	—
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(1,349)	(1,349)	(100)
Other comprehensive income	—	—	—	—	—	—	445	—	445	—
Shares repurchased	—	—	(76)	(4,740)	—	—	—	—	(4,740)	—
Stock-based compensation	4	—	—	(7)	147	—	—	4	144	—
Equity transactions of MPLX	—	—	—	—	(93)	—	—	(461)	(554)	(3)
Balance as of December 31, 2021	984	\$ 10	(405)	\$(19,904)	\$ 33,262	\$ 12,905	\$ (67)	\$ 6,410	\$ 32,616	\$ 965

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

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. DESCRIPTION OF THE BUSINESS AND BASIS OF PRESENTATION

Description of the Business

We are a leading, integrated, downstream energy company headquartered in Findlay, Ohio. We operate the nation's largest refining system. We sell refined products to wholesale marketing customers domestically and internationally, to buyers on the spot market and to independent entrepreneurs who operate branded outlets. We also sell transportation fuel to consumers through direct dealer locations under long-term supply contracts. MPC's midstream operations are primarily conducted through MPLX LP ("MPLX"), which owns and operates crude oil and light product transportation and logistics infrastructure as well as gathering, processing and fractionation assets. We own the general partner and a majority limited partner interest in MPLX.

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven, Inc. ("7-Eleven"). Speedway's results are reported separately as discontinued operations, net of tax, in our consolidated statements of income for all periods presented and its assets and liabilities are presented in our consolidated balance sheets as assets and liabilities held for sale as of December 31, 2020. In addition, we separately disclosed the operating and investing cash flows of Speedway as discontinued operations within our consolidated statements of cash flow. See Note 5 for discontinued operations disclosures.

Refer to Notes 6 and 12 for additional information about our operations.

Basis of Presentation

All significant intercompany transactions and accounts have been eliminated.

In accordance with ASC 205, *Discontinued Operations*, intersegment sales from our Refining & Marketing segment to Speedway are no longer eliminated as intercompany transactions and are now presented within sales and other operating revenue, since we continue to supply fuel to Speedway subsequent to the sale to 7-Eleven. All periods presented have been retrospectively adjusted through the sale date of May 14, 2021 to reflect this change. Additionally, from August 2, 2020 through May 14, 2021, in accordance with ASC 360, *Property, Plant, and Equipment*, we ceased recording depreciation and amortization for Speedway's PP&E, finite-lived intangible assets and right of use lease assets.

2. SUMMARY OF PRINCIPAL ACCOUNTING POLICIES

Principles Applied in Consolidation

These consolidated financial statements include the accounts of our majority-owned, controlled subsidiaries and MPLX. As of December 31, 2021, we owned the general partner and approximately 64 percent of the outstanding MPLX common units. Due to our ownership of the general partner interest, we have determined that we control MPLX and therefore we consolidate MPLX and record a noncontrolling interest for the interest owned by the public. Changes in ownership interest in consolidated subsidiaries that do not result in a change in control are recorded as equity transactions.

Investments in entities over which we have significant influence, but not control, are accounted for using the equity method of accounting. This includes entities in which we hold majority ownership but the minority shareholders have substantive participating rights. Income from equity method investments represents our proportionate share of net income generated by the equity method investees.

Differences in the basis of the investments and the separate net asset values of the investees, if any, are amortized into net income over the remaining useful lives of the underlying assets and liabilities, except for any excess related to goodwill. Equity method investments are evaluated for impairment whenever changes in the facts and circumstances indicate an other than temporary loss in value has occurred. When the loss is deemed to be other than temporary, the carrying value of the equity method investment is written down to fair value.

Use of Estimates

The preparation of financial statements in accordance with generally accepted accounting principles requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements and the reported amounts of revenues and expenses during the respective reporting periods.

Revenue Recognition

We recognize revenue based on consideration specified in contracts or agreements with customers when we satisfy our performance obligations by transferring control over products or services to a customer. Concurrent with our adoption of ASU 2014-09, *Revenue from Contracts with Customers* ("ASC 606"), as of January 1, 2018, we made an accounting policy election

that all taxes assessed by a governmental authority that are both imposed on and concurrent with a revenue-producing transaction and collected from our customers will be recognized on a net basis within sales and other operating revenues.

Our revenue recognition patterns are described below by reportable segment:

- Refining & Marketing - The vast majority of our Refining & Marketing contracts contain pricing that is based on the market price for the product at the time of delivery. Our obligations to deliver product volumes are typically satisfied and revenue is recognized when control of the product transfers to our customers. Concurrent with the transfer of control, we typically receive the right to payment for the delivered product, the customer accepts the product and the customer has significant risks and rewards of ownership of the product. Payment terms require customers to pay shortly after delivery and do not contain significant financing components.
- Midstream - Midstream revenue transactions typically are defined by contracts under which we sell a product or provide a service. Revenues from sales of product are recognized when control of the product transfers to the customer. Revenues from sales of services are recognized over time when the performance obligation is satisfied as services are provided in a series. We have elected to use the output measure of progress to recognize revenue based on the units delivered, processed or transported. The transaction prices in our Midstream contracts often have both fixed components, related to minimum volume commitments, and variable components, which are primarily dependent on volumes. Variable consideration will generally not be estimated at contract inception as the transaction price is specifically allocable to the services provided at each period end.

Refer to Note 23 for disclosure of our revenue disaggregated by segment and product line and to Note 12 for a description of our reportable segment operations.

Crude Oil and Refined Product Exchanges and Matching Buy/Sell Transactions

We enter into exchange contracts and matching buy/sell arrangements whereby we agree to deliver a particular quantity and quality of crude oil or refined products at a specified location and date to a particular counterparty and to receive from the same counterparty the same commodity at a specified location on the same or another specified date. The exchange receipts and deliveries are nonmonetary transactions, with the exception of associated grade or location differentials that are settled in cash. The matching buy/sell purchase and sale transactions are settled in cash. No revenues are recorded for exchange and matching buy/sell transactions as they are accounted for as exchanges of inventory. The exchange transactions are recognized at the carrying amount of the inventory transferred.

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand and on deposit and investments in highly liquid debt instruments with maturities of three months or less.

Short-Term Investments

Investments with a maturity date greater than three months that we intend to convert to cash or cash equivalents within a year or less are classified as short-term investments in our consolidated balance sheets. Additionally, in accordance with ASC 320, *Investments - Debt Securities*, we have classified all short-term investments as available-for-sale securities and changes in fair market value are reported in other comprehensive income.

Accounts Receivable and Allowance for Doubtful Accounts

Our receivables primarily consist of customer accounts receivable. Customer receivables are recorded at the invoiced amounts and generally do not bear interest. Allowances for doubtful accounts are generally recorded when it becomes probable the receivable will not be collected and are booked to bad debt expense. The allowance for doubtful accounts is the best estimate of the amount of probable credit losses in customer accounts receivable. We review the allowance quarterly and past-due balances over 180 days are reviewed individually for collectability.

We mitigate credit risk with master netting agreements with companies engaged in the crude oil or refinery feedstock trading and supply business or the petroleum refining industry. A master netting agreement generally provides for a once per month net cash settlement of the accounts receivable from and the accounts payable to a particular counterparty.

Leases

Contracts with a term greater than one year that convey the right to direct the use of and obtain substantially all of the economic benefit of an asset are accounted for as right of use assets.

Right of use asset and lease liability balances are recorded at the commencement date at present value of the fixed lease payments using a secured incremental borrowing rate with a maturity similar to the lease term because our leases do not provide implicit rates. We have elected to include both lease and non-lease components in the present value of the lease payments for all lessee asset classes with the exception of our marine and third-party contractor service equipment leases. The lease component of the payment for the marine and equipment asset classes is determined using a relative standalone selling price. See Note 28 for additional disclosures about our lease contracts.

Inventories

Inventories are carried at the lower of cost or market value. Cost of inventories is determined primarily under the LIFO method. Costs for crude oil and refined product inventories are aggregated on a consolidated basis for purposes of assessing if the LIFO cost basis of these inventories may have to be written down to market value.

Fair Value

We account for certain assets and liabilities at fair value. The hierarchy below lists three levels of fair value based on the extent to which inputs used in measuring fair value are observable in the market. We categorize each of our fair value measurements in one of these three levels based on the lowest level input that is significant to the fair value measurement in its entirety. These levels are:

- Level 1 – inputs are based upon unadjusted quoted prices for identical instruments in active markets. Our Level 1 derivative assets and liabilities include exchange-traded contracts for crude oil and refined products measured at fair value with a market approach using the close-of-day settlement prices for the market. Commodity derivatives are covered under master netting agreements with an unconditional right to offset. Collateral deposits in futures commission merchant accounts covered by master netting agreements related to Level 1 commodity derivatives are classified as Level 1.
- Level 2 – inputs are based upon quoted prices for similar instruments in active markets, quoted prices for identical or similar instruments in markets that are not active, and model-based valuation techniques for which all significant inputs are observable in the market or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Where applicable, these models project future cash flows and discount the future amounts to a present value using market-based observable inputs including interest rate curves, credit spreads, and forward and spot prices for currencies. Our Level 2 investments include commercial paper, certificates of deposit, time deposits and corporate notes and bonds. Our Level 2 derivative assets and liabilities primarily include certain OTC contracts.
- Level 3 – inputs are generally unobservable and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability. The fair values are therefore determined using model-based techniques, including option pricing models and discounted cash flow models. Our Level 3 assets and liabilities include goodwill, long-lived assets and intangible assets, when they are recorded at fair value due to an impairment charge and an embedded derivative liability relates to a natural gas purchase agreement embedded in a keep-whole processing agreement. Unobservable inputs used in the models are significant to the fair values of the assets and liabilities.

Derivative Instruments

We use derivatives to economically hedge a portion of our exposure to commodity price risk and, historically, to interest rate risk. Our use of selective derivative instruments that assume market risk is limited. All derivative instruments (including derivative instruments embedded in other contracts) are recorded at fair value. Certain commodity derivatives are reflected on the consolidated balance sheets on a net basis by counterparty as they are governed by master netting agreements. Cash flows related to derivatives used to hedge commodity price risk and interest rate risk are classified in operating activities with the underlying transactions.

Derivatives not designated as accounting hedges

Derivatives that are not designated as accounting hedges may include commodity derivatives used to hedge price risk on (1) inventories, (2) fixed price sales of refined products, (3) the acquisition of foreign-sourced crude oil, (4) the acquisition of ethanol for blending with refined products, (5) the sale of NGLs, (6) the purchase of natural gas and (7) the purchase of soybean oil. Changes in the fair value of derivatives not designated as accounting hedges are recognized immediately in net income.

Concentrations of credit risk

All of our financial instruments, including derivatives, involve elements of credit and market risk. The most significant portion of our credit risk relates to nonperformance by counterparties. The counterparties to our financial instruments consist primarily of major financial institutions and companies within the energy industry. To manage counterparty risk associated with financial instruments, we select and monitor counterparties based on an assessment of their financial strength and on credit ratings, if available. Additionally, we limit the level of exposure with any single counterparty.

Property, Plant and Equipment

Property, plant and equipment are recorded at cost and depreciated on a straight-line basis over the estimated useful lives of the assets, generally ten to 40 years for refining and midstream assets, 25 years for office buildings and four to seven years for other miscellaneous fixed assets. Such assets are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset group may not be recoverable. If the sum of the expected undiscounted future cash flows from the use of the asset group and its eventual disposition is less than the carrying amount of the asset group, an impairment assessment is performed and the excess of the book value over the fair value of the asset group is recorded as an impairment loss.

When items of property, plant and equipment are sold or otherwise disposed of, any gains or losses are reported in net income. Gains on the disposal of property, plant and equipment are recognized when earned, which is generally at the time of closing. If a loss on disposal is expected, such losses are recognized when the assets are classified as held for sale.

Interest expense is capitalized for qualifying assets under construction. Capitalized interest costs are included in property, plant and equipment and are depreciated over the useful life of the related asset.

Goodwill and Intangible Assets

Goodwill represents the excess of the purchase price over the estimated fair value of the net assets acquired in the acquisition of a business. Goodwill is not amortized, but rather is tested for impairment at the reporting unit level annually and when events or changes in circumstances indicate that the fair value of a reporting unit with goodwill has been reduced below carrying value. If we determine, based on a qualitative assessment, that it is not more likely than not that a reporting unit's fair value is less than its carrying amount, no further impairment testing is required. If we do not perform a qualitative assessment or if that assessment indicates that further impairment testing is required, the fair value of each reporting unit is determined using an income and/or market approach which is compared to the carrying value of the reporting unit. If the carrying amount of the reporting unit exceeds its fair value, an impairment loss would be recognized in an amount equal to that excess, limited to the total amount of goodwill allocated to that reporting unit. The fair value under the income approach is calculated using the expected present value of future cash flows method. Significant assumptions used in the cash flow forecasts include future net operating margins, future volumes, discount rates, and future capital requirements.

Amortization of intangibles with definite lives is calculated using the straight-line method, which is reflective of the benefit pattern in which the estimated economic benefit is expected to be received over the estimated useful life of the intangible asset. Intangibles subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the intangible may not be recoverable. If the sum of the expected undiscounted future cash flows related to the asset is less than the carrying amount of the asset, an impairment loss is recognized based on the fair value of the asset. Intangibles not subject to amortization are tested for impairment annually and when circumstances indicate that the fair value is less than the carrying amount of the intangible. If the fair value is less than the carrying value, an impairment is recorded for the difference.

Major Maintenance Activities

Costs for planned turnaround and other major maintenance activities are expensed in the period incurred. These types of costs include contractor repair services, materials and supplies, equipment rentals and our labor costs.

Environmental Costs

Environmental expenditures for additional equipment that mitigates or prevents future contamination or improves environmental safety or efficiency of the existing assets are capitalized. We recognize remediation costs and penalties when the responsibility to remediate is probable and the amount of associated costs can be reasonably estimated. The timing of remediation accruals coincides with completion of a feasibility study or the commitment to a formal plan of action. Remediation liabilities are accrued based on estimates of known environmental exposure and are discounted when the estimated amounts are reasonably fixed and determinable. If recoveries of remediation costs from third parties are probable, a receivable is recorded and is discounted when the estimated amount is reasonably fixed and determinable.

Asset Retirement Obligations

The fair value of asset retirement obligations is recognized in the period in which the obligations are incurred if a reasonable estimate of fair value can be made. The majority of our recognized asset retirement liability relates to conditional asset retirement obligations for removal and disposal of fire-retardant material from certain refining facilities. The remaining recognized asset retirement liability relates to other refining assets, certain pipelines and processing facilities and other related pipeline assets. The fair values recorded for such obligations are based on the most probable current cost projections.

Asset retirement obligations have not been recognized for some assets because the fair value cannot be reasonably estimated since the settlement dates of the obligations are indeterminate. Such obligations will be recognized in the period when sufficient information becomes available to estimate a range of potential settlement dates. The asset retirement obligations principally include the hazardous material disposal and removal or dismantlement requirements associated with the closure of certain refining, terminal, pipeline and processing assets.

Our practice is to keep our assets in good operating condition through routine repair and maintenance of component parts in the ordinary course of business and by continuing to make improvements based on technological advances. As a result, we believe that generally these assets have no expected settlement date for purposes of estimating asset retirement obligations since the dates or ranges of dates upon which we would retire these assets cannot be reasonably estimated at this time.

Income Taxes

Deferred tax assets and liabilities are recognized for the estimated future tax consequences attributable to differences between the financial statement carrying amounts of assets and liabilities and their tax bases. Deferred tax assets are recorded when it is more likely than not that they will be realized. The realization of deferred tax assets is assessed periodically based on several factors, primarily our expectation to generate sufficient future taxable income.

Stock-Based Compensation Arrangements

The fair value of stock options granted to our employees is estimated on the date of grant using the Black-Scholes option pricing model. The model employs various assumptions based on management's estimates at the time of grant, which impact the calculation of fair value and ultimately, the amount of expense that is recognized over the vesting period of the stock option award. Of the required assumptions, the expected life of the stock option award and the expected volatility of our stock price have the most significant impact on the fair value calculation. The average expected life is based on our historical employee exercise behavior. The assumption for expected volatility of our stock price reflects a weighting of 50 percent of our common stock implied volatility and 50 percent of our common stock historical volatility.

The fair value of restricted stock awards granted to our employees is determined based on the fair market value of our common stock on the date of grant. The fair value of performance unit awards granted to our employees is estimated on the date of grant using a Monte Carlo valuation model.

Our stock-based compensation expense is recognized based on management's estimate of the awards that are expected to vest, using the straight-line attribution method for all service-based awards with a graded vesting feature. If actual forfeiture results are different than expected, adjustments to recognized compensation expense may be required in future periods. Unearned stock-based compensation is charged to equity when restricted stock awards are granted. Compensation expense is recognized over the vesting period and is adjusted if conditions of the restricted stock award are not met.

Business Combinations

We recognize and measure the assets acquired and liabilities assumed in a business combination based on their estimated fair values at the acquisition date. Any excess or surplus of the purchase consideration when compared to the fair value of the net tangible assets acquired, if any, is recorded as goodwill or gain from a bargain purchase. For material acquisitions, management engages an independent valuation specialist to assist with the determination of fair value of the assets acquired, liabilities assumed, noncontrolling interest, if any, and goodwill, based on recognized business valuation methodologies. An income, market or cost valuation method may be utilized to estimate the fair value of the assets acquired, liabilities assumed, and noncontrolling interest, if any, in a business combination. The income valuation method represents the present value of future cash flows over the life of the asset using: (i) discrete financial forecasts, which rely on management's estimates of revenue and operating expenses; (ii) long-term growth rates; and (iii) appropriate discount rates. The market valuation method uses prices paid for a reasonably similar asset by other purchasers in the market, with adjustments relating to any differences between the assets. The cost valuation method is based on the replacement cost of a comparable asset at prices at the time of the acquisition reduced for depreciation of the asset. If the initial accounting for the business combination is incomplete by the end of the reporting period in which the acquisition occurs, an estimate will be recorded. Subsequent to the acquisition date, and not later than one year from the acquisition date, we will record any material adjustments to the initial estimate based on new information obtained that would have existed as of the date of the acquisition. Any adjustment that arises from information obtained that did not exist as of the date of the acquisition will be recorded in the period of the adjustment. Acquisition-related costs are expensed as incurred in connection with each business combination.

Environmental Credits and Obligations

In order to comply with certain regulations, specifically the RFS2 requirements implemented by EPA and the cap-and-trade emission reduction program and low carbon fuel standard implemented by the state of California, we are required to reduce our emissions, blend certain levels of biofuels or obtain allowances or credits to offset the obligations created by our operations. In regard to each program, we record an asset, included in other current or other noncurrent assets on the balance sheet, for allowances or credits owned in excess of our anticipated current period compliance requirements. The asset value is based on the product of the excess allowances or credits as of the balance sheet date, if any, and the weighted average cost of those allowances or credits. We record a liability, included in other current or other noncurrent liabilities on the balance sheet, when we are deficient allowances or credits based on the product of the deficient amount as of the balance sheet date, if any, and the market price of the allowances or credits at the balance sheet date. The cost of allowances or credits used for compliance is reflected in cost of revenues on the income statement. Any gains or losses on the sale or expiration of allowances or credits are classified as other income on the income statement. Proceeds from the sale of allowances or credits are reported in investing activities - all other, net on the cash flow statement.

3. ACCOUNTING STANDARDS

Recently Adopted

We adopted the following ASU during 2021, which did not have a material impact to our financial statements or financial statement disclosures:

ASU	Effective Date
2019-12 <i>Income Taxes (Topic 740): Simplifying the Accounting for Income Taxes</i>	January 1, 2021

Not Yet Adopted

ASU 2021-10, Government Assistance (Topic 832): Disclosures by Business Entities about Government Assistance

In November 2021, the FASB issued guidance requiring disclosures for certain types of government assistance that have been accounted for by analogy to grant or contribution models. Disclosures will include information about the type of transactions, accounting and the impact on financial statements. Guidance must be applied to our annual financial statements for year ended 2022 either (1) prospectively for any transactions reflected in the financial statement at the date of initial application and to any new transactions entered into after the date of initial application or (2) retrospectively to those transactions. Early application is permitted.

4. SHORT-TERM INVESTMENTS

Investments Components

The components of investments were as follows:

	December 31, 2021						
<i>(In millions)</i>	Fair Value Level	Amortized Cost	Unrealized Gains	Unrealized Losses	Fair Value	Cash and Cash Equivalents	Short-term Investments
Available-for-sale debt securities							
Commercial paper	Level 2	\$ 4,905	\$ —	\$ (1)	\$ 4,904	\$ 868	\$ 4,036
Certificates of deposit and time deposits	Level 2	2,024	—	—	2,024	750	1,274
U.S. government securities	Level 1	28	—	—	28	—	28
Corporate notes and bonds	Level 2	271	—	—	271	61	210
Total available-for-sale debt securities		<u>\$ 7,228</u>	<u>\$ —</u>	<u>\$ (1)</u>	<u>\$ 7,227</u>	<u>\$ 1,679</u>	<u>\$ 5,548</u>
Cash					3,612	3,612	—
Total					<u>\$ 10,839</u>	<u>\$ 5,291</u>	<u>\$ 5,548</u>

Our investment policy includes concentration limits and credit rating requirements which limits our investments to high quality, short term and highly liquid securities.

Unrealized losses on debt investments held from May 14, 2021 to December 31, 2021 were not material. Realized gains/losses were not material. All of our available-for-sale debt securities held as of December 31, 2021 mature within one year or less or are readily available for use.

5. DISCONTINUED OPERATIONS

On May 14, 2021, we completed the sale of Speedway, our company-owned and operated retail transportation fuel and convenience store business, to 7-Eleven for cash proceeds of approximately \$21.38 billion. After-tax proceeds were approximately \$17.22 billion. This transaction resulted in a pretax gain of \$11.68 billion (\$8.02 billion after income taxes) after deducting the book value of the net assets and certain other adjustments.

The proceeds and related Speedway sale gain may be adjusted in future periods based on provisions of the purchase and sale agreement that allow for adjustments of working capital amounts and other miscellaneous items subsequent to the transaction closing date of May 14, 2021.

Results of operations for Speedway are reflected through the close of the sale. The following table presents Speedway results and the gain on sale as reported in income from discontinued operations, net of tax, within our consolidated statements of income.

<i>(In millions)</i>	2021	2020	2019
Revenues, other income and net gain on disposal of assets:			
Revenues and other income	\$ 8,420	\$ 19,919	\$ 26,764
Net gain on disposal of assets	11,682	1	29
Total revenues, other income and net gain on disposal of assets	<u>20,102</u>	<u>19,920</u>	<u>26,793</u>
Costs and expenses:			
Cost of revenues (excludes items below)	7,654	17,573	24,860
Depreciation and amortization	3	244	413
Selling, general and administrative expenses	121	323	216
Other taxes	75	193	190
Total costs and expenses	<u>7,853</u>	<u>18,333</u>	<u>25,679</u>
Income from operations	12,249	1,587	1,114
Net interest and other financial costs	6	20	18
Income before income taxes	12,243	1,567	1,096
Provision for income taxes	3,795	362	290
Income from discontinued operations, net of tax	<u>\$ 8,448</u>	<u>\$ 1,205</u>	<u>\$ 806</u>

Fuel Supply Agreements

During the second quarter of 2021, we entered into various 15-year fuel supply agreements through which we continue to supply fuel to Speedway.

6. MASTER LIMITED PARTNERSHIP

We own the general partner and a majority limited partner interest in MPLX, which owns and operates crude oil and light product transportation and logistics infrastructure as well as gathering, processing and fractionation assets. We control MPLX through our ownership of the general partner interest and, as of December 31, 2021, we owned approximately 64 percent of the outstanding MPLX common units.

Javelina Assets Held-for-Sale

On February 12, 2021, MPLX sold all of its equity interests in MarkWest Javelina Company, L.L.C., MarkWest Javelina Pipeline Company, L.L.C. and MarkWest Gas Services, L.L.C. (collectively, "Javelina") to a third party. Javelina's assets and liabilities have been presented within our consolidated balance sheets as assets and liabilities held for sale as of December 31, 2020.

Unit Repurchase Program

On November 2, 2020, MPLX announced the board authorization of a unit repurchase program for the repurchase of up to \$1.0 billion of MPLX's outstanding common units held by the public.

Total unit repurchases were as follows for the respective periods:

<i>(In millions, except per share data)</i>	2021	2020
Number of common units repurchased	23	1
Cash paid for common units repurchased	\$ 630	\$ 33
Average cost per unit	\$ 27.52	\$ 22.29

As of December 31, 2021, MPLX has \$337 million remaining under its unit repurchase authorization. The repurchase authorization has no expiration date.

Redemption of Business from MPLX

On July 31, 2020, Western Refining Southwest, Inc. (now known as Western Refining Southwest LLC) ("WRSW"), a wholly owned subsidiary of MPC, entered into a Redemption Agreement (the "Redemption Agreement") with MPLX, pursuant to which MPLX transferred to WRSW all of the outstanding membership interests in Western Refining Wholesale, LLC, ("WRW") in exchange for the redemption of MPLX common units held by WRSW. The transaction effected the transfer to MPC of the

Western wholesale distribution business that MPLX acquired as a result of its acquisition of Andeavor Logistics LP (“ANDX”). Beginning in the third quarter of 2020, the results of these operations are presented in MPC’s Refining & Marketing segment.

At the closing, per the terms of Redemption Agreement, MPLX redeemed 18,582,088 MPLX common units (the “Redeemed Units”) held by WRSW. The number of Redeemed Units was calculated by dividing WRW’s aggregate valuation of \$340 million by the simple average of the volume weighted average NYSE prices of an MPLX common unit for the ten trading days ending at market close on July 27, 2020. The transaction resulted in a minor decrease in MPC’s ownership interest in MPLX.

MPLX’s Acquisition of ANDX

On July 30, 2019, MPLX completed its acquisition of ANDX, and ANDX survived as a wholly owned subsidiary of MPLX. At the effective time of the ANDX acquisition, each common unit held by ANDX’s public unitholders was converted into the right to receive 1.135 MPLX common units. ANDX common units held by MPC were converted into the right to receive 1.0328 MPLX common units. Additionally, as a result of MPLX’s acquisition of MPLX, 600,000 ANDX preferred units were converted into 600,000 preferred units of MPLX (“Series B preferred units”). Series B preferred unitholders are entitled to receive, when and if declared by the board of directors of MPLX’s general partner, a fixed distribution of \$68.75 per unit, per annum, payable semi-annually in arrears on February 15 and August 15, or the first business day thereafter, up to and including February 15, 2023. After February 15, 2023, the holders of Series B preferred units are entitled to receive cumulative, quarterly distributions payable in arrears on the 15th day of February, May, August and November of each year, or the first business day thereafter, based on a floating annual rate equal to the three month LIBOR plus 4.652 percent.

MPC accounted for this transaction as a common control transaction, as defined by ASC 805, which resulted in an increase to noncontrolling interest and a decrease to additional paid-in capital of approximately \$55 million, net of tax. During the third quarter of 2019, we pushed down to MPLX the portion of the goodwill attributable to ANDX as of October 1, 2018, the date of our acquisition of Andeavor. Due to this push down of goodwill, we also recorded an incremental \$642 million deferred tax liability associated with the portion of the non-deductible goodwill attributable to the noncontrolling interest in MPLX with an offsetting reduction of our additional paid-in capital balance. We have consolidated ANDX since we acquired Andeavor on October 1, 2018 in accordance with ASC 810.

Agreements

We have various long-term, fee-based commercial agreements with MPLX. Under these agreements, MPLX provides transportation, storage, distribution and marketing services to us. With certain exceptions, these agreements generally contain minimum volume commitments. These transactions are eliminated in consolidation but are reflected as intersegment transactions between our Refining & Marketing and Midstream segments. We also have agreements with MPLX that establish fees for operational and management services provided between us and MPLX and for executive management services and certain general and administrative services provided by us to MPLX. These transactions are eliminated in consolidation but are reflected as intersegment transactions between our Corporate and Midstream segments.

Noncontrolling Interest

As a result of equity transactions of MPLX and ANDX, we are required to adjust non-controlling interest and additional paid-in capital. Changes in MPC’s additional paid-in capital resulting from changes in its ownership interest in MPLX and ANDX were as follows:

<i>(In millions)</i>	2021	2020	2019
Decrease due to change in ownership	\$ (166)	\$ (27)	\$ (51)
Tax impact	73	(14)	(633)
Decrease in MPC’s additional paid-in capital, net of tax	<u>\$ (93)</u>	<u>\$ (41)</u>	<u>\$ (684)</u>

7. IMPAIRMENTS

During 2021, we recognized \$69 million of impairment expense within our Midstream segment related to the divestiture, abandonment or closure of certain assets as detailed in the table below.

During the first quarter of 2020, the outbreak of COVID-19 caused overall deterioration in the economy and the environment in which we operate. The related changes to our expected future cash flows, as well as a sustained decrease in share price, were considered triggering events requiring the performance of various tests of the carrying values of our assets. Triggering events requiring the performance of various tests of the carrying value of our Midstream assets were also identified by MPLX as a result of the overall deterioration in the economy and the environment in which MPLX and its customers operate, which led to a reduction in forecasted volumes processed by the systems operated by MarkWest Utica EMG, L.L.C., MPLX’s equity method investee, as well as a sustained decrease in the MPLX unit price. These tests resulted in the majority of the impairment charges in 2020, as discussed below.

The table below provides information related to the impairments recognized, along with the location of these impairments within the consolidated statements of income.

<i>(In millions)</i>	<i>Income Statement Line</i>	<u>2021</u>	<u>2020</u>	<u>2019</u>
Goodwill	Impairment expense	\$ —	\$ 7,394	\$ 1,197
Equity method investments	Income (loss) from equity method investments	13	1,315	42
Long-lived assets	Impairment expense ^(a)	—	1,032	—
Long-lived assets	Depreciation and amortization	56	—	—
Total impairments		<u>\$ 69</u>	<u>\$ 9,741</u>	<u>\$ 1,239</u>

^(a) The amount of 2020 impairment expense not described in the narrative below is related to certain immaterial Midstream assets.

Goodwill

During the first quarter of 2020, we recorded an impairment of goodwill of \$7.33 billion. See Note 18 for detail by segment. The goodwill impairment within the Refining & Marketing segment was primarily driven by the effects of the COVID-19 pandemic and the decline in commodity prices. The impairment within the Midstream segment was primarily driven by additional information related to the slowing of drilling activity, which has reduced production growth forecasts from MPLX's producer customers.

During the third quarter of 2020, we recorded an impairment of goodwill of \$64 million. The \$64 million of goodwill was transferred from our Midstream segment to our Refining & Marketing segment during the third quarter of 2020 in connection with the transfer to MPC of the MPLX wholesale distribution business as described in Note 6. The transfer required goodwill impairment tests for the transferor and transferee reporting units. Our Refining & Marketing reporting unit that recorded the \$64 million impairment expense has no remaining goodwill.

The fair values of the reporting units for the first quarter of 2020 goodwill impairment analysis were determined based on applying both a discounted cash flow method, or income approach, as well as a market approach. The discounted cash flow fair value estimate is based on known or knowable information at the measurement date. The significant assumptions that were used to develop the estimates of the fair values under the discounted cash flow method included management's best estimates of the expected future results and discount rates, which range from 9.0 percent to 13.5 percent across all reporting units. Significant assumptions that were used to estimate the MPLX Eastern Gathering and Processing and MPLX Crude Gathering reporting units' fair values under the discounted cash flow method included management's best estimates of the discount rate, as well as estimates of future cash flows, which are impacted primarily by producer customer's development plans, which impact future volumes and capital requirements. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the interim goodwill impairment test will prove to be an accurate prediction of the future. The fair value measurements for the individual reporting units' overall fair values represent Level 3 measurements.

During the fourth quarter of 2019, we recorded an impairment of goodwill in our Midstream segment. As a result of the merger of MPLX and ANDX in 2019 and subsequent changes to MPLX's internal organization structure, the number of reporting units within our Midstream segment was reduced from 16 to seven in conjunction with the annual impairment test, however, this change in structure did not have any impact on MPC's operating segments. Reporting units are determined based on the way in which segment management operates and reviews each operating segment. MPLX performed a goodwill impairment assessment prior to the change in reporting units in addition to performing an impairment assessment immediately following the change in their reporting units. Significant assumptions used to estimate the reporting units' fair value include the discount rate as well as estimates of future cash flows, which are impacted primarily by producer customers' development plans, which impact future volumes and capital requirements. After MPLX performed its evaluations related to the impairment of goodwill, we recorded an impairment of \$1.156 billion prior to the change in reporting units and additional impairment of \$41 million subsequent to the change in reporting units. The remainder of the reporting units fair values were in excess of their carrying values. The impairment was primarily driven by the updated guidance related to the slowing of drilling activity which has reduced production growth forecasts from MPLX's producer customers.

The fair value of the reporting units for the fourth quarter of 2019 goodwill impairment analysis was determined based on applying both a discounted cash flow or income approach as well as a market approach. The discounted cash flow fair value estimate is based on known or knowable information at the measurement date. The significant assumptions that were used to develop the estimates of the fair values under the discounted cash flow method included management's best estimates of the expected future results and discount rates, which range from 9.0 percent to 10.0 percent. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the annual goodwill impairment test will prove to be an accurate prediction of the future. The fair value measurements for the individual reporting units' overall fair values, and the fair values of the goodwill assigned thereto, represent Level 3 measurements.

Equity Method Investments

During the first quarter of 2020, we recorded equity method investment impairment charges totaling \$1.315 billion, of which \$1.25 billion related to MarkWest Utica EMG, L.L.C. and its investment in Ohio Gathering Company, L.L.C. The impairments were

largely due to a reduction in forecasted volumes gathered and processed by the systems operated by the equity method investments. The fair value of the investments were determined based upon applying a discounted cash flow method, an income approach. The discounted cash flow fair value estimate is based on known or knowable information at the interim measurement date. The significant assumptions that were used to develop the estimate of the fair value under the discounted cash flow method include management's best estimates of the expected future cash flows, including prices and volumes, the weighted average cost of capital and the long-term growth rate. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment test will prove to be an accurate prediction of the future. The fair value of these equity method investments represents a Level 3 measurement.

During the fourth quarter of 2019, two joint ventures in which MPLX has an interest recorded impairments, which impacted the amount of income from equity method investments during the period by approximately \$28 million. For one of the joint ventures, MPLX also had a basis difference which was being amortized over the life of the underlying assets. As a result of the impairment recorded by the joint venture, MPLX also assessed this basis difference for impairment and recorded approximately \$14 million of impairment expense during the fourth quarter related to this investment.

Long-lived Assets

Long-lived assets (primarily consisting of property, plant and equipment, intangible assets other than goodwill, and right of use assets) used in operations are assessed for impairment whenever changes in facts and circumstances indicate that the carrying value of the assets may not be recoverable based on the expected undiscounted future cash flow of an asset group. For purposes of impairment evaluation, long-lived assets must be grouped at the lowest level for which independent cash flows can be identified, which generally is the refinery and associated distribution system level for Refining & Marketing segment assets and the plant level or pipeline system level for Midstream segment assets. If the sum of the undiscounted estimated pretax cash flows is less than the carrying value of an asset group, fair value is determined, and the carrying value is written down to the determined fair value.

During the first quarter of 2020, we identified long-lived asset impairment triggers relating to all of our refinery asset groups within the Refining & Marketing segment as a result of decreases to the Refining & Marketing segment expected future cash flows. The cash flows associated with these assets were significantly impacted by the effects of the COVID-19 pandemic and commodity price declines. We performed recoverability tests for each refinery asset group by comparing the undiscounted estimated pretax cash flows to the carrying value of each asset group. Only the Gallup refinery's carrying value exceeded its undiscounted estimated pretax cash flows. It was determined that the fair value of the Gallup refinery's property, plant and equipment was less than the carrying value. As a result, we recorded a charge of \$142 million in the first quarter of 2020 to impairment expense on the consolidated statements of income. The fair value measurements for the Gallup refinery assets represent Level 3 measurements.

During the second quarter of 2020, we identified long-lived asset impairment triggers relating to all of our refinery asset groups within the Refining & Marketing segment, except the Gallup refinery as it had been impaired to its estimated salvage value in the first quarter, as a result of continued unfavorable macroeconomic conditions impacting the Refining & Marketing segment expected future cash flows. We performed recoverability tests for each refinery asset group by comparing the undiscounted estimated pretax cash flows to the carrying value of each asset group. All of these refinery asset groups' undiscounted estimated pretax cash flows exceeded their carrying value by at least 17 percent.

The determination of undiscounted estimated pretax cash flows for the first and second quarter refinery asset group recoverability tests utilized significant assumptions including management's best estimates of the expected future cash flows, allocation of certain Refining & Marketing segment cash flows to the individual refinery asset groups, the estimated useful life of certain refinery asset groups, and the estimated salvage value of certain refinery asset groups.

On August 3, 2020, we announced our plans to evaluate possibilities to strategically reposition our Martinez refinery, including the potential conversion of the refinery into a renewable diesel facility. Subsequent to August 3, 2020, we progressed activities associated with the conversion of the Martinez refinery to a renewable diesel facility, including applying for permits, advancing discussions with feedstock suppliers, and beginning detailed engineering activities. As envisioned, the Martinez facility would start producing approximately 260 million gallons per year of renewable diesel by the second half of 2022, with a potential to build to full capacity of approximately 730 million gallons per year by the end of 2023. As a result of the progression of these activities, we identified assets that would be repurposed and utilized in a renewable diesel facility configuration and assets that would be abandoned since they had no function in a renewable diesel facility configuration. This change in our intended use for the Martinez refinery is a long-lived asset impairment trigger for the assets that would be repurposed and remain as part of the Martinez asset group. We assessed the asset group for impairment by comparing the undiscounted estimated pretax cash flows to the carrying value of the asset group and the undiscounted estimated pretax cash flows exceeded the Martinez asset group carrying value. We recorded impairment expense of \$342 million for the abandoned assets as we are no longer using these assets and have no expectation to use these assets in the future. Additionally, as a result of our efforts to progress the conversion of Martinez refinery into a renewable diesel facility, MPLX cancelled in-process capital projects related to its Martinez refinery logistics operations resulting in impairments of \$27 million in the third quarter of 2020.

In the fourth quarter of 2020, we concluded the evaluation of our intended use of MPLX terminal assets near the Gallup refinery and determined that the assets were abandoned, resulting in an impairment charge of \$67 million. Following this conclusion, we

revised the estimate of the salvage value for the Gallup refinery asset group resulting in an additional \$44 million impairment charge. These charges are included in impairment expense on our consolidated statements of income.

The determinations of expected future cash flows and the salvage values of refineries, as described earlier, require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of our impairment analysis will prove to be an accurate prediction of the future. Should our assumptions significantly change in future periods, it is possible we may determine the carrying values of certain of our refinery asset groups exceed the undiscounted estimated pretax cash flows of their refinery asset groups, which would result in future impairment charges.

During the first quarter of 2020, MPLX identified an impairment trigger relating to asset groups within MPLX's Western Gathering and Processing ("G&P") reporting unit as a result of significant changes to expected future cash flows for these asset groups resulting from the effects of the COVID-19 pandemic. The cash flows associated with these assets were significantly impacted by volume declines reflecting decreased forecasted producer customer production as a result of lower commodity prices. MPLX assessed each asset group within the Western G&P reporting unit for impairment. It was determined that the fair value of the East Texas G&P asset group's underlying assets were less than the carrying value. As a result, MPLX recorded impairment charges totaling \$350 million related to its property, plant and equipment and intangibles, which are included in impairment expense on our consolidated statements of income. Fair value of property, plant and equipment was determined using a combination of an income and cost approach. The income approach utilized significant assumptions including management's best estimates of the expected future cash flows and the estimated useful life of the asset group. The cost approach utilized assumptions for the current replacement costs of similar assets adjusted for estimated depreciation and deterioration of the existing equipment and economic obsolescence. The fair value of the intangibles was determined based on applying the multi-period excess earnings method, which is an income approach. Key assumptions included management's best estimates of the expected future cash flows from existing customers, customer attrition rates and the discount rate. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment analysis will prove to be an accurate prediction of the future. The fair value measurements for the asset group fair values represent Level 3 measurements.

8. VARIABLE INTEREST ENTITIES

Consolidated VIE

We control MPLX through our ownership of its general partner. MPLX is a VIE because the limited partners do not have substantive kick-out or participating rights over the general partner. We are the primary beneficiary of MPLX because in addition to our significant economic interest, we also have the ability, through our ownership of the general partner, to control the decisions that most significantly impact MPLX. We therefore consolidate MPLX and record a noncontrolling interest for the interest owned by the public. We also record a redeemable noncontrolling interest related to MPLX's Series A preferred units.

The creditors of MPLX do not have recourse to MPC's general credit through guarantees or other financial arrangements, except as noted. MPC has effectively guaranteed certain indebtedness of LOOP LLC ("LOOP") and LOCAP LLC ("LOCAP"), in which MPLX holds an interest. See Note 29 for more information. The assets of MPLX can only be used to settle its own obligations and its creditors have no recourse to our assets, except as noted earlier.

The following table presents balance sheet information for the assets and liabilities of MPLX, which are included in our balance sheets.

<i>(In millions)</i>	December 31, 2021	December 31, 2020
Assets		
Cash and cash equivalents	\$ 13	\$ 15
Receivables, less allowance for doubtful accounts	660	478
Inventories	142	118
Other current assets	55	67
Assets held for sale	—	188
Equity method investments	3,981	4,036
Property, plant and equipment, net	20,042	21,418
Goodwill	7,657	7,657
Right of use assets	268	309
Other noncurrent assets	891	1,006

<i>(In millions)</i>	December 31, 2021	December 31, 2020
Liabilities		
Accounts payable	\$ 671	\$ 468
Payroll and benefits payable	6	4
Accrued taxes	75	76
Debt due within one year	499	764
Operating lease liabilities	59	63
Liabilities held for sale	—	101
Other current liabilities	304	297
Long-term debt	18,072	19,375
Deferred income taxes	10	12
Long-term operating lease liabilities	205	244
Deferred credits and other liabilities	559	437

Non-Consolidated VIEs

Crowley Coastal Partners

In May 2016, Crowley Coastal Partners LLC (“Crowley Coastal Partners”) was formed to own an interest in both Crowley Ocean Partners LLC (“Crowley Ocean Partners”) and Crowley Blue Water Partners LLC (“Crowley Blue Water Partners”). We have determined that Crowley Coastal Partners is a VIE based on the terms of the existing financing arrangements for Crowley Blue Water Partners and Crowley Ocean Partners and the associated debt guarantees by MPC and Crowley. Our maximum exposure to loss at December 31, 2021 was \$401 million, which includes our equity method investment in Crowley Coastal Partners and the debt guarantees provided to each of the lenders to Crowley Blue Water Partners and Crowley Ocean Partners. We are not the primary beneficiary of this VIE because we do not have the ability to control the activities that significantly influence the economic outcomes of the entity and, therefore, do not consolidate the entity.

MPLX VIEs

For those entities that have been deemed to be VIEs, neither MPLX nor any of its subsidiaries have been deemed to be the primary beneficiary due to voting rights on significant matters. While we have the ability to exercise influence through participation in the management committees which make all significant decisions, we have equal influence over each committee as a joint interest partner and all significant decisions require the consent of the other investors without regard to economic interest and as such we have determined that these entities should not be consolidated and apply the equity method of accounting with respect to our investments in each entity.

Sherwood Midstream LLC (“Sherwood Midstream”) has been deemed the primary beneficiary of Sherwood Midstream Holdings LLC (“Sherwood Midstream Holdings”) due to its controlling financial interest through its authority to manage the joint venture. As a result, Sherwood Midstream consolidates Sherwood Midstream Holdings.

MPLX’s maximum exposure to loss as a result of its involvement with equity method investments includes its equity investment, any additional capital contribution commitments and any operating expenses incurred by the subsidiary operator in excess of its compensation received for the performance of the operating services.

We account for our ownership interest in each of these investments as an equity method investment. See Note 16 for ownership percentages and investment balances and Note 29 for our exposure to guarantees related to our non-consolidated VIEs.

9. RELATED PARTY TRANSACTIONS

Transactions with related parties were as follows:

<i>(In millions)</i>	2021	2020	2019
Sales to related parties	\$ 93	\$ 123	\$ 91
Purchases from related parties	962	738	763

Sales to related parties, which are included in sales and other operating revenues, consist primarily of refined product sales to certain of our equity affiliates.

Purchases from related parties are included in cost of revenues. We obtain utilities, transportation services and purchase ethanol from certain of our equity affiliates.

10. EARNINGS PER SHARE

We compute basic earnings (loss) per share by dividing net income (loss) attributable to MPC less income allocated to participating securities by the weighted average number of shares of common stock outstanding. Since MPC grants certain incentive compensation awards to employees and non-employee directors that are considered to be participating securities, we have calculated our earnings (loss) per share using the two-class method. Diluted income (loss) per share assumes exercise of certain stock-based compensation awards, provided the effect is not anti-dilutive.

<i>(In millions, except per share data)</i>	2021	2020	2019
Income (loss) from continuing operations, net of tax	\$ 2,553	\$ (11,182)	\$ 2,449
Less: Net income (loss) attributable to noncontrolling interest	1,263	(151)	618
Net income allocated to participating securities	2	1	1
Income (loss) from continuing operations available to common stockholders	1,288	(11,032)	1,830
Income from discontinued operations, net of tax	8,448	1,205	806
Income (loss) available to common stockholders	\$ 9,736	\$ (9,827)	\$ 2,636
Weighted average common shares outstanding:			
Basic	634	649	659
Effect of dilutive securities	4	—	5
Diluted	638	649	664
Income (loss) available to common stockholders per share:			
Basic:			
Continuing operations	\$ 2.03	\$ (16.99)	\$ 2.78
Discontinued operations	13.31	1.86	1.22
Net income (loss) per share	\$ 15.34	\$ (15.13)	\$ 4.00
Diluted:			
Continuing operations	\$ 2.02	\$ (16.99)	\$ 2.76
Discontinued operations	13.22	1.86	1.21
Net income (loss) per share	\$ 15.24	\$ (15.13)	\$ 3.97

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

<i>(In millions)</i>	2021	2020	2019
Shares issuable under stock-based compensation plans	3	11	3

11. EQUITY

In connection with the Speedway sale, our board of directors approved an additional \$7.1 billion share repurchase authorization bringing total share repurchase authorizations to \$10.0 billion prior to the June 2021 tender offer discussed below. The authorization has no expiration date.

We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, tender offers, accelerated share repurchases or open market solicitations for shares, some of which may be effected through Rule 10b5-1 plans. The timing and amount of future repurchases, if any, will depend upon several factors, including market and business conditions, and such repurchases may be suspended or discontinued at any time.

Total share repurchases were as follows for the respective periods:

<i>(In millions, except per share data)</i>	2021	2020	2019
Number of shares repurchased	76	—	34
Cash paid for shares repurchased	\$ 4,654	\$ —	\$ 1,950
Average cost per share	\$ 62.65	\$ —	\$ 58.87

As of December 31, 2021, MPC has \$5.27 billion remaining under its share repurchase authorizations, which reflects the repurchase of 1,335,776 common shares for \$85 million that settled in the first quarter of 2022.

During the second quarter of 2021, MPC completed a modified Dutch auction tender offer, purchasing 15,573,365 shares of its common stock at a purchase price of \$63.00 per share, for an aggregate purchase price of approximately \$981 million, excluding fees and expenses related to the tender offer. These amounts are included in the above table.

12. SEGMENT INFORMATION

We have two reportable segments: Refining & Marketing and Midstream. Each of these segments is organized and managed based upon the nature of the products and services it offers.

- Refining & Marketing – refines crude oil and other feedstocks, including renewable feedstocks, at our refineries in the Gulf Coast, Mid-Continent and West Coast regions of the United States, purchases refined products and ethanol for resale and distributes refined products, including renewable diesel, through transportation, storage, distribution and marketing services provided largely by our Midstream segment. We sell refined products to wholesale marketing customers domestically and internationally, to buyers on the spot market, to independent entrepreneurs who operate primarily Marathon[®] branded outlets and through long-term supply contracts with direct dealers who operate locations mainly under the ARCO[®] brand.
- Midstream – transports, stores, distributes and markets crude oil and refined products principally for the Refining & Marketing segment via refining logistics assets, pipelines, terminals, towboats and barges; gathers, processes and transports natural gas; and gathers, transports, fractionates, stores and markets NGLs. The Midstream segment primarily reflects the results of MPLX.

Segment income represents income (loss) from operations attributable to the reportable segments. Corporate consists primarily of MPC's corporate administrative expenses and costs related to certain non-operating assets, except for corporate overhead expenses attributable to MPLX, which are included in the Midstream segment. In addition, certain items that affect comparability (as determined by the chief operating decision maker ("CODM")) are not allocated to the reportable segments. Assets by segment are not a measure used to assess the performance of the company by the CODM and thus are not reported in our disclosures.

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

<i>(In millions)</i>	2021	2020	2019
Refining & Marketing	\$ 1,016	\$ (5,189)	\$ 2,856
Midstream	4,061	3,708	3,594
Segment income (loss) from operations	5,077	(1,481)	6,450
Corporate	(696)	(800)	(833)
Items not allocated to segments:			
Impairments ^(a)	(69)	(9,741)	(1,239)
Idling expenses	(12)	—	—
Restructuring expenses ^(b)	—	(367)	—
Litigation	—	84	(22)
Gain on sale of assets	—	66	—
Transaction-related costs ^(c)	—	(8)	(153)
Equity method investment restructuring gains ^(d)	—	—	259
Income (loss) from continuing operations	4,300	(12,247)	4,462
Net interest and other financial costs	1,483	1,365	1,229
Income (loss) from continuing operations before income taxes	<u>\$ 2,817</u>	<u>\$ (13,612)</u>	<u>\$ 3,233</u>

^(a) 2021 reflects impairments of equity method investments and long lived assets. 2020 reflects impairments of goodwill, equity method investments and long lived assets. 2019 reflects impairments of goodwill and equity method investments. See Note 7.

^(b) See Note 19.

^(c) 2020 and 2019 includes costs incurred in connection with the Midstream strategic review and other related efforts. 2019 includes employee severance, retention and other costs related to the acquisition of Andeavor. Costs incurred in connection with the Speedway separation are included in discontinued operations. See Note 5.

^(d) Non-cash benefits related to restructurings of our investments in The Andersons Marathon Holdings LLC ("TAMH") and Capline Pipeline Company LLC ("Capline LLC") in 2019.

The following reconciles segment depreciation and amortization to total depreciation and amortization as reported in the consolidated statements of income:

<i>(In millions)</i>	2021	2020	2019
Refining & Marketing	\$ 1,870	\$ 1,857	\$ 1,780
Midstream	1,329	1,353	1,267
Segment depreciation and amortization	3,199	3,210	3,047
Corporate	165	165	178
Total depreciation and amortization	<u>\$ 3,364</u>	<u>\$ 3,375</u>	<u>\$ 3,225</u>

The following reconciles segment revenues to sales and other operating revenues as reported in the consolidated statements of income:

<i>(In millions)</i>	2021	2020	2019
Refining & Marketing			
Revenues from external customers ^(a)	\$ 115,350	\$ 66,180	\$ 107,305
Intersegment revenues	144	67	103
Refining & Marketing segment revenues	<u>115,494</u>	<u>66,247</u>	<u>107,408</u>
Midstream			
Revenues from external customers ^(a)	4,633	3,599	3,843
Intersegment revenues	4,986	4,839	4,917
Midstream segment revenues	<u>9,619</u>	<u>8,438</u>	<u>8,760</u>
Total segment revenues	125,113	74,685	116,168
Less: intersegment revenues	5,130	4,906	5,020
Sales and other operating revenues	<u>\$ 119,983</u>	<u>\$ 69,779</u>	<u>\$ 111,148</u>

^(a) Includes Refining & Marketing intercompany sales to Speedway prior to May 14, 2021 and related party sales. See Notes 5 and 9 for additional information.

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

<i>(In millions)</i>	2021	2020	2019
Refining & Marketing	\$ 911	\$ 1,170	\$ 2,045
Midstream	731	1,398	3,290
Segment capital expenditures and investments	1,642	2,568	5,335
Less investments in equity method investees	210	485	1,064
Plus:			
Corporate	105	80	100
Capitalized interest	68	106	137
Total capital expenditures ^(a)	<u>\$ 1,605</u>	<u>\$ 2,269</u>	<u>\$ 4,508</u>

^(a) Includes changes in capital expenditure accruals. See Note 24 for a reconciliation of total capital expenditures to additions to property, plant and equipment as reported in the consolidated statements of cash flows.

Since we will continue to supply fuel to Speedway subsequent to the sale to 7-Eleven, we have reported intersegment sales to Speedway, that were previously eliminated in consolidation, as third-party sales. All periods presented have been retrospectively adjusted through the sale date of May 14, 2021 to reflect this change. Sales to Speedway/7-Eleven from the Refining & Marketing segment represented 11 percent, 11 percent and 12 percent of our total annual revenues for the years ended December 31, 2021, 2020 and 2019, respectively. See Note 23 for the disaggregation of our revenue by segment and product line.

We do not have significant operations in foreign countries. Therefore, revenues in foreign countries and long-lived assets located in foreign countries, including property, plant and equipment and investments, are not material to our operations.

13. NET INTEREST AND OTHER FINANCIAL COSTS

Net interest and other financial costs were as follows:

<i>(In millions)</i>	2021	2020	2019
Interest income	\$ (14)	\$ (9)	\$ (40)
Interest expense	1,340	1,462	1,389
Interest capitalized	(73)	(129)	(158)
Pension and other postretirement non-service costs ^(a)	64	11	4
(Gain) loss on extinguishment of debt	133	(9)	—
Other financial costs	33	39	34
Net interest and other financial costs	<u>\$ 1,483</u>	<u>\$ 1,365</u>	<u>\$ 1,229</u>

^(a) See Note 26.

14. INCOME TAXES

The provision (benefit) for income taxes from continuing operations consisted of:

<i>(In millions)</i>	2021	2020	2019
Current:			
Federal	\$ 380	\$ (2,267)	\$ (52)
State and local	48	69	28
Foreign	5	9	1
Total current	<u>433</u>	<u>(2,189)</u>	<u>(23)</u>
Deferred:			
Federal	(164)	90	742
State and local	(6)	(347)	56
Foreign	1	16	9
Total deferred	<u>(169)</u>	<u>(241)</u>	<u>807</u>
Income tax provision (benefit)	<u>\$ 264</u>	<u>\$ (2,430)</u>	<u>\$ 784</u>

Our effective tax rate for the year ended December 31, 2021 was lower than the tax computed at the U.S. statutory rate primarily due to certain permanent tax benefits related to net income attributable to noncontrolling interests and an increase in benefit related to the net operating loss (“NOL”) carryback provided under the Coronavirus Aid, Relief, and Economic Security Act (“CARES Act”), partially offset by state taxes and local income taxes.

Our effective income tax benefit rate for the year ended December 31, 2020 was lower than the tax benefit computed at the U.S. statutory rate due to a significant amount of our pre-tax loss consisting of non-deductible goodwill impairment charges, partially offset by the tax rate differential resulting from the NOL carryback provided under the CARES Act. Additionally, our non-controlling interest in MPLX generally provides an effective tax rate benefit since the tax associated with these ownership interests is paid by those interests, but this benefit was lower for the year ended December 31, 2020 due to impairment charges recorded by MPLX.

A reconciliation of the federal statutory income tax rate to the effective tax rate applied to income (loss) from continuing operations before income taxes follows:

	2021	2020	2019
Federal statutory rate	21 %	21 %	21 %
State and local income taxes, net of federal income tax effects	2	2	2
Goodwill impairment	—	(8)	5
Noncontrolling interests	(9)	—	(4)
Legislation	(3)	4	—
Other	(2)	(1)	—
Effective tax rate applied to income (loss) from continuing operations before income taxes	<u>9 %</u>	<u>18 %</u>	<u>24 %</u>

On March 27, 2020, the CARES Act was enacted by Congress and signed into law by President Trump in response to the COVID-19 pandemic. The CARES Act contained a NOL carryback provision which allowed MPC to carryback our 2020 taxable loss to 2015 and later years. The five-year NOL carryback is available for all businesses producing taxable losses in 2018 through 2020. Based on the NOL carryback, as provided by the CARES Act, we realized a cumulative income tax benefit of \$2.30 billion. We received \$1.55 billion of the income tax benefit in cash during the fourth quarter of 2021, an additional \$690 million was realized as an offset to 2021 income tax liability payment obligations and we expect to receive the remaining \$59 million refund during the first half of 2022.

Deferred tax assets and liabilities resulted from the following:

<i>(In millions)</i>	December 31,	
	2021	2020
Deferred tax assets:		
Employee benefits	\$ 495	\$ 647
Environmental remediation	91	95
Finance lease obligations	339	103
Operating lease liabilities	263	453
Net operating loss carryforwards	113	232
Tax credit carryforwards	19	19
Goodwill and other intangibles	35	—
Other	67	80
Total deferred tax assets	<u>1,422</u>	<u>1,629</u>
Deferred tax liabilities:		
Property, plant and equipment	2,716	3,195
Inventories	717	800
Investments in subsidiaries and affiliates	3,350	3,331
Goodwill and other intangibles	—	34
Right of use assets	257	451
Other	18	18
Total deferred tax liabilities	<u>7,058</u>	<u>7,829</u>
Net deferred tax liabilities	<u>\$ 5,636</u>	<u>\$ 6,200</u>

Net deferred tax liabilities were classified in the consolidated balance sheets as follows:

<i>(In millions)</i>	December 31,	
	2021	2020
Assets:		
Other noncurrent assets	\$ 2	\$ 3
Liabilities:		
Deferred income taxes ^(a)	<u>5,638</u>	<u>6,203</u>
Net deferred tax liabilities	<u>\$ 5,636</u>	<u>\$ 6,200</u>

^(a) The deferred income tax assets and liabilities associated with discontinued operations as of December 31, 2020 were realized upon the sale of Speedway.

At December 31, 2021 and 2020, federal operating loss carryforwards were \$4 million and \$4 million, respectively, which includes a mix of indefinite carryforward ability and expiration periods ranging from 2022 through 2037. As of December 31, 2021 and 2020, state and local operating loss carryforwards were \$109 million and \$228 million, respectively, which includes a mix of indefinite carryforward ability and expiration periods ranging from 2021 through 2042.

As of December 31, 2021 and 2020, \$38 million of valuation allowances have been recorded related to income taxes. A state and local valuation allowance was established as of December 31, 2021 and 2020, of \$7 million, based on expected realizability of state and local tax operating losses. A foreign valuation allowance was established as of December 31, 2021 of \$31 million, based on expected realizability of foreign tax operating losses and related deferred tax assets.

MPC is continuously undergoing examination of its U.S. federal income tax returns by the Internal Revenue Service (“IRS”). Since 2012, we have continued to participate in the Compliance Assurance Process (“CAP”). CAP is a real-time audit of the U.S. Federal income tax return that allows the IRS, working in conjunction with MPC, to determine tax return compliance with the U.S. Federal tax law prior to filing the return. This program provides us with greater certainty about our tax liability for years under examination by the IRS. While Andeavor also underwent continual IRS examination, it did not participate in the CAP for tax periods prior to October 1, 2018. During the fourth quarter 2021, Andeavor and its subsidiaries’ IRS audits were completed through the 2018 tax year. Furthermore during the fourth quarter of 2021, an IRS audit was initiated for MPLX and its subsidiaries for the tax year 2019.

Further, we are routinely involved in U.S. state income tax audits. We believe all other audits will be resolved with the amounts provided for these liabilities. As of December 31, 2021, we have various state and local income tax returns subject to examination for years 2006 through 2020, depending on jurisdiction.

The following table summarizes the activity in unrecognized tax benefits:

<i>(In millions)</i>	2021	2020	2019
January 1 balance	\$ 23	\$ 32	\$ 211
Additions for tax positions of current year	6	—	—
Additions for tax positions of prior years	19	12	2
Reductions for tax positions of prior years	(4)	(18)	(2)
Settlements	(6)	(3)	(19)
Statute of limitations	(1)	—	(160)
December 31 balance	<u>\$ 37</u>	<u>\$ 23</u>	<u>\$ 32</u>

If the unrecognized tax benefits as of December 31, 2021 were recognized, \$33 million would affect our effective income tax rate. There were \$19 million of uncertain tax positions as of December 31, 2021 for which it is reasonably possible that the amount of unrecognized tax benefits would significantly decrease during the next twelve months. For tax years 2009 and 2010, Andeavor had asserted a federal income tax claim for \$159 million from the income tax effect of the receipt of the ethanol blender’s excise tax credit, for which the tax benefit was not recorded. The statute of limitations for the IRS appeal process expired during the fourth quarter 2019 since the ability to obtain a refund was remote.

Interest and penalties related to income taxes are recorded as part of the provision for income taxes. Such interest and penalties were net expenses (benefits) of \$(2) million, \$(19) million and \$(2) million in 2021, 2020 and 2019, respectively. As of December 31, 2021 and 2020, \$6 million and \$5 million of interest and penalties receivables (payables) were accrued related to income taxes, respectively.

15. INVENTORIES

<i>(In millions)</i>	December 31,	
	2021	2020
Crude oil	\$ 2,639	\$ 2,588
Refined products	4,460	4,478
Materials and supplies	956	933
Total	<u>\$ 8,055</u>	<u>\$ 7,999</u>

The LIFO method accounted for 88 percent of total inventory value at both December 31, 2021 and 2020. Current acquisition costs were estimated to exceed the LIFO inventory value by \$2.84 billion as of December 31, 2021. There was no excess of replacement or current cost over our stated LIFO cost at December 31, 2020.

The cost of inventories of crude oil and refined products is determined primarily under the LIFO method. During 2020, we recorded a \$561 million charge to reflect LIFO liquidations for our crude oil and refined product inventories. The costs of inventories in the historical LIFO layers which were liquidated in 2020 were higher than current costs, which resulted in the charge to cost of revenues.

16. EQUITY METHOD INVESTMENTS

<i>(Dollars in millions)</i>	VIE	Ownership as of	Carrying value at	
		December 31, 2021	December 31, 2021	December 31, 2020
Refining & Marketing				
The Andersons Marathon Holdings LLC		50%	\$ 194	\$ 159
Watson Cogeneration Company		51%	28	25
Other ^(a)	X		19	—
Refining & Marketing Total			<u>241</u>	<u>184</u>
Midstream				
<i><u>MPLX</u></i>				
Andeavor Logistics Rio Pipeline LLC	X	67%	\$ 183	\$ 194
Centrahoma Processing LLC		40%	133	145
Explorer Pipeline Company		25%	66	72
Illinois Extension Pipeline Company, L.L.C		35%	243	254
LOOP LLC		41%	265	252
MarEn Bakken Company LLC		25%	449	465
MarkWest EMG Jefferson Dry Gas Gathering Company, L.L.C.	X	67%	332	307
MarkWest Torñado GP, L.L.C.	X	60%	246	188
MarkWest Utica EMG, L.L.C.	X	57%	680	698
Minnesota Pipe Line Company, LLC		17%	183	188
Rendezvous Gas Services, L.L.C.	X	78%	147	159
Sherwood Midstream Holdings LLC	X	51%	136	148
Sherwood Midstream LLC	X	50%	544	557
Whistler Pipeline LLC	X	38%	155	185
W2W Holdings LLC	X	50%	58	72
Other ^(a)	X		161	152
MPLX Total			<u>3,981</u>	<u>4,036</u>
<i><u>MPC-Retained</u></i>				
Capline Pipeline Company LLC	X	33%	\$ 399	\$ 390
Crowley Coastal Partners, LLC	X	50%	185	190
Gray Oak Pipeline, LLC		25%	318	342
LOOP LLC		10%	66	63
South Texas Gateway Terminal LLC		25%	173	168
Other ^(a)	X		46	49
MPC-Retained Total			<u>1,187</u>	<u>1,202</u>
Midstream Total			<u>5,168</u>	<u>5,238</u>
Total			<u>\$ 5,409</u>	<u>\$ 5,422</u>

^(a) Some investments included within "Other" have been deemed to be VIEs.

Summarized financial information for all equity method investments in affiliated companies, combined, was as follows:

<i>(In millions)</i>	2021	2020	2019
Income statement data:			
Revenues and other income	\$ 4,343	\$ 3,013	\$ 3,282
Income from operations	1,389	599	1,176
Net income	1,230	454	987
Balance sheet data – December 31:			
Current assets	\$ 1,233	\$ 1,298	
Noncurrent assets	18,071	17,697	
Current liabilities	801	754	
Noncurrent liabilities	5,141	4,736	

As of December 31, 2021, the carrying value of our equity method investments was \$319 million higher than the underlying net assets of investees. This basis difference is being amortized into net income over the remaining estimated useful lives of the underlying net assets, except for \$208 million of excess related to goodwill and other non-depreciable assets.

Dividends and partnership distributions received from equity method investees (excluding distributions that represented a return of capital previously contributed) were \$652 million, \$577 million and \$569 million in 2021, 2020 and 2019, respectively.

See Note 7 for information regarding impairments of equity method investments.

17. PROPERTY, PLANT AND EQUIPMENT

<i>(In millions)</i>	December 31, 2021			December 31, 2020		
	Gross PP&E	Accumulated Depreciation	Net PP&E	Gross PP&E	Accumulated Depreciation	Net PP&E
Refining & Marketing	\$ 31,089	\$ 14,876	\$ 16,213	\$ 30,306	\$ 13,257	\$ 17,049
Midstream	28,098	7,384	20,714	27,677	6,217	21,460
Corporate	1,446	933	513	1,356	830	526
Total ^(a)	\$ 60,633	\$ 23,193	\$ 37,440	\$ 59,339	\$ 20,304	\$ 39,035

^(a) Includes finance leases. See Note 28.

Property, plant and equipment includes construction in progress of \$2.27 billion and \$1.83 billion at December 31, 2021 and 2020, respectively, which primarily relates to capital projects at our refineries and midstream facilities.

18. GOODWILL AND INTANGIBLES

Goodwill

MPC annually evaluates goodwill for impairment as of November 30, as well as whenever events or changes in circumstances indicate it is more likely than not that the fair value of a reporting unit with goodwill is less than its carrying amount.

MPC had four reporting units with goodwill totaling approximately \$8.26 billion. For the annual impairment assessment as of November 30, 2021, management performed only a qualitative assessment for two reporting units as we determined it was more likely than not that the fair value of the reporting units exceeded the carrying value. A quantitative assessment was performed for the remaining two reporting units, which resulted in the fair value of the reporting units exceeding their carrying value by 23 percent and 51 percent. Significant assumptions used to estimate the reporting units' fair value included estimates of future cash flows and market information for comparable assets. If estimates for future cash flows, which are impacted by future margins on products produced or sold, future volumes, and capital requirements, were to decline, the overall reporting units' fair values would decrease, resulting in potential goodwill impairment charges. Fair value determinations require considerable judgment and are sensitive to changes in underlying assumptions and factors. As a result, there can be no assurance that the estimates and assumptions made for purposes of the impairment tests will prove to be an accurate prediction of the future. The fair value measurements for the individual reporting units represent Level 3 measurements.

The changes in the carrying amount of goodwill for 2021 and 2020 were as follows:

<i>(In millions)</i>	Refining & Marketing	Midstream	Total
Balance at January 1, 2019	\$ 6,133	\$ 9,517	\$ 15,650
Transfers	8	(8)	—
Impairments ^(a)	(5,580)	(1,814)	(7,394)
Balance at December 31, 2021 and December 31, 2020	<u>\$ 561</u>	<u>\$ 7,695</u>	<u>\$ 8,256</u>

^(a) See Note 7.

Intangible Assets

Our definite lived intangible assets as of December 31, 2021 and 2020 are as shown below.

<i>(In millions)</i>	December 31, 2021			December 31, 2020		
	Gross	Accumulated Amortization	Net	Gross	Accumulated Amortization	Net
Customer contracts and relationships	\$ 3,495	\$ 1,457	\$ 2,038	\$ 3,359	\$ 1,119	\$ 2,240
Brand rights and tradenames	100	50	50	100	35	65
Royalty agreements	135	96	39	133	87	46
Other	36	28	8	36	27	9
Total	<u>\$ 3,766</u>	<u>\$ 1,631</u>	<u>\$ 2,135</u>	<u>\$ 3,628</u>	<u>\$ 1,268</u>	<u>\$ 2,360</u>

At both December 31, 2021 and 2020, we had indefinite lived intangible assets \$71 million, which are emission allowance credits.

Amortization expense for 2021 and 2020 was \$330 million and \$336 million, respectively. Estimated future amortization expense for the next five years related to the intangible assets at December 31, 2021 is as follows:

<i>(In millions)</i>	
2022	\$ 328
2023	312
2024	261
2025	243
2026	225

19. RESTRUCTURING

During the third quarter of 2020, we indefinitely idled our refinery located in Gallup, New Mexico and initiated actions to strategically reposition our Martinez, California refinery to a renewable diesel facility. We also approved an involuntary workforce reduction plan. In connection with these strategic actions, we recorded restructuring expenses of \$367 million in 2020.

The indefinite idling of the Gallup refinery and actions to strategically reposition the Martinez refinery to a renewable diesel facility resulted in \$195 million of restructuring expenses. Of the \$195 million of restructuring expenses, we expect \$130 million to settle in cash for costs related to decommissioning refinery processing units and storage tanks and fulfilling environmental remediation obligations. Additionally, we recorded a non-cash reserve against our materials and supplies inventory at these facilities of \$51 million.

The involuntary workforce reduction plan, together with employee reductions resulting from our actions affecting the Gallup and Martinez refineries, affected approximately 2,050 employees. We recorded \$172 million of restructuring expenses for separation benefits payable under our employee separation plan and certain collective bargaining agreements that we expect to settle in cash. Certain of the affected MPC employees provided services to MPLX. MPLX has various employee services agreements and secondment agreements with MPC pursuant to which MPLX reimburses MPC for employee costs, along with the provision of operational and management services in support of MPLX's operations. Pursuant to such agreements, MPC was reimbursed by MPLX for \$37 million of the \$172 million of restructuring expenses recorded for these actions.

Restructuring expenses were accrued as restructuring reserves within accounts payable, payroll and benefits payable, other current liabilities and deferred credits and other liabilities within our consolidated balance sheets. We expect cash payments for the remaining exit and disposal costs reserve to occur through 2024.

<i>(In millions)</i>	Employee separation costs	Exit and disposal costs	Total
Restructuring reserve balance at September 30, 2020 ^(a)	\$ 158	\$ 133	\$ 291
Adjustments	14	5	19
Cash payments	(134)	(35)	(169)
Restructuring reserve balance at December 31, 2020	38	103	141
Cash payments	(38)	(44)	(82)
Restructuring reserve balance at December 31, 2021	<u>\$ —</u>	<u>\$ 59</u>	<u>\$ 59</u>

^(a) The restructuring reserve was zero until the third quarter of 2020.

20. FAIR VALUE MEASUREMENTS

Fair Values – Recurring

The following tables present assets and liabilities accounted for at fair value on a recurring basis as of December 31, 2021 and 2020 by fair value hierarchy level. We have elected to offset the fair value amounts recognized for multiple derivative contracts executed with the same counterparty, including any related cash collateral as shown below; however, fair value amounts by hierarchy level are presented on a gross basis in the following tables.

December 31, 2021						
<i>(In millions)</i>	Fair Value Hierarchy			Netting and Collateral ^(a)	Net Carrying Value on Balance Sheet ^(b)	Collateral Pledged Not Offset
	Level 1	Level 2	Level 3			
Assets:						
Commodity contracts	\$ 270	\$ 1	\$ —	\$ (235)	\$ 36	\$ 34
Liabilities:						
Commodity contracts	\$ 248	\$ 1	\$ —	\$ (249)	\$ —	\$ —
Embedded derivatives in commodity contracts	—	—	108	—	108	—
December 31, 2020						
<i>(In millions)</i>	Fair Value Hierarchy			Netting and Collateral ^(a)	Net Carrying Value on Balance Sheet ^(b)	Collateral Pledged Not Offset
	Level 1	Level 2	Level 3			
Assets:						
Commodity contracts	\$ 82	\$ 6	\$ —	\$ (80)	\$ 8	\$ 31
Liabilities:						
Commodity contracts	\$ 81	\$ 10	\$ —	\$ (91)	\$ —	\$ —
Embedded derivatives in commodity contracts	—	—	63	—	63	—

^(a) Represents the impact of netting assets, liabilities and cash collateral when a legal right of offset exists. As of December 31, 2021, cash collateral of \$14 million was netted with mark-to-market liabilities. As of December 31, 2020, cash collateral of \$11 million was netted with mark-to-market derivative liabilities.

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

Level 3 instruments include embedded derivatives in commodity contracts. The embedded derivative liability relates to a natural gas purchase agreement embedded in a keep-whole processing agreement. The fair value calculation for these Level 3 instruments at December 31, 2021 used significant unobservable inputs including: (1) NGL prices interpolated and extrapolated due to inactive markets ranging from \$0.72 to \$1.79 per gallon with a weighted average of \$0.92 per gallon and (2) the probability of renewal of 100 percent for the five-year term of the natural gas purchase agreement and the related keep-whole processing agreement. Increases or decreases in the fractionation spread result in an increase or decrease in the fair value of the embedded derivative liability.

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

<i>(In millions)</i>	2021	2020
Beginning balance	\$ 63	\$ 60
Unrealized and realized losses included in net income	59	9
Settlements of derivative instruments	(14)	(6)
Ending balance	\$ 108	\$ 63

The amount of total losses for the period included in earnings attributable to the change in unrealized losses relating to assets still held at the end of period:	\$ 47	\$ 4
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See Note 21 for the income statement impacts of our derivative instruments.

Fair Values – Reported

We believe the carrying value of our other financial instruments, including cash and cash equivalents, receivables, accounts payable and certain accrued liabilities approximate fair value. Our fair value assessment incorporates a variety of considerations, including the short-term duration of the instruments and the expected insignificance of bad debt expense, which includes an evaluation of counterparty credit risk. The borrowings under our revolving credit facilities, which include variable interest rates, approximate fair value. The fair value of our fixed and floating rate long-term debt is based on prices from recent trade activity and is categorized in Level 3 of the fair value hierarchy. The carrying and fair values of our debt were approximately \$25.1 billion and \$28.1 billion at December 31, 2021, respectively, and approximately \$31.1 billion and \$34.9 billion at December 31, 2020, respectively. These carrying and fair values of our debt exclude the unamortized issuance costs which are netted against our total debt.

21. DERIVATIVES

For further information regarding the fair value measurement of derivative instruments, including any effect of master netting agreements or collateral, see Note 20. See Note 2 for a discussion of the types of derivatives we use and the reasons for them. We do not designate any of our commodity derivative instruments as hedges for accounting purposes.

The following table presents the fair value of derivative instruments as of December 31, 2021 and 2020 and the line items in the balance sheets in which the fair values are reflected. The fair value amounts below are presented on a gross basis and do not reflect the netting of asset and liability positions permitted under the terms of our master netting arrangements including cash collateral on deposit with, or received from, brokers. We offset the recognized fair value amounts for multiple derivative instruments executed with the same counterparty in our financial statements when a legal right of offset exists. As a result, the asset and liability amounts below will not agree with the amounts presented in our consolidated balance sheets.

<i>(In millions)</i>	December 31, 2021		December 31, 2020	
<u>Balance Sheet Location</u>	Asset	Liability	Asset	Liability
Commodity derivatives				
Other current assets	\$ 271	\$ 249	\$ 88	\$ 91
Other current liabilities ^(a)	—	15	—	7
Deferred credits and other liabilities ^(a)	—	93	—	56

^(a) Includes embedded derivatives.

The table below summarizes open commodity derivative contracts for crude oil, refined products and blending products as of December 31, 2021.

<i>(Units in thousands of barrels)</i>	Percentage of contracts that expire next quarter	Position	
		Long	Short
Exchange-traded ^(a)			
Crude oil	68.3%	45,680	44,532
Refined products	87.2%	11,262	12,678
Blending products	99.7%	4,963	6,050
Soybean oil	99.4%	1,141	1,825

^(a) Included in exchange-traded are spread contracts in thousands of barrels: Crude oil - 1,120 long and 1,140 short; Refined products - 869 long; Blending products - 26 long and 44 short. There are no spread contracts for soybean oil.

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

<i>(In millions)</i> Income Statement Location	Gain (Loss)		
	2021	2020	2019
Sales and other operating revenues	\$ (47)	\$ 72	\$ (19)
Cost of revenues	(333)	34	(77)
Other income	—	1	—
Total	<u>\$ (380)</u>	<u>\$ 107</u>	<u>\$ (96)</u>

22. DEBT

Our outstanding borrowings at December 31, 2021 and 2020 consisted of the following:

<i>(In millions)</i>	December 31, 2021	December 31, 2020
Marathon Petroleum Corporation:		
Commercial paper	\$ —	\$ 1,024
Senior notes	6,449	9,849
Notes payable	1	1
Finance lease obligations	589	634
Total	<u>7,039</u>	<u>11,508</u>
MPLX LP:		
Bank revolving credit facility	300	175
Senior notes	18,600	20,350
Finance lease obligations	9	11
Total	<u>18,909</u>	<u>20,536</u>
Total debt	25,948	32,044
Unamortized debt issuance costs	(129)	(154)
Unamortized discount, net of unamortized premium	(280)	(306)
Amounts due within one year	(571)	(2,854)
Total long-term debt due after one year	<u>\$ 24,968</u>	<u>\$ 28,730</u>

Commercial Paper

On February 26, 2016, we established a commercial paper program that allows us to have a maximum of \$2.0 billion in commercial paper outstanding, with maturities up to 397 days from the date of issuance. We do not intend to have outstanding commercial paper borrowings in excess of available capacity under our bank revolving credit facilities.

MPC Senior Notes

<i>(In millions)</i>	December 31,	
	2021	2020
Senior notes, 5.125% due March 2021	\$ —	\$ 1,000
Senior notes, 4.500% due May 2023	—	1,250
Senior notes, 4.750% due December 2023	—	614
Senior notes, 5.125% due April 2024	—	241
Senior notes, 3.625% due September 2024	750	750
Senior notes, 4.700% due May 2025	1,250	1,250
Senior notes, 5.125% due December 2026	719	719
Senior notes, 3.800% due April 2028	496	496
Senior notes, 6.500% due March 2041	1,250	1,250
Senior notes, 4.750% due September 2044	800	800
Senior notes, 5.850% due December 2045	250	250
Senior notes, 4.500% due April 2048	498	498
Andeavor senior notes, 3.800% - 5.375% due 2023 – 2048	36	331
Senior notes, 5.000%, due September 2054	400	400
Total	<u>\$ 6,449</u>	<u>\$ 9,849</u>

2021 Activity

On March 1, 2021, we repaid the \$1.0 billion outstanding aggregate principal amount of 5.125% senior notes due March 2021.

In June 2021, all of the \$300 million outstanding aggregate principal amount of 5.125% senior notes due April 2024, including the portion of such notes for which Andeavor was the obligor, were redeemed at a price equal to 100.854% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.

On December 2, 2021, all of the \$1.25 billion outstanding aggregate principal amount 4.5% senior notes due May 2023 and the \$850 million outstanding aggregate principal amount of 4.75% senior notes due December 2023, including the portion of such notes for which Andeavor LLC was the obligor, were redeemed at a price equal to par, plus a make-whole premium and accrued and unpaid interest to, but not including, the redemption date. The payment of \$132 million related to the note premium, offset by the immediate expense recognition of \$6 million of unamortized debt premium and issuance costs, resulted in a loss on extinguishment of debt of \$126 million.

2020 Activity

On April 27, 2020, we issued \$2.5 billion aggregate principal amount of senior notes in a public offering, consisting of \$1.25 billion aggregate principal amount of 4.500% senior notes due May 2023 and \$1.25 billion aggregate principal amount of 4.700% senior notes due May 2025. MPC used the net proceeds from this offering to repay amounts outstanding under its five-year revolving credit facility.

On October 1, 2020, all of the \$475 million outstanding aggregate principal amount of 5.375% senior notes due October 2022, including the portion of such notes for which Andeavor was the obligor, were redeemed at a price equal to par, plus accrued and unpaid interest to, but not including, the redemption date.

On November 15, 2020, all of the \$650 million outstanding aggregate principal amount of 3.400% senior notes due December 2020 were redeemed at a price equal to par, plus accrued and unpaid interest to, but not including, the redemption date.

Interest on each series of senior notes is payable semi-annually in arrears. The MPC senior notes are unsecured and unsubordinated obligations of MPC and rank equally with all of MPC's other existing and future unsecured and unsubordinated indebtedness. The MPC senior notes are non-recourse and structurally subordinated to the indebtedness of our subsidiaries, including the outstanding indebtedness of Andeavor and MPLX. The Andeavor senior notes are unsecured, unsubordinated obligations of Andeavor and are non-recourse to MPC and any of MPC's subsidiaries other than Andeavor.

MPLX Term Loan Facility

The \$1.0 billion of outstanding borrowings under the MPLX term loan facility was repaid during 2020 with net proceeds from the issuance of MPLX senior notes discussed below.

MPLX Senior Notes

<i>(In millions)</i>	December 31,	
	2021	2020
Floating rate notes due September 2022	\$ —	\$ 1,000
Senior notes, 3.500% due December 2022	486	486
Senior notes, 3.375% due March 2023	500	500
Senior notes, 4.500% due July 2023	989	989
Senior notes, 4.875% due December 2024	1,149	1,149
Senior notes, 5.250% due January 2025	—	708
Senior notes, 4.000% due February 2025	500	500
Senior notes, 4.875% due June 2025	1,189	1,189
MarkWest senior notes, 4.500% - 4.875% due 2023 – 2025	23	23
Senior notes, 1.750% due March 2026	1,500	1,500
Senior notes, 4.125% due March 2027	1,250	1,250
Senior notes, 4.250% due December 2027	732	732
Senior notes, 4.000% due March 2028	1,250	1,250
Senior notes, 4.800% due February 2029	750	750
Senior notes, 2.650% due August 2030	1,500	1,500
Senior notes, 4.500% due April 2038	1,750	1,750
Senior notes, 5.200% due March 2047	1,000	1,000
Senior notes, 5.200% due December 2047	487	487
ANDX senior notes, 3.500% - 5.250% due 2022 – 2047	45	87
Senior notes, 4.700% due April 2048	1,500	1,500
Senior notes, 5.500% due February 2049	1,500	1,500
Senior notes, 4.900% due April 2058	500	500
Total	<u>\$ 18,600</u>	<u>\$ 20,350</u>

2021 Activity

On January 15, 2021, MPLX redeemed all the \$750 million outstanding aggregate principal amount of 5.250% senior notes due January 2025, including the portion of such notes issued by ANDX, at a price equal to 102.625% of the principal amount, plus accrued and unpaid interest to, but not including, the redemption date.

On September 3, 2021 MPLX redeemed, at par value, all of the \$1.0 billion aggregate principal amount of floating rate senior notes due September 2022, plus accrued and unpaid interest to, but not including, the redemption date. MPLX primarily funded the redemption with borrowings under the MPC intercompany loan agreement.

2020 Activity

On August 18, 2020, MPLX issued \$3.0 billion aggregate principal amount of senior notes in a public offering, consisting of \$1.5 billion aggregate principal amount of 1.750% senior notes due March 2026 and \$1.5 billion aggregate principal amount of 2.650% senior notes due August 2030. The net proceeds were used to repay \$1.0 billion of outstanding borrowings under the MPLX term loan agreement, to repay the \$1.0 billion aggregate principal amount of floating rate senior notes due September 2021, to redeem all of the \$300 million aggregate principal amount of MPLX's 6.250% senior notes due October 2022 and to redeem the \$450 million aggregate principal amount of 6.375% senior notes due May 2024, including the portion of such notes issued by ANDX. The remaining net proceeds were used for general business purposes.

Interest on each series of MPLX fixed rate senior notes is payable semi-annually in arrears. The MPLX senior notes are unsecured, unsubordinated obligations of MPLX and are non-recourse to MPC and its subsidiaries other than MPLX and MPLX GP LLC, as the general partner of MPLX.

Schedule of Maturities

Principal maturities of long-term debt, excluding finance lease obligations, as of December 31, 2021 for the next five years are as follows:

(In millions)

2022	\$	500
2023		1,500
2024		2,201
2025		2,950
2026		2,249

Available Capacity under our Facilities as of December 31, 2021

<i>(Dollars in millions)</i>	Total Capacity	Outstanding Borrowings	Outstanding Letters of Credit	Available Capacity	Weighted Average Interest Rate	Expiration
<i>MPC, excluding MPLX</i>						
MPC bank revolving credit facility	\$ 5,000	\$ —	\$ 1	\$ 4,999	—	October 2023
MPC trade receivables securitization facility ^(a)	250	—	250	—	—	September 2022
<i>MPLX</i>						
MPLX bank revolving credit facility	3,500	300	—	3,200	1.33	July 2024

^(a) The committed capacity of the trade receivables securitization facility is \$100 million. The facility allows the banks to make loans and issue letters of credit of up to \$400 million in excess of the committed capacity at their discretion if there is available borrowing capacity.

MPC Five-Year Bank Revolving Credit Facility

On August 28, 2018, in connection with the Andeavor acquisition, MPC entered into a credit agreement with a syndicate of lenders providing for a \$5.0 billion five-year revolving credit facility that expires in 2023. The five-year credit agreement became effective on October 1, 2018.

MPC has an option under its \$5.0 billion five-year credit agreement to increase the aggregate commitments by up to an additional \$1.0 billion, subject to, among other conditions, the consent of the lenders whose commitments would be increased. In addition, MPC may request up to two one-year extensions of the maturity date of the five-year credit agreement subject to, among other conditions, the consent of lenders holding a majority of the commitments, provided that the commitments of any non-consenting lenders will terminate on the then-effective maturity date. The five-year credit agreement includes sub-facilities for swing-line loans of up to \$250 million and letters of credit of up to \$2.2 billion (which may be increased to up to \$3.0 billion upon receipt of additional letter of credit issuing commitments).

Borrowings under the MPC five-year credit agreement bear interest, at our election, at either the Adjusted LIBO Rate or the Alternate Base Rate (both as defined in the MPC five-year credit agreement), plus an applicable margin. We are charged various fees and expenses under the MPC five-year credit agreement, including administrative agent fees, commitment fees on the unused portion of the commitments and fees related to issued and outstanding letters of credit. The applicable margins to the benchmark interest rates and the commitment fees payable under the MPC five-year credit agreement fluctuate based on changes, if any, to our credit ratings.

The MPC five-year credit agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for arrangements of this type, including a financial covenant that requires us to maintain a ratio of Consolidated Net Debt to Total Capitalization (each as defined in the MPC five-year credit agreement) of no greater than 0.65 to 1.00 as of the last day of each fiscal quarter. The covenants also restrict, among other things, our ability and/or the ability of certain of our subsidiaries to incur debt, create liens on assets or enter into transactions with affiliates. As of December 31, 2021, we were in compliance with the covenants contained in the MPC five-year credit agreement.

MPC 364-Day Bank Revolving Credit Facilities

On September 23, 2020, MPC entered into a 364-day credit agreement with a syndicate of lenders. This revolving credit agreement provided for a \$1.0 billion unsecured revolving credit facility that was scheduled to mature in September 2021. In June 2021, we elected to terminate this credit agreement. There were no borrowings under this credit facility, and we determined that the incremental borrowing capacity of the facility was no longer necessary. We incurred no early termination fees as a result of the early termination of this credit agreement.

On April 27, 2020, MPC entered into an additional 364-day revolving credit agreement that provided for a \$1.0 billion unsecured revolving credit facility that was scheduled to mature in April 2021. In February 2021, we elected to terminate this credit agreement. This facility provided us with additional liquidity and financial flexibility during the then ongoing commodity price and demand downturn. There were no borrowings under this credit facility, and we determined that the incremental borrowing capacity of the facility was no longer necessary. We do not intend to replace this facility. We incurred no early termination fees as a result of the early termination of this credit agreement.

Trade Receivables Securitization Facility

On September 30, 2021, we entered into a Loan and Security Agreement and related documentation with a group of lenders providing for a new trade receivables securitization facility having \$100 million of committed borrowing and letter of credit issuance capacity and up to an additional \$400 million of uncommitted borrowing and letter of credit issuance capacity that can be extended at the discretion of the lenders, provided that at no time may outstanding borrowings and letters of credit issued under the facility exceed the balance of eligible trade receivables (as calculated in accordance with the Loan and Security Agreement) that are pledged as collateral under the facility. The new facility is scheduled to expire on September 29, 2022, unless extended, and replaces our previous trade receivables securitization facility that expired on July 16, 2021.

The trade receivables facility consists of certain of our wholly-owned subsidiaries (“Originators”) selling or contributing on an on-going basis all of the trade receivables generated by them (the “Pool Receivables”), together with all related security and interests in the proceeds thereof, without recourse, to another wholly-owned, bankruptcy-remote special purpose subsidiary, MPC Trade Receivables Company I LLC (“TRC”), in exchange for a combination of cash, equity and/or borrowings under a subordinated note issued by TRC. TRC may request borrowings and extensions of credit under the Loan and Security Agreement for up to the lesser of the maximum capacity under the facility or the eligible trade receivables balance of the Pool Receivables. TRC and each of the Originators have granted a security interest in all of their rights, title and interests in and to the Pool Receivables, together with all related security and interests in the proceeds thereof, to the lenders to secure the performance of TRC’s and the Originators’ payment and other obligations under the facility. In addition, MPC has issued a performance guaranty in favor of the lenders guaranteeing the performance by TRC and the Originators of their obligations under the facility.

To the extent that TRC retains an ownership interest in the Pool Receivables, such interest will be included in our consolidated financial statements solely as a result of the consolidation of the financial statements of TRC with those of MPC. The receivables sold or contributed to TRC are available first and foremost to satisfy claims of the creditors of TRC and are not available to satisfy the claims of creditors of MPC. TRC has granted a security interest in all of its assets to the lenders to secure its obligations under the Loan and Security Agreement.

TRC pays floating-rate interest charges and usage fees on amounts outstanding under the trade receivables facility, if any, unused fees on the portion of unused commitments and certain other fees related to the administration of the facility and letters of credit that are issued and outstanding under the trade receivables facility.

The Loan and Security Agreement and other documents comprising the facility contain representations and covenants that we consider usual and customary for arrangements of this type. Trade receivables are subject to customary criteria, limits and reserves before being deemed to be eligible receivables that count towards the borrowing base under the trade receivables facility. In addition, the lender’s commitments to extend loans and credits under the facility are subject to termination, and TRC may be subject to default fees, upon the occurrence of certain events of default that are included in the Loan and Security Agreement and other facility documentation, all of which we consider to be usual and customary for arrangements of this type. As of December 31, 2021, we were in compliance with the covenants contained in the Loan and Security Agreement and other facility documentation.

MPLX Bank Revolving Credit Facility

Upon the completion of the merger of MPLX and ANDX on July 30, 2019, the MPLX bank revolving credit facility was amended and restated to increase the borrowing capacity to \$3.5 billion and to extend the maturity date to July 30, 2024. The ANDX revolving and dropdown credit facilities were terminated and all outstanding balances were repaid and funded with borrowings under the amended and restated MPLX \$3.5 billion bank revolving credit facility.

The MPLX credit agreement includes letter of credit issuing capacity of up to approximately \$300 million and swingline loan capacity of up to \$150 million. The revolving borrowing capacity may be increased by up to an additional \$1.0 billion, subject to certain conditions, including the consent of the lenders whose commitments would increase.

Borrowings under the MPLX credit agreement bear interest, at MPLX’s election, at the Adjusted LIBO Rate or the Alternate Base Rate (both as defined in the MPLX credit agreement) plus an applicable margin. MPLX is charged various fees and expenses in connection with the agreement, including administrative agent fees, commitment fees on the unused portion of the commitments and fees with respect to issued and outstanding letters of credit. The applicable margins to the benchmark interest rates and the commitment fees payable under the MPLX credit agreement fluctuate based on changes, if any, to MPLX’s credit ratings.

The MPLX credit agreement contains certain representations and warranties, affirmative and restrictive covenants and events of default that we consider to be usual and customary for an agreement of this type, including a financial covenant that requires MPLX to maintain a ratio of Consolidated Total Debt as of the end of each fiscal quarter to Consolidated EBITDA (both as

defined in the MPLX credit agreement) for the prior four fiscal quarters of no greater than 5.0 to 1.0 (or 5.5 to 1.0 for up to two fiscal quarters following certain acquisitions). Consolidated EBITDA is subject to adjustments for certain acquisitions completed and capital projects undertaken during the relevant period. The covenants also restrict, among other things, MPLX's ability and/or the ability of certain of its subsidiaries to incur debt, create liens on assets and enter into transactions with affiliates. As of December 31, 2021, MPLX was in compliance with the covenants contained in the MPLX credit agreement.

23. REVENUE

The following table presents our revenues from external customers disaggregated by segment and product line:

<i>(In millions)</i>	2021	2020	2019
Refining & Marketing			
Refined products	\$ 107,345	\$ 61,648	\$ 102,316
Crude oil	7,132	4,023	4,402
Services and other	873	509	587
Total revenues from external customers	<u>115,350</u>	<u>66,180</u>	<u>107,305</u>
Midstream			
Refined products	1,590	641	818
Services and other	3,043	2,958	3,025
Total revenues from external customers	<u>4,633</u>	<u>3,599</u>	<u>3,843</u>
Sales and other operating revenues	<u>\$ 119,983</u>	<u>\$ 69,779</u>	<u>\$ 111,148</u>

We do not disclose information on the future performance obligations for any contract with expected duration of one year or less at inception. As of December 31, 2021, we do not have future performance obligations that are material to future periods.

Receivables

On the accompanying consolidated balance sheets, receivables, less allowance for doubtful accounts primarily consists of customer receivables. Significant, non-customer balances included in our receivables at December 31, 2021 include matching buy/sell receivables of \$5.23 billion.

24. SUPPLEMENTAL CASH FLOW INFORMATION

<i>(In millions)</i>	2021	2020	2019
Net cash provided by operating activities included:			
Interest paid (net of amounts capitalized)	\$ 1,231	\$ 1,235	\$ 1,168
Net income taxes paid to (received from) taxing authorities	2,436	(179)	491
Cash paid for amounts included in the measurement of lease liabilities			
Payments on operating leases	569	651	642
Interest payments under finance lease obligations	21	25	28
Net cash provided by financing activities included:			
Principal payments under finance lease obligations	71	66	48
Non-cash investing and financing activities:			
Right of use assets obtained in exchange for new operating lease obligations	349	343	329
Right of use assets obtained in exchange for new finance lease obligations	37	110	80
Contribution of assets ^(a)	—	—	266
Fair value of assets acquired ^(b)	—	—	525

^(a) 2019 includes the contribution of net assets to TAMH and Capline LLC.

^(b) 2019 includes the recognition of TAMH and Capline LLC equity method investments.

The consolidated statements of cash flows exclude changes to the consolidated balance sheets that did not affect cash. The following is a reconciliation of additions to property, plant and equipment to total capital expenditures:

<i>(In millions)</i>	2021	2020	2019
Additions to property, plant and equipment per the consolidated statements of cash flows	\$ 1,464	\$ 2,787	\$ 4,810
Asset retirement expenditures	—	—	1
Increase (decrease) in capital accruals	141	(518)	(303)
Total capital expenditures	<u>\$ 1,605</u>	<u>\$ 2,269</u>	<u>\$ 4,508</u>

25. ACCUMULATED OTHER COMPREHENSIVE LOSS

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

<i>(In millions)</i>	Pension Benefits	Other Benefits	Other	Total
Balance as of December 31, 2019	\$ (212)	\$ (116)	\$ 8	\$ (320)
Other comprehensive income (loss) before reclassifications, net of tax of \$(65)	(136)	(67)	4	(199)
Amounts reclassified from accumulated other comprehensive loss:				
Amortization – prior service credit ^(a)	(45)	—	—	(45)
– actuarial loss ^(a)	36	3	—	39
– settlement loss ^(a)	22	—	—	22
Other	—	—	(6)	(6)
Tax effect	(3)	(1)	1	(3)
Other comprehensive loss	<u>(126)</u>	<u>(65)</u>	<u>(1)</u>	<u>(192)</u>
Balance as of December 31, 2020	<u>\$ (338)</u>	<u>\$ (181)</u>	<u>\$ 7</u>	<u>\$ (512)</u>

<i>(In millions)</i>	Pension Benefits	Other Benefits	Other	Total
Balance as of December 31, 2020	\$ (338)	\$ (181)	\$ 7	\$ (512)
Other comprehensive income (loss) before reclassifications, net of tax of \$127	171	220	(5)	386
Amounts reclassified from accumulated other comprehensive loss:				
Amortization – prior service cost (credit) ^(a)	(45)	2	—	(43)
– actuarial loss ^(a)	37	10	—	47
– settlement loss ^(a)	75	1	—	76
Other	—	—	(1)	(1)
Tax effect	(17)	(3)	—	(20)
Other comprehensive income (loss)	<u>221</u>	<u>230</u>	<u>(6)</u>	<u>445</u>
Balance as of December 31, 2021	<u>\$ (117)</u>	<u>\$ 49</u>	<u>\$ 1</u>	<u>\$ (67)</u>

^(a) These accumulated other comprehensive loss components are included in the computation of net periodic benefit cost. See Note 26.

26. PENSION AND OTHER POSTRETIREMENT BENEFITS

We have noncontributory defined benefit pension plans covering substantially all employees. Benefits under these plans have been based primarily on age, years of service and final average pensionable earnings. The years of service component of these formulae was frozen as of December 31, 2009. Certain of the pensionable earnings components were frozen as of December 31, 2012. Benefits for service beginning January 1, 2010 and beginning on January 1, 2016 are based on a cash balance formula with an annual percentage of eligible pay credited based upon age and years of service or at a flat rate of eligible pay, depending on covered employee group. Substantially all of our employees also accrue benefits under a defined contribution plan.

<i>(In millions)</i>	2021	2020	2019
Cash balance weighted average interest crediting rates	3.00 %	3.00 %	3.18 %

We also have other postretirement benefits covering most employees. Retiree health care benefits are provided through comprehensive hospital, surgical, major medical benefit, prescription drug and related health benefit provisions subject to various cost sharing features. Retiree life insurance benefits are provided to a closed group of retirees. Other postretirement benefits are not funded in advance.

In connection with the Andeavor acquisition, we assumed a number of additional qualified and nonqualified noncontributory benefit pension plans, covering substantially all former Andeavor employees. Benefits under these plans are determined based on final average compensation and years of service through December 31, 2010 and a cash balance formula for service beginning January 1, 2011. These plans were frozen as of December 31, 2018. Further, as of December 31, 2019, the qualified plans were merged with our existing qualified plans in which the actuarial assumptions were materially the same between the plans. We also assumed a number of additional postretirement benefits covering eligible employees. These benefits were merged with our existing benefits beginning January 1, 2019.

Obligations and Funded Status

The accumulated benefit obligation for all defined benefit pension plans was \$2,995 million and \$3,369 million as of December 31, 2021 and 2020.

The following summarizes our defined benefit pension plans that have accumulated benefit obligations in excess of plan assets.

<i>(In millions)</i>	December 31,	
	2021	2020
Projected benefit obligations	\$ 3,295	\$ 3,671
Accumulated benefit obligations	2,995	3,369
Fair value of plan assets	3,043	2,621

The following summarizes the projected benefit obligations and funded status for our defined benefit pension and other postretirement plans:

<i>(In millions)</i>	Pension Benefits		Other Benefits	
	2021	2020	2021	2020
Benefit obligations at January 1	\$ 3,671	\$ 3,220	\$ 1,131	\$ 1,020
Service cost	297	302	34	35
Interest cost	93	98	30	32
Actuarial (gain) loss ^(a)	(169)	373	(16)	83
Benefits paid	(594)	(322)	(75)	(39)
Plan amendments	—	—	(276)	—
Other	(3)	—	—	—
Benefit obligations at December 31	3,295	3,671	828	1,131
Fair value of plan assets at January 1	2,621	2,531	—	—
Actual return on plan assets	194	327	—	—
Employer contributions ^(b)	822	85	75	39
Benefits paid from plan assets	(594)	(322)	(75)	(39)
Fair value of plan assets at December 31	3,043	2,621	—	—
Funded status at December 31	\$ (252)	\$ (1,050)	\$ (828)	\$ (1,131)

^(a) The primary driver of the actuarial gain for the pension and other postretirement benefits plans in 2021 was the increase in discount rate compared to 2020.

^(b) Of the \$822 million in pension employer contributions, \$763 million was voluntary contributions.

Amounts recognized in the consolidated balance sheet for our pension and other postretirement benefit plans at December 31 include:

<i>(In millions)</i>	Pension Benefits		Other Benefits	
	2021	2020	2021	2020
Current liabilities	\$ (11)	\$ (9)	\$ (54)	\$ (51)
Noncurrent liabilities	(241)	(1,041)	(774)	(1,080)
Accrued benefit cost	<u>\$ (252)</u>	<u>\$ (1,050)</u>	<u>\$ (828)</u>	<u>\$ (1,131)</u>

Included in accumulated other comprehensive loss at December 31 were the following before-tax amounts that had not been recognized in net periodic benefit cost:

<i>(In millions)</i>	Pension Benefits		Other Benefits	
	2021	2020	2021	2020
Net actuarial loss	\$ 360	\$ 699	\$ 192	\$ 219
Prior service cost (credit)	(159)	(204)	(246)	32

Amounts exclude those related to LOOP and Explorer, equity method investees with defined benefit pension and postretirement plans for which net losses of \$19 million and \$2 million were recorded in accumulated other comprehensive loss in 2021, reflecting our ownership share.

Components of Net Periodic Benefit Cost and Other Comprehensive (Income) Loss

The following summarizes the net periodic benefit costs and the amounts recognized as other comprehensive loss (pretax) for our defined benefit pension and other postretirement plans.

<i>(In millions)</i>	Pension Benefits			Other Benefits		
	2021	2020	2019	2021	2020	2019
Service cost	\$ 287	\$ 283	\$ 218	\$ 34	\$ 35	\$ 31
Interest cost	93	98	107	30	32	37
Expected return on plan assets	(139)	(133)	(127)	—	—	—
Amortization – prior service cost (credit)	(45)	(45)	(45)	2	—	—
– actuarial loss	37	36	22	10	3	—
– settlement loss	75	20	9	1	—	—
Net periodic benefit cost ^(a)	<u>\$ 308</u>	<u>\$ 259</u>	<u>\$ 184</u>	<u>\$ 77</u>	<u>\$ 70</u>	<u>\$ 68</u>
Actuarial (gain) loss	\$ (227)	\$ 179	\$ 92	\$ (16)	\$ 83	\$ 123
Prior service credit	—	—	—	(276)	—	(2)
Amortization of actuarial loss	(112)	(56)	(31)	(11)	(3)	—
Amortization of prior service (cost) credit	45	45	45	(2)	—	—
Total recognized in other comprehensive (income) loss	<u>\$ (294)</u>	<u>\$ 168</u>	<u>\$ 106</u>	<u>\$ (305)</u>	<u>\$ 80</u>	<u>\$ 121</u>
Total recognized in net periodic benefit cost and other comprehensive (income) loss	<u>\$ 14</u>	<u>\$ 427</u>	<u>\$ 290</u>	<u>\$ (228)</u>	<u>\$ 150</u>	<u>\$ 189</u>

^(a) Net periodic benefit cost reflects a calculated market-related value of plan assets which recognizes changes in fair value over three years.

For certain of our pension plans, lump sum payments to employees retiring in 2021, 2020 and 2019 exceeded the plan's total service and interest costs expected for those years. Settlement losses are required to be recorded when lump sum payments exceed total service and interest costs. As a result, pension settlement expenses were recorded in 2021, 2020 and 2019.

Plan Assumptions

The following summarizes the assumptions used to determine the benefit obligations at December 31, and net periodic benefit cost for the defined benefit pension and other postretirement plans for 2021, 2020 and 2019.

	Pension Benefits			Other Benefits		
	2021	2020	2019	2021	2020	2019
Benefit obligation:						
Discount rate	2.82 %	2.44 %	3.08 %	2.93 %	2.55 %	3.00 %
Rate of compensation increase	5.70 %	5.70 %	4.90 %	5.70 %	5.70 %	4.90 %
Net periodic benefit cost:						
Discount rate	2.70 %	3.00 %	4.07 %	2.55 %	3.23 %	4.30 %
Expected long-term return on plan assets	5.75 %	5.75 %	6.00 %	— %	— %	— %
Rate of compensation increase	5.70 %	5.70 %	4.90 %	5.70 %	5.70 %	4.90 %

Expected Long-term Return on Plan Assets

The overall expected long-term return on plan assets assumption is determined based on an asset rate-of-return modeling tool developed by a third-party investment group. The tool utilizes underlying assumptions based on actual returns by asset category and inflation and takes into account our asset allocation to derive an expected long-term rate of return on those assets. Capital market assumptions reflect the long-term capital market outlook. The assumptions for equity and fixed income investments are developed using a building-block approach, reflecting observable inflation information and interest rate information available in the fixed income markets. Long-term assumptions for other asset categories are based on historical results, current market characteristics and the professional judgment of our internal and external investment teams.

Assumed Health Care Cost Trend

The following summarizes the assumed health care cost trend rates.

	December 31,		
	2021	2020	2019
Health care cost trend rate assumed for the following year:			
Medical: Pre-65	5.80 %	6.00 %	6.20 %
Prescription drugs	6.40 %	7.00 %	8.10 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate):			
Medical: Pre-65	4.50 %	4.50 %	4.50 %
Prescription drugs	4.50 %	4.50 %	4.50 %
Year that the rate reaches the ultimate trend rate:			
Medical: Pre-65	2030	2028	2027
Prescription drugs	2030	2028	2027

Increases in the post-65 medical plan premium for the Marathon Petroleum Health Plan and the Marathon Petroleum Retiree Health Plan have been permanently eliminated.

Plan Investment Policies and Strategies

The investment policies for our pension plan assets reflect the funded status of the plans and expectations regarding our future ability to make further contributions. Long-term investment goals are to: (1) manage the assets in accordance with the legal requirements of all applicable laws; (2) diversify plan investments across asset classes to achieve an optimal balance between risk and return and between income and growth of assets through capital appreciation; and (3) source benefit payments primarily through existing plan assets and anticipated future returns.

The investment goals are implemented to manage the plans' funded status volatility and minimize future cash contributions. The asset allocation strategy will change over time in response to changes primarily in funded status, which is dictated by current and anticipated market conditions, the independent actions of our investment committee, required cash flows to and from the plans and other factors deemed appropriate. Such changes in asset allocation are intended to allocate additional assets to the fixed income asset class should the funded status improve. The fixed income asset class shall be invested in such a manner that its

interest rate sensitivity correlates highly with that of the plans' liabilities. Other asset classes are intended to provide additional return with associated higher levels of risk. Investment performance and risk is measured and monitored on an ongoing basis through quarterly investment meetings and periodic asset and liability studies. At December 31, 2021, the primary plan's targeted asset allocation was 50 percent equity, private equity, real estate, and timber securities and 50 percent fixed income securities.

Fair Value Measurements

Plan assets are measured at fair value. The following provides a description of the valuation techniques employed for each major plan asset category at December 31, 2021 and 2020.

Cash and cash equivalents

Cash and cash equivalents include a collective fund serving as the investment vehicle for the cash reserves and cash held by third-party investment managers. The collective fund is valued at net asset value ("NAV") on a scheduled basis using a cost approach, and is considered a Level 2 asset. Cash and cash equivalents held by third-party investment managers are valued using a cost approach and are considered Level 2.

Equity

Equity investments includes common stock, mutual and pooled funds. Common stock investments are valued using a market approach, which are priced daily in active markets and are considered Level 1. Mutual and pooled equity funds are well diversified portfolios, representing a mix of strategies in domestic, international and emerging market strategies. Mutual funds are publicly registered, valued at NAV on a daily basis using a market approach and are considered Level 1 assets. Pooled funds are valued at NAV using a market approach and are considered Level 2.

Fixed Income

Fixed income investments include corporate bonds, U.S. dollar treasury bonds and municipal bonds. These securities are priced on observable inputs using a combination of market, income and cost approaches. These securities are considered Level 2 assets. Fixed income also includes a well diversified bond portfolio structured as a pooled fund. This fund is valued at NAV on a daily basis using a market approach and is considered Level 2. Other investments classified as Level 1 include mutual funds that are publicly registered, valued at NAV on a daily basis using a market approach.

Private Equity

Private equity investments include interests in limited partnerships which are valued using information provided by external managers for each individual investment held in the fund. These holdings are considered Level 3.

Real Estate

Real estate investments consist of interests in limited partnerships. These holdings are either appraised or valued using the investment manager's assessment of assets held. These holdings are considered Level 3.

Other

Other investments include two limited liability companies ("LLCs") with no public market. The LLCs were formed to acquire timberland in the northwest U.S. These holdings are either appraised or valued using the investment manager's assessment of assets held. These holdings are considered Level 3. Other investments classified as Level 1 include publicly traded depository receipts, while Level 2 include derivative transactions.

The following tables present the fair values of our defined benefit pension plans' assets, by level within the fair value hierarchy, as of December 31, 2021 and 2020.

<i>(In millions)</i>	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	\$ —	\$ 47	\$ —	\$ 47
Equity:				
Common stocks	61	—	—	61
Mutual funds	170	—	—	170
Pooled funds	—	1,192	—	1,192
Fixed income:				
Corporate	—	800	—	800
Government	415	108	—	523
Pooled funds	—	192	—	192
Private equity	—	—	19	19
Real estate	—	—	17	17
Other	1	3	18	22
Total investments, at fair value	<u>\$ 647</u>	<u>\$ 2,342</u>	<u>\$ 54</u>	<u>\$ 3,043</u>

<i>(In millions)</i>	December 31, 2020			
	Level 1	Level 2	Level 3	Total
Cash and cash equivalents	\$ —	\$ 23	\$ —	\$ 23
Equity:				
Common stocks	51	3	—	54
Mutual funds	353	—	—	353
Pooled funds	—	794	—	794
Fixed income:				
Corporate	—	746	—	746
Government	327	128	—	455
Pooled funds	—	131	—	131
Private equity	—	—	23	23
Real estate	—	—	20	20
Other	—	3	19	22
Total investments, at fair value	<u>\$ 731</u>	<u>\$ 1,828</u>	<u>\$ 62</u>	<u>\$ 2,621</u>

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

<i>(In millions)</i>	2021			2020		
	Private Equity	Real Estate	Other	Private Equity	Real Estate	Other
Beginning balance	\$ 23	\$ 20	\$ 19	\$ 30	\$ 24	\$ 19
Actual return on plan assets:						
Realized	2	1	—	6	1	—
Unrealized	8	1	—	(4)	(3)	—
Purchases	—	—	—	—	1	—
Sales	(14)	(5)	(1)	(9)	(3)	—
Ending balance	<u>\$ 19</u>	<u>\$ 17</u>	<u>\$ 18</u>	<u>\$ 23</u>	<u>\$ 20</u>	<u>\$ 19</u>

Cash Flows

Contributions to defined benefit plans

Our funding policy with respect to the funded pension plans is to contribute amounts necessary to satisfy minimum pension funding requirements, including requirements of the Pension Protection Act of 2006, plus such additional, discretionary, amounts from time to time as determined appropriate by management. In 2021, we made contributions totaling \$801 million to our funded pension plans. For 2022, we do not project any required funding, but we may make voluntary contributions to our funded pension plans at our discretion. Cash contributions to be paid from our general assets for the unfunded pension and postretirement plans are estimated to be approximately \$21 million and \$54 million, respectively, in 2022.

Estimated future benefit payments

The following gross benefit payments, which reflect expected future service, as appropriate, are expected to be paid in the years indicated.

<i>(In millions)</i>	Pension Benefits	Other Benefits
2022	\$ 178	\$ 54
2023	180	53
2024	192	52
2025	197	51
2026	201	51
2027 through 2031	1,117	257

Contributions to defined contribution plan

We also contribute to a defined contribution plan for eligible employees. Contributions to this plan totaled \$165 million, \$180 million and \$181 million in 2021, 2020 and 2019, respectively.

Multiemployer Pension Plan

We contribute to one multiemployer defined benefit pension plan under the terms of a collective-bargaining agreement that covers some of our union-represented employees. The risks of participating in this multiemployer plan are different from single-employer plans in the following aspects:

- Assets contributed to the multiemployer plan by one employer may be used to provide benefits to employees of other participating employers.
- If a participating employer stops contributing to the plan, the unfunded obligations of the plan may be borne by the remaining participating employers.
- If we choose to stop participating in the multiemployer plan, we may be required to pay that plan an amount based on the underfunded status of the plan, referred to as a withdrawal liability.

Our participation in this plan for 2021, 2020 and 2019 is outlined in the table below. The “EIN” column provides the Employee Identification Number for the plan. The most recent Pension Protection Act zone status available in 2021 and 2020 is for the plan’s year ended December 31, 2020 and December 31, 2019, respectively. The zone status is based on information that we received from the plan and is certified by the plan’s actuary. Among other factors, plans in the red zone are generally less than 65 percent funded. The “FIP/RP Status Pending/Implemented” column indicates a financial improvement plan or a rehabilitation plan has been implemented. The last column lists the expiration date of the collective-bargaining agreement to which the plan is subject. There have been no significant changes that affect the comparability of 2021, 2020 and 2019 contributions. Our portion of the contributions does not make up more than five percent of total contributions to the plan.

Pension Fund	EIN	Pension Protection Act Zone Status		FIP/RP Status Pending/Implemented	MPC Contributions <i>(In millions)</i>			Surcharge Imposed	Expiration Date of Collective – Bargaining Agreement
		2021	2020		2021	2020	2019		
Central States, Southeast and Southwest Areas Pension Plan ^(a)	366044243	Red	Red	Implemented	\$ 5	\$ 5	\$ 4	No	January 31, 2024

^(a) This agreement has a minimum contribution requirement of \$338 per week per employee for 2022. A total of 255 employees participated in the plan as of December 31, 2021.

Multiemployer Health and Welfare Plan

We contribute to one multiemployer health and welfare plan that covers both active employees and retirees. Through the health and welfare plan employees receive medical, dental, vision, prescription and disability coverage. Our contributions to this plan totaled \$7 million, \$7 million and \$6 million for 2021, 2020 and 2019, respectively.

27. STOCK-BASED COMPENSATION

Description of the Plans

Our employees and non-employee directors are eligible to receive equity awards under the Marathon Petroleum Corporation 2021 Incentive Compensation Plan ("MPC 2021 Plan"). The MPC 2021 Plan authorizes the Compensation and Organization Development Committee of our board of directors ("Committee") to grant nonqualified or incentive stock options, stock appreciation rights, stock and stock-based awards (including restricted stock and restricted stock unit awards), cash awards and performance awards to our employees and non-employee directors. The maximum number of shares of our common stock available for awards under the MPC 2021 Plan is 20.5 million shares. The MPC 2021 Plan became effective upon shareholder approval on April 28, 2021. Prior to that date, our employees and non-employee directors were eligible to receive equity awards under the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan ("MPC 2012 Plan"), effective April 26, 2012, and prior to that date, the Marathon Petroleum Corporation 2011 Second Amended and Restated Incentive Compensation Plan ("MPC 2011 Plan"). Shares issued as a result of awards granted under these plans are funded through the issuance of new MPC common shares.

Stock-Based Awards under the Plans

We expense all share-based payments to employees and non-employee directors based on the grant date fair value of the awards over the requisite service period, adjusted for estimated forfeitures.

Stock Options

Prior to 2021, we granted stock options to certain officer and non-officer employees under the MPC 2011 Plan and the MPC 2012 Plan. Stock options represent the right to purchase shares of our common stock at its fair market value, which is the closing price of MPC's common stock on the grant date. Stock options generally vest over a service period of three years and expire ten years after the grant date. We used the Black Scholes option-pricing model to estimate the fair value of stock options granted, which requires the input of subjective assumptions.

Restricted Stock and Restricted Stock Units

We grant restricted stock units to employees and non-employee directors. Prior to 2021, we granted restricted stock to employees and non-employee directors. In general, restricted stock and restricted stock units granted to employees vest over a requisite service period of three years. Restricted stock and restricted stock unit awards granted to officers are subject to an additional one year holding period after the three-year vesting period. Restricted stock recipients have the right to vote such stock; however, dividends are accrued and when vested are payable at the dates specified in the awards. The non-vested shares are not transferable and are held by our transfer agent. Restricted stock units granted to non-employee directors are considered to vest immediately at the time of the grant for accounting purposes, as they are non-forfeitable, but are not issued until the director's departure from the board of directors. Restricted stock unit recipients do not have the right to vote any shares of stock and accrue dividend equivalents which when vested are payable at the dates specified in the awards. The fair values of restricted stock and restricted stock units are equal to the market price of our common stock on the grant date.

Performance Units

We granted performance unit awards to certain officer employees in 2018, 2019 and 2020 under the MPC 2012 Plan. Performance units are dollar denominated. The target value of all performance units is \$1.00, with actual payout up to \$2.00 per unit (up to 200 percent of target). Performance units have a 36-month requisite service period. The payout value of these awards will be determined by the relative ranking of the total shareholder return ("TSR") of MPC common stock compared to the TSR of a select group of peer companies, as well as the Standard & Poor's 500 Energy Index fund over an average of four measurement periods. These awards will be settled 25 percent in MPC common stock and 75 percent in cash. The number of shares actually distributed will be determined as 25 percent of the final payout divided by the closing price of MPC common stock on the day the Committee certifies the final TSR rankings, or the next trading day if the certification is made outside of normal trading hours. The performance units paying out in cash are accounted for as liability awards and recorded at fair value with a mark-to-market adjustment made each quarter. The performance units that settle in shares are accounted for as equity awards and do not receive dividend equivalents.

We granted performance share unit awards to certain employees in 2021. Performance share units are share denominated, with a target value equal to the MPC common stock average 30-day closing price prior to the grant date, with actual payout value based on company performance (which can range from 0% to 200%) multiplied by MPC's closing share price on the date the Committee certifies performance. Performance share units have a 36-month service period. Company performance for purposes of payout will be determined by the relative ranking of the TSR of MPC common stock over a 36-month performance period

compared to the TSR of a select group of peer companies, as well as the median of MPC's compensation reference group, the Standard & Poor's 500 Index and the Alerian MPL Index. These awards will be settled 100 percent in cash and will be accounted for as liability awards and recorded at fair value with a mark-to-market adjustment made each quarter.

Total Stock-Based Compensation Expense

The following table reflects activity related to our stock-based compensation arrangements, including the converted awards related to the acquisition of Andeavor:

<i>(In millions)</i>	2021	2020	2019
Stock-based compensation expense	\$ 88	\$ 100	\$ 153
Tax benefit recognized on stock-based compensation expense	22	25	35
Cash received by MPC upon exercise of stock option awards	106	11	10
Tax (expense)/benefit received for tax deductions for stock awards exercised	13	16	(3)

Stock Option Awards

The following is a summary of our common stock option activity in 2021:

	Number of Shares	Weighted Average Exercise Price	Weighted Average Remaining Contractual Terms <i>(in years)</i>	Aggregate Intrinsic Value <i>(in millions)</i>
Outstanding at December 31, 2020	11,299,781	\$ 41.95		
Exercised	(3,287,489)	32.40		
Forfeited or expired	(217,256)	32.82		
Outstanding at December 31, 2021	7,795,036	46.23		
Vested and expected to vest at December 31, 2021	7,786,242	46.25	4.6	\$ 141
Exercisable at December 31, 2021	6,178,535	48.62	3.8	98

The intrinsic value of options exercised by MPC employees during 2021, 2020 and 2019 was \$88 million, \$25 million and \$23 million, respectively.

As of December 31, 2021, unrecognized compensation cost related to stock option awards was \$5 million, which is expected to be recognized over a weighted average period of 1.1 years.

Restricted Stock and Restricted Stock Unit Awards

The following is a summary of restricted stock award activity of our common stock in 2021:

	Restricted Stock		Restricted Stock Units	
	Number of Shares	Weighted Average Grant Date Fair Value	Number of Units	Weighted Average Grant Date Fair Value
Unvested at December 31, 2020	579,979	\$ 62.89	3,324,324	\$ 35.34
Granted	—	—	1,067,409	55.27
Vested	(354,362)	64.00	(1,857,756)	46.47
Forfeited	(30,988)	62.33	(220,058)	32.88
Unvested at December 31, 2021	194,629	60.95	2,313,919	35.84

The following is a summary of the values related to restricted stock and restricted stock unit awards held by MPC employees and non-employee directors:

	Restricted Stock		Restricted Stock Units	
	Intrinsic Value of Awards Vested During the Period (in millions)	Weighted Average Grant Date Fair Value of Awards Granted During the Period	Intrinsic Value of Awards Vested During the Period (in millions)	Weighted Average Grant Date Fair Value of Awards Granted During the Period
2021	\$ 20	\$ —	\$ 90	\$ 55.27
2020	18	56.49	59	22.82
2019	32	61.14	120	58.30

As of December 31, 2021, unrecognized compensation cost related to restricted stock awards was \$3 million, which is expected to be recognized over a weighted average period of 0.3 years. Unrecognized compensation cost related to restricted stock unit awards was \$57 million, which is expected to be recognized over a weighted average period of 1.63 years.

Performance Unit Awards

The following table presents a summary of the 2021 activity for performance unit awards to be settled in shares:

	Number of Units	Weighted Average Grant Date Fair Value
Unvested at December 31, 2020	11,010,037	\$ 0.80
Vested	(4,534,663)	0.83
Forfeited	(220,091)	0.89
Unvested at December 31, 2021	<u>6,255,283</u>	0.78

The number of shares that would be issued upon target vesting, using the closing price of our common stock on December 31, 2021 would be 145,394 shares.

As of December 31, 2021, unrecognized compensation cost related to equity-classified performance unit awards was \$1 million, which is expected to be recognized over a weighted average period of 0.98 years.

Performance units to be settled in MPC shares have a grant date fair value calculated using a Monte Carlo valuation model, which requires the input of subjective assumptions. The following table provides a summary of these assumptions:

	2020	2019
Risk-free interest rate	0.9 %	2.5 %
Look-back period (in years)	2.8	2.8
Expected volatility	30.4 %	29.7 %
Grant date fair value of performance units granted	\$ 0.89	\$ 0.72

The risk-free interest rate for the remaining performance period as of the grant date is based on the U.S. Treasury yield curve in effect at the time of the grant. The look-back period reflects the remaining performance period at the grant date. The assumption for the expected volatility of our stock price reflects the average MPC common stock historical volatility.

MPLX Awards

Compensation expense for awards of MPLX units are not material to our consolidated financial statements for 2021.

28. LEASES

Lessee

We lease a wide variety of facilities and equipment including land and building space, office and field equipment, storage facilities and transportation equipment. Our remaining lease terms range from less than one year to 57 years. Most long-term leases include renewal options ranging from less than one year to 49 years and, in certain leases, also include purchase options. The lease term included in the measurement of right of use assets and lease liabilities includes options to extend or terminate our leases that we are reasonably certain to exercise.

Under ASC 842, the components of lease cost are shown below. Lease costs for operating leases are recognized on a straight line basis and are reflected in the income statement based on the leased asset's use. Lease costs for finance leases are reflected in depreciation and amortization and in net interest and other financial costs.

<i>(In millions)</i>	<u>2021</u>	<u>2020</u>	<u>2019</u>
Finance lease cost:			
Amortization of right of use assets	\$ 78	\$ 72	\$ 59
Interest on lease liabilities	31	35	37
Operating lease cost	581	658	660
Variable lease cost	69	60	68
Short-term lease cost	446	649	780
Total lease cost	<u>\$ 1,205</u>	<u>\$ 1,474</u>	<u>\$ 1,604</u>

Supplemental balance sheet data related to leases were as follows:

<i>(In millions)</i>	<u>December 31,</u>	
	<u>2021</u>	<u>2020</u>
Operating leases		
Assets		
Right of use assets	\$ 1,372	\$ 1,521
Liabilities		
Operating lease liabilities	\$ 438	\$ 497
Long-term operating lease liabilities	927	1,014
Total operating lease liabilities	<u>\$ 1,365</u>	<u>\$ 1,511</u>
Weighted average remaining lease term (in years)	5.0	4.8
Weighted average discount rate	3.11 %	3.68 %
Finance leases		
Assets		
Property, plant and equipment, gross	\$ 815	\$ 819
Less accumulated depreciation	336	272
Property, plant and equipment, net	<u>\$ 479</u>	<u>\$ 547</u>
Liabilities		
Debt due within one year	\$ 73	\$ 69
Long-term debt	525	576
Total finance lease liabilities	<u>\$ 598</u>	<u>\$ 645</u>
Weighted average remaining lease term (in years)	10.3	10.7
Weighted average discount rate	5.04 %	5.33 %

As of December 31, 2021, maturities of lease liabilities for operating lease obligations and finance lease obligations having initial or remaining non-cancellable lease terms in excess of one year are as follows:

<i>(In millions)</i>	<u>Operating</u>	<u>Finance</u>
2022	\$ 473	\$ 101
2023	320	102
2024	239	86
2025	171	77
2026	104	75
2027 and thereafter	174	327
Gross lease payments	<u>1,481</u>	<u>768</u>
Less: imputed interest	116	170
Total lease liabilities	<u>\$ 1,365</u>	<u>\$ 598</u>

Lessor

MPLX has certain natural gas gathering, transportation and processing agreements in which it is considered to be the lessor under several operating lease arrangements in accordance with GAAP. MPLX's primary natural gas lease operations relate to a natural gas gathering agreement in the Marcellus Shale for which it earns a fixed-fee for providing gathering services to a single producer using a dedicated gathering system. As the gathering system is expanded, the fixed-fee charged to the producer is adjusted to include the additional gathering assets in the lease. The primary term of the natural gas gathering arrangement expires in 2038 and will continue thereafter on a year-to-year basis until terminated by either party. Other significant natural gas implicit leases relate to a natural gas processing agreement in the Marcellus Shale and a natural gas processing agreement in the Southern Appalachia region for which MPLX earns minimum monthly fees for providing processing services to a single producer using a dedicated processing plant. The primary term of these natural gas processing agreements expires during 2027 and 2028, respectively, and will continue thereafter on a year-to-year basis until terminated by either party.

MPLX did not elect to use the practical expedient to combine lease and non-lease components for lessor arrangements. The tables below represent the portion of the contract allocated to the lease component based on relative standalone selling price. Lessor agreements are currently deemed operating, as MPLX elected the practical expedient to carry forward historical classification conclusions. If and when a modification of an existing agreement occurs and the agreement is required to be assessed under ASC 842, MPLX assesses the amended agreement and makes a determination as to whether a reclassification of the lease is required.

Our rental income from operating leases totaled approximately \$376 million, \$398 million and \$388 million in 2021, 2020 and 2019, respectively. The following is a schedule of minimum future rentals on the non-cancelable operating leases as of December 31, 2021:

(In millions)

2022	\$	213
2023		207
2024		204
2025		171
2026		142
2027 and thereafter		1,299
Total minimum future rentals	<u>\$</u>	<u>2,236</u>

The following schedule summarizes our investment in assets held under operating lease by major classes as of December 31, 2021 and 2020:

<i>(In millions)</i>	December 31,	
	2021	2020
Gathering and transportation	\$ 991	\$ 990
Processing and fractionation	867	867
Terminals	128	128
Land, building and other	15	15
Property, plant and equipment	<u>2,001</u>	<u>2,000</u>
Less accumulated depreciation	523	430
Total property, plant and equipment, net	<u>\$ 1,478</u>	<u>\$ 1,570</u>

29. COMMITMENTS AND CONTINGENCIES

We are the subject of, or a party to, a number of pending or threatened legal actions, contingencies and commitments involving a variety of matters, including laws and regulations relating to the environment. Some of these matters are discussed below. For matters for which we have not recorded a liability, we are unable to estimate a range of possible loss because the issues involved have not been fully developed through pleadings, discovery or court proceedings. However, the ultimate resolution of some of these contingencies could, individually or in the aggregate, be material.

Environmental Matters

We are subject to federal, state, local and foreign laws and regulations relating to the environment. These laws generally provide for control of pollutants released into the environment and require responsible parties to undertake remediation of hazardous waste disposal sites and certain other locations including presently or formerly owned or operated retail marketing sites. Penalties may be imposed for noncompliance.

At December 31, 2021 and 2020, accrued liabilities for remediation totaled \$401 million and \$397 million, respectively. It is not presently possible to estimate the ultimate amount of all remediation costs that might be incurred or the penalties, if any, that may be imposed. Receivables for recoverable costs from certain states, under programs to assist companies in clean-up efforts related to underground storage tanks at presently or formerly owned or operated retail marketing sites, were \$6 million and \$7 million at December 31, 2021 and 2020, respectively.

Governmental and other entities in various states have filed climate-related lawsuits against numerous energy companies, including MPC. The lawsuits allege damages as a result of climate change and the plaintiffs are seeking unspecified damages and abatement under various tort theories. We are currently subject to such proceedings in federal or state courts in California, Delaware, Maryland, Hawaii, Rhode Island and South Carolina. Similar lawsuits may be filed in other jurisdictions. At this early stage, the ultimate outcome of these matters remain uncertain, and neither the likelihood of an unfavorable outcome nor the ultimate liability, if any, can be determined.

We are involved in a number of environmental enforcement matters arising in the ordinary course of business. While the outcome and impact on us cannot be predicted with certainty, management believes the resolution of these environmental matters will not, individually or collectively, have a material adverse effect on our consolidated results of operations, financial position or cash flows.

Asset Retirement Obligations

Our short-term asset retirement obligations were \$14 million at both December 31, 2021 and 2020 and are included in other current liabilities in our consolidated balance sheets. Our long-term asset retirement obligations were \$187 million and \$183 million at December 31, 2021 and 2020, respectively, which are included in deferred credits and other liabilities in our consolidated balance sheets.

Other Legal Proceedings

In July 2020, Tesoro High Plains Pipeline Company, LLC (“THPP”), a subsidiary of MPLX, received a Notification of Trespass Determination from the Bureau of Indian Affairs (“BIA”) relating to a portion of the Tesoro High Plains Pipeline that crosses the Fort Berthold Reservation in North Dakota. The notification demanded the immediate cessation of pipeline operations and assessed trespass damages of approximately \$187 million. On appeal, the Assistant Secretary - Indian Affairs vacated the BIA's trespass order and remanded to the Regional Director for the BIA Great Plains Region to issue a new decision based on specified criteria. On December 15, 2020, the Regional Director of the BIA issued a new trespass notice to THPP, finding that THPP was in trespass and assessing trespass damages of approximately \$4 million (including interest), which has been paid. The order also required that THPP immediately cease and desist use of the portion of the pipeline that crosses the property at issue. THPP has complied with the Regional Director's December 15, 2020 notice. In March 2021, THPP received a copy of an order purporting to vacate all orders related to THPP's alleged trespass issued by the BIA between July 2, 2020 and January 14, 2021. The order directs the Regional Director of the BIA to reconsider the issue of THPP's alleged trespass and issue a new order, if necessary, after all interested parties have had an opportunity to be heard. On April 23, 2021, THPP filed a lawsuit in the District of North Dakota against the United States of America, the U.S. Department of the Interior and the BIA (together, the “U.S. Government Parties”) challenging the March order purporting to vacate all previous orders related to THPP's alleged trespass. On February 8, 2022, the U.S. Government Parties filed their answer to THPP's suit, asserting counterclaims for trespass and ejectment. The U.S. Government Parties claim THPP is in continued trespass with respect to the pipeline and seek disgorgement of pipeline profits from June 1, 2013 to present, removal of the pipeline and remediation. We intend to vigorously defend ourselves against these counterclaims. We continue to work towards a settlement of this matter with holders of the property rights at issue.

We are also a party to a number of other lawsuits and other proceedings arising in the ordinary course of business. While the ultimate outcome and impact to us cannot be predicted with certainty, we believe that the resolution of these other lawsuits and proceedings will not, individually or collectively, have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Guarantees

We have provided certain guarantees, direct and indirect, of the indebtedness of other companies. Under the terms of most of these guarantee arrangements, we would be required to perform should the guaranteed party fail to fulfill its obligations under the specified arrangements. In addition to these financial guarantees, we also have various performance guarantees related to specific agreements.

Guarantees related to indebtedness of equity method investees

LOOP and LOCAP

MPC and MPLX hold interests in an offshore oil port, LOOP, and MPLX holds an interest in a crude oil pipeline system, LOCAP. Both LOOP and LOCAP have secured various project financings with throughput and deficiency agreements. Under the agreements, MPC, as a shipper, is required to advance funds if the investees are unable to service their debt. Any such advances are considered prepayments of future transportation charges. The duration of the agreements varies but tend to follow

the terms of the underlying debt, which extend through 2037. Our maximum potential undiscounted payments under these agreements for the debt principal totaled \$171 million as of December 31, 2021.

Dakota Access Pipeline

MPLX holds a 9.19 percent indirect interest in a joint venture (“Dakota Access”) that owns and operates the Dakota Access Pipeline and Energy Transfer Crude Oil Pipeline projects, collectively referred to as the Bakken Pipeline system or DAPL. In 2020, the U.S. District Court for the District of Columbia (the “D.D.C.”) ordered the U.S. Army Corps of Engineers (“Army Corps”), which granted permits and an easement for the Bakken Pipeline system, to prepare an environmental impact statement (“EIS”) relating to an easement under Lake Oahe in North Dakota. The D.D.C. later vacated the easement. The EIS is currently expected to be completed in the second half of 2022.

In May 2021, the D.D.C. denied a renewed request for an injunction to shut down the pipeline while the EIS is being prepared. In June 2021, the D.D.C. issued an order dismissing without prejudice the tribes’ claims against the Dakota Access Pipeline. The litigation could be reopened or new litigation challenging the EIS, once completed, could be filed. The pipeline remains operational.

MPLX has entered into a Contingent Equity Contribution Agreement whereby it, along with the other joint venture owners in the Bakken Pipeline system, has agreed to make equity contributions to the joint venture upon certain events occurring to allow the entities that own and operate the Bakken Pipeline system to satisfy their senior note payment obligations. The senior notes were issued to repay amounts owed by the pipeline companies to fund the cost of construction of the Bakken Pipeline system. If the pipeline were temporarily shut down, MPLX would have to contribute its 9.19 percent pro rata share of funds required to pay interest accruing on the notes and any portion of the principal that matures while the pipeline is shutdown. MPLX also expects to contribute its 9.19 percent pro rata share of any costs to remediate any deficiencies to reinstate the permit and/or return the pipeline into operation. If the vacatur of the easement permit results in a permanent shutdown of the pipeline, MPLX would have to contribute its 9.19 percent pro rata share of the cost to redeem the bonds (including the 1% redemption premium required pursuant to the indenture governing the notes) and any accrued and unpaid interest. As of December 31, 2021, our maximum potential undiscounted payments under the Contingent Equity Contribution Agreement were approximately \$230 million.

Crowley Ocean Partners and Crowley Blue Water Partners

In connection with our 50 percent ownership in Crowley Ocean Partners, we have agreed to conditionally guarantee our portion of the obligations of the joint venture and its subsidiaries under a senior secured term loan agreement. The term loan agreement provides for loans of up to \$325 million to finance the acquisition of four product tankers. MPC’s liability under the guarantee for each vessel is conditioned upon the occurrence of certain events, including if we cease to maintain an investment grade credit rating or the charter for the relevant product tanker ceases to be in effect and is not replaced by a charter with an investment grade company on certain defined commercial terms. As of December 31, 2021, our maximum potential undiscounted payments under this agreement for debt principal totaled \$108 million.

In connection with our 50 percent indirect interest in Crowley Blue Water Partners, we have agreed to provide a conditional guarantee of up to 50 percent of its outstanding debt balance in the event there is no charter agreement in place with an investment grade customer for the entity’s three vessels as well as other financial support in certain circumstances. As of December 31, 2021, our maximum potential undiscounted payments under this arrangement was \$108 million.

Marathon Oil indemnifications

The separation and distribution agreement and other agreements with Marathon Oil to effect our spinoff provide for cross-indemnities between Marathon Oil and us. In general, Marathon Oil is required to indemnify us for any liabilities relating to Marathon Oil’s historical oil and gas exploration and production operations, oil sands mining operations and integrated gas operations, and we are required to indemnify Marathon Oil for any liabilities relating to Marathon Oil’s historical refining, marketing and transportation operations. The terms of these indemnifications are indefinite and the amounts are not capped.

Other guarantees

We have entered into other guarantees with maximum potential undiscounted payments totaling \$98 million as of December 31, 2021, which primarily consist of a commitment to contribute cash to an equity method investee for certain catastrophic events, in lieu of procuring insurance coverage, a commitment to fund a share of the bonds issued by a government entity for construction of public utilities in the event that other industrial users of the facility default on their utility payments and leases of assets containing general lease indemnities and guaranteed residual values.

General guarantees associated with dispositions

Over the years, we have sold various assets in the normal course of our business. Certain of the related agreements contain performance and general guarantees, including guarantees regarding inaccuracies in representations, warranties, covenants and agreements, and environmental and general indemnifications that require us to perform upon the occurrence of a triggering event or condition. These guarantees and indemnifications are part of the normal course of selling assets. We are typically not able to calculate the maximum potential amount of future payments that could be made under such contractual provisions because of the variability inherent in the guarantees and indemnities. Most often, the nature of the guarantees and indemnities is

such that there is no appropriate method for quantifying the exposure because the underlying triggering event has little or no past experience upon which a reasonable prediction of the outcome can be based.

Contractual Commitments and Contingencies

At December 31, 2021, our contractual commitments to acquire property, plant and equipment totaled \$565 million, primarily consisting of refining projects which includes the conversion of the Martinez refinery to renewable diesel facility. Our contractual commitments to acquire property, plant and equipment totaled \$267 million at December 31, 2020.

Certain natural gas processing and gathering arrangements require us to construct natural gas processing plants, natural gas gathering pipelines and NGL pipelines and contain certain fees and charges if specified construction milestones are not achieved for reasons other than force majeure. In certain cases, certain producer customers may have the right to cancel the processing arrangements if there are significant delays that are not due to force majeure.

30. SUBSEQUENT EVENTS

Incremental \$5 Billion Share Repurchase Authorization

On February 2, 2022, our board of directors approved an incremental \$5.0 billion share repurchase authorization. The authorization has no expiration date. We may utilize various methods to effect the repurchases, which could include open market repurchases, negotiated block transactions, accelerated share repurchases, tender offers or open market solicitations for shares, some of which may be effected through Rule 10b5-1 plans. The timing of repurchases will depend upon several factors, including market and business conditions, and repurchases may be discontinued at any time.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

An evaluation of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934, as amended) was carried out under the supervision and with the participation of our management, including our chief executive officer and chief financial officer. Based upon that evaluation, the chief executive officer and chief financial officer concluded that the design and operation of these disclosure controls and procedures were effective as of December 31, 2021, the end of the period covered by this Annual Report on Form 10-K.

Changes in Internal Control over Financial Reporting

During the quarter ended December 31, 2021, there were no changes in our internal control over financial reporting that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9C. DISCLOSURES REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Information concerning our executive officers is included in Part I, Item 1 of this Annual Report on Form 10-K. Information concerning our directors is incorporated by reference to “Corporate Governance—Proposal 1. Election of Directors” in our Proxy Statement for the 2022 Annual Meeting of Shareholders, to be filed with the SEC within 120 days of December 31, 2021 (the “Proxy Statement”).

Our Code of Business Conduct, which applies to all of our directors, officers and employees, defines our expectations for ethical decision-making, accountability and responsibility. Our Code of Ethics for Senior Financial Officers, which is specifically applicable to our President and Chief Executive Officer, Executive Vice President and Chief Financial Officer, Senior Vice President and Controller, Senior Vice President, Finance and Treasurer, and other leaders performing similar roles, affirms the principle that the honesty, integrity and sound judgment of our senior executives with responsibility for preparation and certification of our financial statements is essential to the proper functioning and success of our company. These codes are available on our website at www.marathonpetroleum.com/Investors/Corporate-Governance/. We will post on our website any amendments to, or waivers from, either of these codes requiring disclosure under applicable rules within four business days following the amendment or waiver.

The other information required by this Item is incorporated by reference to “Corporate Governance—Board Leadership and Function—Board Committees” in our Proxy Statement.

ITEM 11. EXECUTIVE COMPENSATION

Information required by this Item is incorporated by reference to “Executive Compensation,” “Executive Compensation—Executive Compensation Tables” and “Corporate Governance—Director Compensation” in our Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information concerning security ownership of certain beneficial owners and management required by this Item is incorporated by reference to “Other Information—Stock Ownership Information” in our Proxy Statement.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of December 31, 2021 with respect to shares of our common stock that may be issued under the MPC 2021 Plan, the MPC 2012 Plan, the MPC 2011 Plan and the Andeavor Plans:

<u>Plan category</u>	<u>Number of securities to be issued upon exercise of outstanding options, warrants and rights^(a)</u>	<u>Weighted-average exercise price of outstanding options, warrants and rights^(b)</u>	<u>Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the first column)^(c)</u>
Equity compensation plans approved by stockholders	10,846,727	\$ 46.23	19,763,502
Equity compensation plan not approved by stockholders	—	—	—
Total	<u>10,846,727</u>	<u>N/A</u>	<u>19,763,502</u>

^(a) Includes the following:

- 1) 7,795,036 stock options granted pursuant to the MPC 2012 Plan and the MPC 2011 Plan and not forfeited, cancelled or expired as of December 31, 2021.
- 2) 2,760,904 restricted stock units granted pursuant to the MPC 2021 Plan, the MPC 2012 Plan and the MPC 2011 Plan for shares unissued and not forfeited, cancelled or expired as of December 31, 2021. The amounts in column (a) do not include 404 restricted stock units granted under the Andeavor Plans and not forfeited, cancelled or expired as of December 31, 2021.
- 3) 290,787 shares as the maximum potential number of shares that could be issued in settlement of performance units outstanding as of December 31, 2021 pursuant to the MPC 2012 Plan, based on the closing price of our common stock on December 31, 2021 of \$63.99 per share. The number of shares reported for this award vehicle may overstate dilution. See Note 27 for more information on performance unit awards granted under the MPC 2012 Plan.

^(b) Restricted stock, restricted stock units and performance units are not taken into account in the weighted-average exercise price as such awards have no exercise price.

^(c) Reflects the shares available for issuance pursuant to the MPC 2021 Plan. All granting authority under the MPC 2012 Plan was revoked following the approval of the MPC 2021 Plan by shareholders on April 28, 2021, all granting authority under the MPC 2011 Plan was revoked following the approval of the MPC 2012 Plan by shareholders on April 25, 2012, and all granting power under the Andeavor Plans was revoked at the time of the Andeavor Merger. Shares related to (i) grants made pursuant to the MPC 2012 Plan that are forfeited, cancelled or expire unexercised become immediately available for issuance under the MPC 2021 Plan (ii) shares withheld for taxes related to vestings under the MPC 2012 Plan become immediately available for issuance under the MPC 2021 Plan.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information required by this Item is incorporated by reference to “Other Information—Related Party Transactions” and “Corporate Governance—Board Composition and Director Selection—Director Independence” in our Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

Information required by this Item is incorporated by reference to “Audit Matters—Auditor Fees and Services” in our Proxy Statement.

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

A. Documents Filed as Part of the Report

1. Financial Statements (see Part II, Item 8. of this Annual Report on Form 10-K regarding financial statements)

2. Financial Statement Schedules

Financial statement schedules required under SEC rules but not included in this Annual Report on Form 10-K are omitted because they are not applicable or the required information is contained in the consolidated financial statements or notes thereto.

3. Exhibits:

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith	Furnished Herewith
		Form	Exhibit	Filing Date	SEC File No.		
2	Plan of Acquisition, Reorganization, Arrangement, Liquidation or Succession						
2.1 †	Separation and Distribution Agreement, dated as of May 25, 2011, among Marathon Oil Corporation, Marathon Oil Company and Marathon Petroleum Corporation	10	2.1	5/26/2011	001-35054		
2.2 †	Purchase and Sale Agreement, dated as of August 2, 2020, by and between MPC, the MPC subsidiaries party thereto and 7-Eleven, Inc.	8-K	2.1	8/3/2020	001-35054		
2.3	Amendment to Purchase and Sale and among MPC, the MPC subsidiaries party Agreement, dated as of October 16, 2020, by thereto and 7-Eleven, Inc.	10-K	2.7	2/26/2021	001-35054		
2.4 †	Amendment No. 2 to Purchase and Sale Agreement, dated as of May 14, 2021, by and among the Company, Sellers and Purchaser	8-K	2.3	5/14/2021	001-35054		
3	Articles of Incorporation and Bylaws						
3.1	Restated Certificate of Incorporation of Marathon Petroleum Corporation, dated October 1, 2018	8-K	3.2	10/1/2018	001-35054		
3.2	Amended and Restated Bylaws of Marathon Petroleum Corporation, dated October 27, 2021	10-Q	3.2	11/2/2021	001-35054		
4	Instruments Defining the Rights of Security Holders, Including Indentures, and Description of Registrant's Securities						
Pursuant to Item 601(b)(4) of Regulation S-K, certain instruments with respect to long-term debt issues have been omitted where the amount of securities authorized under such instruments does not exceed 10 percent of the total consolidated assets of the Registrant. The Registrant hereby agrees to furnish a copy of any such instrument to the Securities and Exchange Commission upon its request.							
4.1	Indenture, dated as of February 1, 2011, between Marathon Petroleum Corporation and The Bank of New York Mellon Trust Company, N.A., as Trustee	10	4.1	3/29/2011	001-35054		
4.2	Indenture, dated February 12, 2015, between MPLX LP and The Bank of New York Mellon Trust Company, N.A., as Trustee	8-K	4.1	2/12/2015	001-35714		
4.3	Description of Securities	10-K	4.3	2/26/2021	001-35054		
10	Material Contracts						
10.1	Omnibus Agreement, dated as of October 31, 2012, among Marathon Petroleum Corporation, Marathon Petroleum Company LP, MPL Investment LLC, MPLX Operations LLC, MPLX Terminal and Storage LLC, MPLX Pipe Line Holdings LP, Marathon Pipe Line LLC, Ohio River Pipe Line LLC, MPLX LP and MPLX GP LLC	8-K	10.2	11/6/2012	001-35054		
10.2 *	Marathon Petroleum Corporation Second Amended and Restated 2011 Incentive Compensation Plan	S-3	4.3	12/7/2011	333-175286		
10.3 *	Marathon Petroleum Corporation Policy for Recoupment of Annual Cash Bonus Amounts	10-K	10.10	2/29/2012	001-35054		

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith	Furnished Herewith
		Form	Exhibit	Filing Date	SEC File No.		
10.4 *	Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors	10-K	10.13	2/28/2013	001-35054		
10.5 *	Marathon Petroleum Amended and Restated Excess Benefit Plan	10-K	10.14	2/24/2017	001-35054		
10.6 *	Marathon Petroleum Amended and Restated Deferred Compensation Plan	10-K	10.13	2/29/2012	001-35054		
10.7 *	Marathon Petroleum Corporation Executive Tax, Estate, and Financial Planning Program	10-K	10.14	2/29/2012	001-35054		
10.8 *	Form of Marathon Petroleum Corporation Amended and Restated 2011 Incentive Compensation Plan Nonqualified Stock Option Award Agreement – Section 16 Officer	8-K	10.6	7/7/2011	001-35054		
10.9 *	Form of Marathon Petroleum Corporation 2011 Incentive Compensation Plan Supplemental Nonqualified Stock Option Award Agreement – Section 16 Officer	8-K	10.2	12/7/2011	001-35054		
10.10 *	Form of Marathon Petroleum Corporation 2011 Incentive Compensation Plan Supplemental Restricted Stock Unit Award Agreement – Non-Employee Director	10-K	10.22	2/29/2012	001-35054		
10.11 *	Marathon Petroleum Corporation Amended and Restated Executive Change in Control Severance Benefits Plan	10-K	10.21	2/28/2018	001-35054		
10.12 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement – Officer	10-Q	10.4	5/9/2012	001-35054		
10.13 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement – Officer	10-Q	10.5	5/9/2012	001-35054		
10.14 *	MPC Non-Employee Director Phantom Unit Award Policy	10-K	10.32	2/28/2013	001-35054		
10.15 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement – Officer	10-Q	10.2	5/9/2013	001-35054		
10.16 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement – Officer	10-Q	10.3	5/9/2013	001-35054		
10.17 *	MPLX LP – Form of MPC Officer Phantom Unit Award Agreement	10-Q	10.4	5/9/2013	001-35054		
10.18 *	First Amendment to the Marathon Petroleum Corporation Amended and Restated 2011 Incentive Compensation Plan	10-Q	10.1	8/3/2015	001-35054		
10.19 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement - Officer	10-Q	10.2	5/2/2016	001-35054		
10.20 *	Form of Marathon Petroleum Corporation Nonqualified Stock Option Award Agreement - Officer	10-Q	10.3	5/2/2016	001-35054		
10.21 *	Form of MPLX LP Phantom Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.5	5/2/2016	001-35054		
10.22 *	MPLX LP Executive Change in Control Severance Benefits Plan	10-Q	10.4	10/30/2017	001-35054		
10.23 *	MPLX LP 2018 Incentive Compensation Plan	8-K	10.1	3/5/2018	001-35714		
10.24 *	Form of Marathon Petroleum Corporation Restricted Stock Award Agreement - Officer	10-Q	10.4	4/30/2018	001-35054		
10.25 *	Form of MPLX LP Performance Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.5	4/30/2018	001-35054		
10.26 *	Form of MPLX LP Phantom Unit Award Agreement - Marathon Petroleum Corporation Officer	10-Q	10.6	4/30/2018	001-35054		
10.27 *	Form of MPLX LP Performance Unit Award Agreement	10-Q	10.7	4/30/2018	001-35054		
10.28 *	Form of MPLX LP Phantom Unit Award Agreement - Officer	10-Q	10.8	4/30/2018	001-35054		
10.29 *	Form of MPLX LP Phantom Unit Award Agreement - Officer - Three Year Cliff Vesting	10-Q	10.9	4/30/2018	001-35054		

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith	Furnished Herewith
		Form	Exhibit	Filing Date	SEC File No.		
10.30	Five Year Revolving Credit Agreement, dated as of August 28, 2018, among MPC, as borrower, JPMorgan Chase Bank, N.A., as administrative agent, each of JPMorgan Chase Bank, N.A., Wells Fargo Securities, LLC, Barclays Bank PLC, Citibank, N.A., Merrill Lynch, Pierce, Fenner & Smith Incorporated, Mizuho Bank, Ltd., MUFG Bank, Ltd. and RBC Capital Markets, as joint lead arrangers and joint bookrunners, Wells Fargo Bank, National Association, as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Citibank N.A., Mizuho Bank, Ltd., MUFG Bank, Ltd., and Royal Bank of Canada, as documentation agents, and the other lenders and issuing banks that are parties thereto	8-K	10.1	8/31/2018	001-35054		
10.31 *	Andeavor 2011 Long-Term Incentive Plan (as amended and restated)	10-K	10.68	2/21/2018	001-03473 (Andeavor)		
10.32 *	Form of Executive Officer Synergy Incentive Award Agreement	8-K	10.1	1/30/2019	001-35054		
10.33 *	Andeavor 2018 Performance Share Award Grant Letter	8-K	10.1	2/20/2018	001-03473 (Andeavor)		
10.34 *	Andeavor Performance Share Awards Granted in 2018 Summary of Key Provisions	8-K	10.2	2/20/2018	001-03473 (Andeavor)		
10.35 *	Andeavor 2018 Market Stock Unit Award Grant Letter	8-K	10.3	2/20/2018	001-03473 (Andeavor)		
10.36 *	Andeavor Market Stock Unit Awards Granted in 2018 Summary of Key Provisions	8-K	10.4	2/20/2018	001-03473 (Andeavor)		
10.37 *	Marathon Petroleum Corporation Deferred Compensation Plan for Non-Employee Directors, as amended and restated January 1, 2019	10-K	10.75	2/28/2019	001-35054		
10.38 *	Conversion Notice for Andeavor Awards	10-K	10.76	2/28/2019	001-35054		
10.39 *	MPLX LP 2018 Incentive Compensation Plan MPC Non-Employee Director Phantom Unit Award Policy	10-K	10.86	2/28/2019	001-35054		
10.40 *	Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-K	10.87	2/28/2019	001-35054		
10.41 *	First Amendment to the Amended and Restated Marathon Petroleum Corporation 2012 Incentive Compensation Plan	10-K	10.84	2/28/2020	001-35054		
10.42 *	Restricted Stock Award Agreement - Officer	10-Q	10.1	5/9/2019	001-35054		
10.43 *	Nonqualified Stock Option Award Agreement - Officer	10-Q	10.2	5/9/2019	001-35054		
10.44 *	Performance Unit Award Agreement 2019 - 2021 Performance Cycle	10-Q	10.3	5/9/2019	001-35054		
10.45	Amended and Restated Credit Agreement, dated as of July 26, 2019, by and among MPLX LP, as borrower, Wells Fargo Bank, National Association, as administrative agent, each of Wells Fargo Securities, LLC, JPMorgan Chase Bank, N.A., Barclays Bank PLC, BofA Securities, Inc., Citigroup Global Markets Inc., Mizuho Bank, Ltd., MUFG Bank, Ltd. and Royal Bank of Canada, as joint lead arrangers and joint bookrunners, JPMorgan Chase Bank, N.A., as syndication agent, each of Bank of America, N.A., Barclays Bank PLC, Citigroup Global Markets Inc., Mizuho Bank, Ltd., MUFG Bank, Ltd. and Royal Bank of Canada, as documentation agents, and the other lenders and issuing banks that are parties thereto	8-K	10.2	8/1/2019	001-35054		
10.46 *	Form of 2020 Officer RSU Award Agreement	10-Q	10.2	5/7/2020	001-35054		
10.47 *	Form of 2020 Officer Stock Option Award Agreement	10-Q	10.3	5/7/2020	001-35054		
10.48 *	Form of 2020 Officer Performance Unit Award Agreement 2020 - 2022 Performance Cycle	10-Q	10.4	5/7/2020	001-35054		
10.49 *	Form of 2020 MPLX LP Phantom Unit Award Agreement - MPC Officer	10-Q	10.5	5/7/2020	001-35054		

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith	Furnished Herewith
		Form	Exhibit	Filing Date	SEC File No.		
10.50 *	Form of MPLX LP Performance Unit Award Agreement 2020-2022 Performance Cycle - MPC Officer	10-Q	10.6	5/7/2020	001-35054		
10.51 *	Chief Executive Officer RSU Award Agreement	10-Q	10.2	11/6/2020	001-35054		
10.52 *	Letter Agreement with Timothy T. Griffith, dated November 13, 2020	8-K	10.1	11/18/2020	001-35054		
10.53	Aircraft Time Sharing Agreement, dated as of December 29, 2020, by and between Marathon Petroleum Company LP and Michael J. Hennigan	10-K	10.67	2/26/2021	001-35054		
10.54 *	Form of 2021 MPC Officer RSU Award Agreement	10-K	10.69	2/26/2021	001-35054		
10.55 *	Form of 2021 MPC Performance Share Unit Award Agreement 2021 - 2023 Performance Cycle	10-K	10.70	2/26/2021	001-35054		
10.56 *	Form of 2021 MPLX LP Phantom Unit Award Agreement - MPC Officer	10-K	10.71	2/26/2021	001-35054		
10.57 *	2021 Marathon Petroleum Annual Cash Bonus Program	10-K	10.72	2/26/2021	001-35054		
10.58 *	Marathon Petroleum Executive Deferred Compensation Plan, effective January 1, 2021	10-K	10.73	2/26/2021	001-35054		
10.59 *	Marathon Petroleum Executive Deferred Compensation Plan Adoption Agreement, effective January 1, 2021	10-K	10.74	2/26/2021	001-35054		
10.60 *	Form of 2021 MPC Restricted Stock Unit Award – Broad-Based Employees	10-K	10.75	2/26/2021	001-35054		
10.61 *	Form of 2021 MPC Performance Share Unit Award Agreement – 2021-2023 Performance Cycle – Broad-Based Employees	10-K	10.76	2/26/2021	001-35054		
10.62 *	Marathon Petroleum Corporation 2021 Incentive Compensation Plan	8-K	10.1	5/4/2021	001-35054		
10.63 *	Form of 2021 MPC Officer RSU Award Agreement - 2021 Plan	10-Q	10.1	11/2/2021	001-35054		
10.64 *	Form of 2022 MPC Officer Performance Unit Award Agreement – 2022-2024 Performance Cycle					X	
10.65 *	CEO Nonqualified Stock Option Award Agreement, as Amended					X	
10.66 *	CEO Restricted Stock Unit Award Agreement					X	
10.67 *	CEO Performance Unit Award Agreement – 2020-2022 Performance Cycle, as Amended					X	
10.68 *	CEO Restricted Stock Unit Award Agreement, as Amended					X	
10.69 *	2022 Marathon Petroleum Annual Cash Bonus Program					X	
21.1	List of Subsidiaries					X	
23.1	Consent of Independent Registered Public Accounting Firm					X	
24.1	Power of Attorney of Directors and Officers of Marathon Petroleum Corporation					X	
31.1	Certification of Chief Executive Officer pursuant to Rule 13(a)-14 and 15(d)-14 under the Securities Exchange Act of 1934.					X	
31.2	Certification of Chief Financial Officer pursuant to Rule 13(a)-14 and 15(d)-14 under the Securities Exchange Act of 1934.					X	
32.1	Certification of Chief Executive Officer pursuant to 18 U.S.C. Section 1350.						X
32.2	Certification of Chief Financial Officer pursuant to 18 U.S.C. Section 1350.						X
101.INS	Inline XBRL Instance Document - the instance document does not appear in the Interactive Data File because its XBRL tags are embedded with the Inline XBRL document.					X	
101.SCH	Inline XBRL Taxonomy Extension Schema Document.					X	

Exhibit Number	Exhibit Description	Incorporated by Reference				Filed Herewith	Furnished Herewith
		Form	Exhibit	Filing Date	SEC File No.		
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document.					X	
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document.					X	
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document.					X	
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document.					X	
104	Cover Page Interactive Data File (formatted as Inline XBRL and contained in Exhibit 101).						

† The exhibits and schedules have been omitted pursuant to Item 601(b)(2) of Regulation S-K and will be provided to the Securities and Exchange Commission upon request.

* Indicates management contract or compensatory plan, contract or arrangement in which one or more directors or executive officers of the Registrant may be participants.

SIGNATURES

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.

February 24, 2022

MARATHON PETROLEUM CORPORATION

By: /s/ C. Kristopher Hagedorn

C. Kristopher Hagedorn
Senior Vice President and Controller

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on February 24, 2022 on behalf of the registrant and in the capacities indicated.

Signature	Title
<hr/> <i>/s/ Michael J. Hennigan</i> Michael J. Hennigan	Director, President and Chief Executive Officer (principal executive officer)
<hr/> <i>/s/ Maryann T. Mannen</i> Maryann T. Mannen	Executive Vice President and Chief Financial Officer (principal financial officer)
<hr/> <i>/s/ C. Kristopher Hagedorn</i> C. Kristopher Hagedorn	Senior Vice President and Controller (principal accounting officer)
<hr/> * Abdulaziz F. Alkhayyal	Director
<hr/> * Evan Bayh	Director
<hr/> * Charles E. Bunch	Director
<hr/> * Jonathan Z. Cohen	Director
<hr/> * Steven A. Davis	Director
<hr/> * Edward G. Galante	Director
<hr/> * Kim K.W. Rucker	Director
<hr/> * Frank M. Semple	Director
<hr/> * J. Michael Stice	Director
<hr/> * John P. Surma	Chairman of the Board
<hr/> * Susan Tomasky	Director

* The undersigned, by signing his name hereto, does sign and execute this report pursuant to the Power of Attorney executed by the above-named directors and officers of the registrant, which is being filed herewith on behalf of such directors and officers.

By: /s/ Michael J. Hennigan

February 24, 2022

Michael J. Hennigan
Attorney-in-Fact

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CORPORATE INFORMATION

Dividends on common stock, as may be declared by the Board of Directors, are typically paid mid-month in March, June, September and December.

Dividend Checks Not Received / Electronic Deposit If you do not receive your dividend check on the appropriate payment date, we suggest that you wait at least 10 days after the payment date to allow for any delay in mail delivery. After that time, advise Computershare by phone or in writing to issue a replacement check. You may contact Computershare to authorize electronic deposit of your dividends into your bank account.

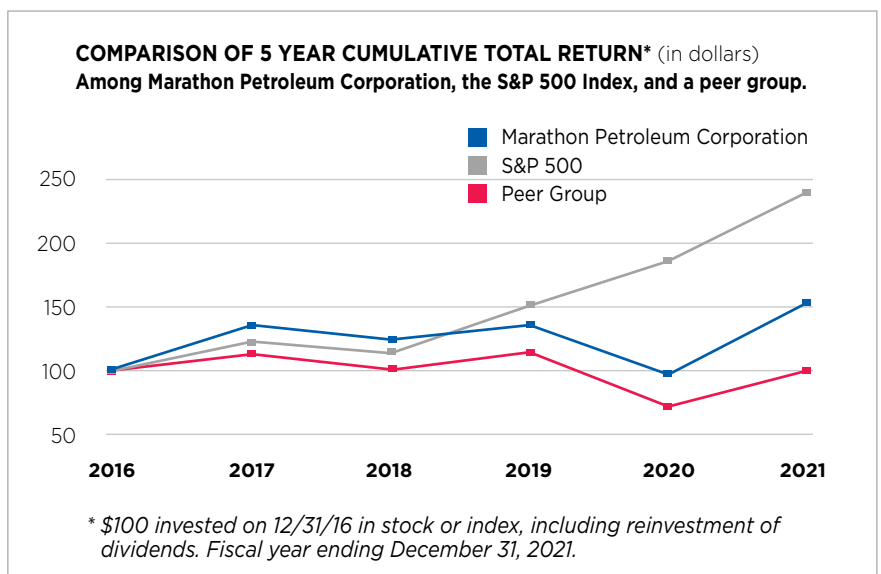
Book-entry Form of Stock Ownership Marathon Petroleum Corporation exclusively maintains book-entry form of stockholder ownership. Account statements issued by stock transfer agent, Computershare, shall serve as stockholders' record of ownership. Questions regarding stock ownership should be directed to Computershare.

Taxpayer Identification Number Federal law requires that each stockholder provide a certified taxpayer identification number (TIN) for his/her stockholder account. For individual stockholders, your TIN is your Social Security number. If you do not provide a certified TIN, Computershare may be required to withhold 24% for federal income taxes from your dividends.

Address Change It is important that you notify Computershare immediately, by phone, in writing or by fax, when you change your address. Seasonal addresses can be entered for your account.

Stock Return Performance Graph The graph below matches the cumulative 5-Year total return of holders of Marathon Petroleum Corporation's common stock with the cumulative total returns of the S&P 500 index and a customized peer group of seven companies that includes: Bp Plc, Chevron Corp, Exxon Mobil Corp, Hollyfrontier Corp, PBF Energy Inc., Phillips 66, and Valero Energy Corp. The graph assumes that the value of the investment in our common stock, in each index, and in the peer group (including reinvestment of dividends) was \$100 on 12/31/2016 and tracks it through 12/31/2021.

The following performance graph is not "soliciting material" and will not be deemed to be filed with the Securities and Exchange Commission (SEC) or incorporated by reference into any of MPC's filings with the SEC, except to the extent that we specifically incorporate it by reference into any such filings.



Corporate Headquarters

539 South Main St. Findlay, OH 45840

Marathon Petroleum Corporation

Website: www.marathonpetroleum.com

Investor Relations Office

539 South Main St.
Findlay, OH 45840
ir@marathonpetroleum.com
Kristina Kazarian
Vice President, Investor Relations
(419) 421-2071

Notice of Annual Meeting

The 2022 Annual Meeting of Shareholders will be held in a virtual-only format via live webcast on April 27, 2022.

Independent Accountants

PricewaterhouseCoopers LLP
406 Washington St., Suite 200
Toledo, OH 43604

Stock Exchange Listing

New York Stock Exchange

Common Stock Symbol: MPC

Principal Stock Transfer Agent Computershare

Shareholder correspondence should be mailed to:
P.O. Box 505000
Louisville, KY 40233-5000

Overnight correspondence should be mailed to:
462 South 4th St., Suite 1600
Louisville, KY 40202

(866) 820-7494 (toll free – U.S., Canada, Puerto Rico)

(781) 575-2176 (other non-U.S. jurisdictions)
web.queries@computershare.com

Annual Report on Form 10-K

Additional copies of the Marathon Petroleum Corporation 2021 Annual Report may be obtained by contacting:
Corporate Communications
539 South Main St.
Findlay, OH 45840
(419) 421-3577



Marathon Petroleum Corporation

Disclosures Regarding Forward-Looking Statements

This summary annual report wrap includes forward-looking statements. You can identify our forward-looking statements by words such as “anticipate,” “believe,” “commitment,” “could,” “design,” “estimate,” “expect,” “forecast,” “goal,” “guidance,” “imply,” “intend,” “may,” “objective,” “opportunity,” “outlook,” “plan,” “policy,” “position,” “potential,” “predict,” “principle,” “priority,” “project,” “proposition,” “prospective,” “pursue,” “seek,” “should,” “strategy,” “target,” “will,” “would,” or other similar expressions that convey the uncertainty of future events or outcomes. We have based our forward-looking statements on our current expectations, estimates and projections about our business and industry. We caution that these statements are not guarantees of future performance and you should not rely unduly on them, as they involve risks, uncertainties and assumptions. While our management considers these assumptions to be reasonable, they are inherently subject to significant business, economic, competitive, regulatory and other risks, contingencies and uncertainties, most of which are difficult to predict and many of which are beyond our control. Accordingly, our actual results may differ materially from the future performance that we have expressed or forecast in our forward-looking statements. We have included in our attached Form 10-K for the year ended Dec. 31, 2021, cautionary language identifying important factors, though not necessarily all such factors, that could cause actual results to differ materially from those set forth in the forward-looking statements. Such factors include the timing and ability to obtain regulatory permits or other approvals and consents required for the completion of projects referenced herein, including the conversion of the Martinez, California, refinery into a renewable fuels facility, within the expected timeframe if at all.

