

2022

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

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FORM 10-K

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

For the fiscal year ended December 31, 2022

or

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

For the transition period from _____ to _____
Commission File Number 1-2256

Exxon Mobil Corporation

(Exact name of registrant as specified in its charter)

New Jersey
(State or other jurisdiction of
incorporation or organization)

13-5409005
(I.R.S. Employer
Identification Number)

5959 Las Colinas Boulevard, Irving, Texas 75039-2298

(Address of principal executive offices) (Zip Code)

(972) 940-6000

(Registrant's telephone number, including area code)

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

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common Stock, without par value	XOM	New York Stock Exchange
0.142% Notes due 2024	XOM24B	New York Stock Exchange
0.524% Notes due 2028	XOM28	New York Stock Exchange
0.835% Notes due 2032	XOM32	New York Stock Exchange
1.408% Notes due 2039	XOM39A	New York Stock Exchange

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☒ No ☐Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ☒ No ☐

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

Large accelerated filer	<input checked="" type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/>	Smaller reporting company	<input type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

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 by Rule 12b-2 of the Act). Yes ☐ No ☒

The aggregate market value of the voting stock held by non-affiliates of the registrant on June 30, 2022, the last business day of the registrant's most recently completed second fiscal quarter, based on the closing price on that date of \$85.64 on the New York Stock Exchange composite tape, was in excess of \$356 billion.

Class
Common stock, without par value

Outstanding as of January 31, 2023
4,070,984,988

Documents Incorporated by Reference: Proxy Statement for the 2023 Annual Meeting of Shareholders (Part III)

EXXON MOBIL CORPORATION
FORM 10-K
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2022

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PART I

ITEM 1. BUSINESS

Exxon Mobil Corporation was incorporated in the State of New Jersey in 1882. Divisions and affiliated companies of ExxonMobil operate or market products in the United States and most other countries of the world. Our principal business involves exploration for, and production of, crude oil and natural gas; manufacture, trade, transport and sale of crude oil, natural gas, petroleum products, petrochemicals, and a wide variety of specialty products; and pursuit of lower-emission business opportunities including carbon capture and storage, hydrogen, and lower-emission fuels. Affiliates of ExxonMobil conduct extensive research programs in support of these businesses.

Exxon Mobil Corporation has several divisions and hundreds of affiliates, many with names that include *ExxonMobil*, *Exxon*, *Esso*, *Mobil* or *XTO*. For convenience and simplicity, in this report the terms *ExxonMobil*, *Exxon*, *Esso*, *Mobil*, and *XTO*, as well as terms like *Corporation*, *Company*, *our*, *we*, and *its*, are sometimes used as abbreviated references to specific affiliates or groups of affiliates. The precise meaning depends on the context in question.

The energy and petrochemical industries are highly competitive, both within the industries and also with other industries in supplying the energy, fuel, and chemical needs of industrial and individual consumers. Certain industry participants, including ExxonMobil, are expanding investments in lower-emission energy and emission-reduction services and technologies. The Corporation competes with other firms in the sale or purchase of needed goods and services in many national and international markets and employs all methods of competition which are lawful and appropriate for such purposes.

Operating data and industry segment information for the Corporation are contained in the Financial Section of this report under the following: “Management’s Discussion and Analysis of Financial Condition and Results of Operations: Business Results” and “Note 18: Disclosures about Segments and Related Information”. Information on oil and gas reserves is contained in the “Oil and Gas Reserves” part of the “Supplemental Information on Oil and Gas Exploration and Production Activities” portion of the Financial Section of this report.

ExxonMobil has a long-standing commitment to the development of proprietary technology. We have a wide array of research programs designed to meet the needs identified in each of our business segments. ExxonMobil held over 8 thousand active patents worldwide at the end of 2022. For technology licensed to third parties, revenues totaled approximately \$129 million in 2022. Although technology is an important contributor to the overall operations and results of our Company, the profitability of each business segment is not dependent on any individual patent, trade secret, trademark, license, franchise, or concession.

ExxonMobil operates in a highly complex, competitive, and changing global energy business environment where decisions and risks play out over time horizons that are often decades in length. This long-term orientation underpins the Corporation’s philosophy on talent development.

Talent development begins with recruiting exceptional candidates and continues with individually planned experiences and training designed to facilitate broad development and a deep understanding of our business across the business cycle. Our career-oriented approach to talent development results in strong retention and an average length of service of about 30 years for our career employees. Compensation, benefits, and workplace programs support the Corporation’s talent management approach, and are designed to attract and retain employees for a career through compensation that is market competitive, long-term oriented, and highly differentiated by individual performance.

Over 60 percent of our global employee workforce is from outside the U.S., and over the past decade 39 percent of our global hires for management, professional and technical positions were female and 35 percent of our U.S. hires for management, professional and technical positions were minorities. With over 160 nationalities represented in the company, we encourage and respect diversity of thought, ideas, and perspective from our workforce. We consider and monitor diversity through all stages of employment, including recruitment, training, and development of our employees. We also work closely with the communities where we operate to identify and invest in initiatives that help support local needs, including local talent and skill development.

The number of regular employees was 62 thousand, 63 thousand, and 72 thousand at years ended 2022, 2021, and 2020, respectively. Regular employees are defined as active executive, management, professional, technical, and wage employees who work full time or part time for the Corporation and are covered by the Corporation’s benefit plans and programs.

As discussed in item 1A. Risk Factors in this report, compliance with existing and potential future government regulations, including taxes, environmental regulations, and other government regulations and policies that directly or indirectly affect the production and sale of our products, may have material effects on the capital expenditures, earnings, and competitive position of ExxonMobil. With respect to the environment, throughout ExxonMobil's businesses, new and ongoing measures are taken to prevent and minimize the impact of our operations on air, water, and ground, including, but not limited to, compliance with environmental regulations. These include a significant investment in refining infrastructure and technology to manufacture clean fuels, as well as projects to monitor and reduce air, water, and waste emissions, and expenditures for asset retirement obligations. Using definitions and guidelines established by the American Petroleum Institute, ExxonMobil's 2022 worldwide environmental expenditures for all such preventative and remediation steps, including ExxonMobil's share of equity company expenditures, were \$5.7 billion, of which \$3.8 billion were included in expenses with the remainder in capital expenditures. As the Corporation progresses its emission-reduction plans, worldwide environmental expenditures are expected to increase to approximately \$7.3 billion in 2023, with capital expenditures expected to account for approximately 46 percent of the total. Costs for 2024 are anticipated to increase to approximately \$8.2 billion, with capital expenditures expected to account for approximately 51 percent of the total.

Information concerning the source and availability of raw materials used in the Corporation's business, the extent of seasonality in the business, the possibility of renegotiation of profits or termination of contracts at the election of governments, and risks attendant to foreign operations may be found in "Item 1A. Risk Factors" and "Item 2. Properties" in this report.

ExxonMobil maintains a website at exxonmobil.com. Our annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and any amendments to those reports filed or furnished pursuant to Section 13(a) of the Securities Exchange Act of 1934 are made available through our website as soon as reasonably practical after we electronically file or furnish the reports to the Securities and Exchange Commission (SEC). Also available on the Corporation's website are the company's Corporate Governance Guidelines, Code of Ethics and Business Conduct, and additional policies as well as the charters of the audit, compensation, and other committees of the Board of Directors. Information on our website is not incorporated into this report.

The SEC maintains an internet site (<http://www.sec.gov>) that contains reports, proxy and information statements, and other information regarding issuers that file electronically with the SEC.

ITEM 1A. RISK FACTORS

ExxonMobil's financial and operating results are subject to a variety of risks inherent in the global oil, gas, and petrochemical businesses, and the pursuit of lower-emission business opportunities. Many of these risk factors are not within the company's control and could adversely affect our business, our financial and operating results, or our financial condition. These risk factors include:

Supply and Demand

The oil, gas, and petrochemical businesses are fundamentally commodity businesses. This means ExxonMobil's operations and earnings may be significantly affected by changes in oil, gas, and petrochemical prices and by changes in margins on refined products. Oil, gas, petrochemical, and product prices and margins in turn depend on local, regional, and global events or conditions that affect supply and demand for the relevant commodity or product. Any material decline in oil or natural gas prices could have a material adverse effect on the company's operations, financial condition, and proved reserves, especially in the Upstream segment. On the other hand, a material increase in oil or natural gas prices could have a material adverse effect on the company's operations, especially in the Energy Products, Chemical Products, and Specialty Products segments. Our pursuit of lower-emission business opportunities including carbon capture and storage, hydrogen, and lower-emission fuels also depends on the growth and development of markets for those products and services, including implementation of supportive government policies and developments in technology to enable those products and services to be provided on a cost-effective basis at commercial scale. See "Climate Change and the Energy Transition" in this Item 1A.

Economic conditions. The demand for energy and petrochemicals is generally linked closely with broad-based economic activities and levels of prosperity. The occurrence of recessions or other periods of low or negative economic growth will typically have a direct adverse impact on our results. Other factors that affect general economic conditions in the world or in a major region, such as changes in population growth rates, periods of civil unrest, government regulation or austerity programs, trade tariffs or broader breakdowns in global trade, security or public health issues and responses, or currency exchange rate fluctuations, can also impact the demand for energy and petrochemicals. Sovereign debt downgrades, defaults, inability to access debt markets due to rating, banking, or legal constraints, liquidity crises, the breakup or restructuring of fiscal, monetary, or political systems such as the European Union, and other events or conditions that impair the functioning of financial markets and institutions also pose risks to ExxonMobil, including risks to the safety of our financial assets and to the ability of our partners and customers to fulfill their commitments to ExxonMobil. Our future business results, including cash flows and financing needs, will also be affected by the rate of recovery from the COVID-19 pandemic, as well as the occurrence and severity of future outbreaks, the responsive actions taken by governments and others, and the resulting effects on regional and global markets and economies.

Other demand-related factors. Other factors that may affect the demand for oil, gas, and petrochemicals, and therefore impact our results, include technological improvements in energy efficiency; seasonal weather patterns; increased competitiveness of, or government policy support for, alternative energy sources; changes in technology that alter fuel choices, such as technological advances in energy storage that make wind and solar more competitive for power generation; changes in consumer preferences for our products, including consumer demand for alternative fueled or electric transportation or alternatives to plastic products; and broad-based changes in personal income levels. See also “Climate Change and the Energy Transition” below.

Other supply-related factors. Commodity prices and margins also vary depending on a number of factors affecting supply. For example, increased supply from the development of new oil and gas supply sources and technologies to enhance recovery from existing sources tends to reduce commodity prices to the extent such supply increases are not offset by commensurate growth in demand. Similarly, increases in industry refining or petrochemical manufacturing capacity relative to demand tend to reduce margins on the affected products. World oil, gas, and petrochemical supply levels can also be affected by factors that reduce available supplies, such as the level of and adherence by participating countries to production quotas established by OPEC or “OPEC+” and other agreements among sovereigns; government policies, including actions intended to reduce greenhouse gas emissions, that restrict oil and gas production or increase associated costs; and the occurrence of wars, hostile actions, natural disasters, disruptions in competitors’ operations, logistics constraints, or unexpected unavailability of distribution channels that may disrupt supplies. Technological change can also alter the relative costs for competitors to find, produce, and refine oil and gas and to manufacture petrochemicals.

Other market factors. ExxonMobil’s business results are also exposed to potential negative impacts due to changes in interest rates, inflation, currency exchange rates, and other local or regional market conditions. In addition to direct potential impacts on our costs and revenues, market factors such as rates of inflation may indirectly impact our results to the extent such factors reduce general rates of economic growth and therefore energy demand, as discussed under “Economic conditions”. Market factors may also result in losses from commodity derivatives and other instruments we use to hedge price exposures or for trading purposes. Additional information regarding the potential future impact of market factors on our businesses is included or incorporated by reference under Item 7A. Quantitative and Qualitative Disclosures About Market Risk in this report.

Government and Political Factors

ExxonMobil’s results can be adversely affected by political or regulatory developments affecting our operations.

Access limitations. A number of countries limit access to their oil and gas resources, including by restricting leasing or permitting activities, or may place resources off-limits from development altogether. Restrictions on production of oil and gas could increase to the extent governments view such measures as a viable approach for pursuing national and global energy and climate policies. Restrictions on foreign investment in the oil and gas sector tend to increase in times of high commodity prices, when national governments may have less need for outside sources of private capital. Many countries also restrict the import or export of certain products based on point of origin.

Restrictions on doing business. ExxonMobil is subject to laws and sanctions imposed by the United States or by other jurisdictions where we do business that may prohibit ExxonMobil or its affiliates from doing business in certain countries, or restricting the kind of business that may be conducted. Such restrictions may provide a competitive advantage to competitors who may not be subject to comparable restrictions.

Lack of legal certainty. Some countries in which we do business lack well-developed legal systems, or have not yet adopted, or may be unable to maintain, clear regulatory frameworks for oil and gas development. Lack of legal certainty exposes our operations to increased risk of adverse or unpredictable actions by government officials, and also makes it more difficult for us to enforce our contracts. In some cases these risks can be partially offset by agreements to arbitrate disputes in an international forum, but the adequacy of this remedy may still depend on the local legal system to enforce an award.

Regulatory and litigation risks. Even in countries with well-developed legal systems where ExxonMobil does business, we remain exposed to changes in law or interpretation of settled law (including changes that result from international treaties and accords) and changes in policy that could adversely affect our results, such as:

- increases in taxes, duties, or government royalty rates (including retroactive claims);
- price controls;
- changes in environmental regulations or other laws that increase our cost of compliance or reduce or delay available business opportunities (including changes in laws affecting offshore drilling operations, water use, emissions, hydraulic fracturing, or production or use of new or recycled plastics);
- actions by policy-makers, regulators, or other actors to delay or deny necessary licenses and permits, restrict the availability of oil and gas leases or the transportation of our products, or otherwise require changes in the company’s business or strategy that could result in reduced returns;
- adoption of regulations mandating efficiency standards, the use of alternative fuels or uncompetitive fuel components;
- adoption of government payment transparency regulations that could require us to disclose competitively sensitive commercial information, or that could cause us to violate the non-disclosure laws of other countries; and
- government actions to cancel contracts, redenominate the official currency, renounce or default on obligations, renegotiate terms unilaterally, or expropriate assets.

Legal remedies available to compensate us for expropriation or other takings may be inadequate.

We also may be adversely affected by the outcome of litigation, especially in countries such as the United States in which very large and unpredictable punitive damage awards may occur; by government enforcement proceedings alleging non-compliance with applicable laws or regulations; or by state and local government actors as well as private plaintiffs acting in parallel that attempt to use the legal system to promote public policy agendas (including seeking to reduce the production and sale of hydrocarbon products through litigation targeting the company or other industry participants), gain political notoriety, or obtain monetary awards from the company. The adoption of similar legal practices in the European Union or elsewhere would broaden this risk and has begun to be applied to some of our competitors in the European Union.

Security concerns. Successful operation of particular facilities or projects may be disrupted by civil unrest, acts of sabotage or terrorism, cybersecurity attacks, the application of national security laws or policies that result in restricting our ability to do business in a particular jurisdiction, and other local security concerns. Such concerns may be directed specifically at our company, our industry, or as part of broader movements and may require us to incur greater costs for security or to shut down operations for a period of time.

Climate Change and the Energy Transition

Net-zero scenarios. Driven by concern over the risks of climate change, a number of countries have adopted, or are considering the adoption of, regulatory frameworks to reduce greenhouse gas emissions including emissions from the production and use of oil and gas and their products. These actions are being taken both independently by national and regional governments and within the framework of United Nations Conference of the Parties summits under which many countries of the world have endorsed objectives to reduce the atmospheric concentration of CO₂ over the coming decades, with an ambition ultimately to achieve “net zero”. Net zero means that emissions of greenhouse gases from human activities would be balanced by actions that remove such gases from the atmosphere. Expectations for transition of the world’s energy system to lower-emission sources, and ultimately net-zero, derive from hypothetical scenarios that reflect many assumptions about the future and reflect substantial uncertainties. The company’s objective to play a leading role in the energy transition, including the company’s announced ambition ultimately to achieve net zero with respect to Scope 1 and 2 emissions from operations where ExxonMobil is the operator, carries risks that the transition, including underlying technologies, policies, and markets as discussed in more detail below, will not develop at the pace or in the manner expected by current net-zero scenarios. The success of our strategy for the energy transition will also depend on our ability to recognize key signposts of change in the global energy system on a timely basis, and our corresponding ability to direct investment to the technologies and businesses, at the appropriate stage of development, to best capitalize on our competitive strengths.

Greenhouse gas restrictions. Government actions intended to reduce greenhouse gas emissions include adoption of cap and trade regimes, carbon taxes, carbon-based import duties or other trade tariffs, minimum renewable usage requirements, restrictive permitting, increased mileage and other efficiency standards, mandates for sales of electric vehicles, mandates for use of specific fuels or technologies, and other incentives or mandates designed to support transitioning to lower-emission energy sources. Political and other actors and their agents also increasingly seek to advance climate change objectives indirectly, such as by seeking to reduce the availability or increase the cost of financing and investment in the oil and gas sector and taking actions intended to promote changes in business strategy for oil and gas companies. Depending on how policies are formulated and applied, such policies could negatively affect our investment returns, make our hydrocarbon-based products more expensive or less competitive, lengthen project implementation times, and reduce demand for hydrocarbons, as well as shift hydrocarbon demand toward relatively lower-carbon alternatives. Current and pending greenhouse gas regulations or policies may also increase our compliance costs, such as for monitoring or sequestering emissions.

Technology and lower-emission solutions. Achieving societal ambitions to reduce greenhouse gas emissions and ultimately achieve net zero will require new technologies to reduce the cost and increase the scalability of alternative energy sources, as well as technologies such as carbon capture and storage (CCS). CCS technologies, focused initially on capturing and sequestering CO₂ emissions from high-intensity industrial activities, can assist in meeting society’s objective to mitigate atmospheric greenhouse gas levels while also helping ensure the availability of the reliable and affordable energy the world requires. ExxonMobil has established a Low Carbon Solutions (LCS) business unit to advance the development and deployment of these technologies and projects, including CCS, hydrogen, and lower-emission fuels, breakthrough energy efficiency processes, advanced energy-saving materials, and other technologies. The company’s efforts include both in-house research and development as well as collaborative efforts with leading universities and with commercial partners involved in advanced lower-emission energy technologies. Our future results and ability to grow our LCS business, help nations meet their emission-reduction goals, and succeed through the energy transition will depend in part on the success of these research and collaboration efforts and on our ability to adapt and apply the strengths of our current business model to providing the energy products of the future in a cost-competitive manner.

Policy and market development. The scale of the world's energy system means that, in addition to developments in technology as discussed above, a successful energy transition will require appropriate support from governments and private participants throughout the global economy. Our ability to develop and deploy CCS and other lower-emission energy technologies at commercial scale, and the growth and future returns of LCS and other emerging businesses in which we invest, will depend in part on the continued development of supportive government policies and markets. Failure or delay of these policies or markets to materialize or be maintained could adversely impact these investments. Policy and other actions that result in restricting the availability of hydrocarbon products without commensurate reduction in demand may have unpredictable adverse effects, including increased commodity price volatility; periods of significantly higher commodity prices and resulting inflationary pressures; and local or regional energy shortages. Such effects in turn may depress economic growth or lead to rapid or conflicting shifts in policy by different actors, with resulting adverse effects on our businesses. In addition, the existence of supportive policies in any jurisdiction is not a guarantee that those policies will continue in the future. See also the discussion of "Supply and Demand," "Government and Political Factors," and "Operational and Other Factors" in this Item 1A.

Operational and Other Factors

In addition to external economic and political factors, our future business results also depend on our ability to manage successfully those factors that are, at least in part, within our control. The extent to which we manage these factors will impact our performance relative to competition. For projects in which we are not the operator, we depend on the management effectiveness of one or more co-venturers whom we do not control.

Exploration and development program. Our ability to maintain and grow our oil and gas production depends on the success of our exploration and development efforts. Among other factors, we must continuously improve our ability to identify the most promising resource prospects and apply our project management expertise to bring discovered resources online as scheduled and within budget.

Project and portfolio management. The long-term success of ExxonMobil's Upstream and Product Solutions businesses, as well as the future success of LCS and other emerging lower-emission investments, depends on complex, long-term, capital intensive projects. These projects in turn require a high degree of project management expertise to maximize efficiency. Specific factors that can affect the performance of major projects include our ability to: negotiate successfully with joint venturers, partners, governments, suppliers, customers, or others; model and optimize reservoir performance; develop markets for project outputs, whether through long-term contracts or the development of effective spot markets; manage changes in operating conditions and costs, including costs of third party equipment or services such as drilling rigs and shipping, supply-chain disruptions, and inflationary cost pressures; prevent, to the extent possible, and respond effectively to unforeseen technical difficulties that could delay project start-up or cause unscheduled project downtime; and influence the performance of project operators where ExxonMobil does not perform that role. In addition to the effective management of individual projects, ExxonMobil's success, including our ability to mitigate risk and provide attractive returns to shareholders, depends on our ability to successfully manage our overall portfolio, including diversification among types and locations of our projects, products produced, and strategies to divest assets. We may not be able to divest assets at a price or on the timeline we contemplate in our strategies. Additionally, we may retain certain liabilities following a divestment and could be held liable for past use or for different liabilities than anticipated.

The term "project" as used in this report can refer to a variety of different activities and does not necessarily have the same meaning as in any government payment transparency reports.

Operational efficiency. An important component of ExxonMobil's competitive performance, especially given the commodity-based nature of many of our businesses, is our ability to operate efficiently, including our ability to manage expenses and improve production yields on an ongoing basis. This requires continuous management focus, including technology improvements, cost control, productivity enhancements, regular reappraisal of our asset portfolio, and the recruitment, development, and retention of high caliber employees.

Research and development and technological change. To maintain our competitive position, especially in light of the technological nature of our businesses and the need for continuous efficiency improvement, ExxonMobil's technology, research, and development organizations must be successful and able to adapt to a changing market and policy environment, including developing technologies to help reduce greenhouse gas emissions. To remain competitive we must also continuously adapt and capture the benefits of new and emerging technologies, including successfully applying advances in the ability to process very large amounts of data to our businesses.

Safety, business controls, and environmental risk management. Our results depend on management's ability to minimize the inherent risks of oil, gas, and petrochemical operations, to effectively control our business activities, and to minimize the potential for human error. We apply rigorous management systems and continuous focus on workplace safety and avoiding spills or other adverse environmental events. For example, we work to minimize spills through a combined program of effective operations integrity management, ongoing upgrades, key equipment replacements, and comprehensive inspection and surveillance. Similarly, we are implementing cost-effective new technologies and adopting new operating practices to reduce emissions, not only in response to government requirements but also to address community priorities. We employ a comprehensive enterprise risk management system to identify and manage risk across our businesses. We also maintain a disciplined framework of internal controls and apply a controls management system for monitoring compliance with this framework. Substantial liabilities and other adverse impacts could result if we do not timely identify and mitigate applicable risks, or if our management systems and controls do not function as intended.

Cybersecurity. ExxonMobil is regularly subject to attempted cybersecurity disruptions from a variety of sources including state-sponsored actors. ExxonMobil's defensive preparedness includes multi-layered technological capabilities for prevention and detection of cybersecurity disruptions; non-technological measures such as threat information sharing with governmental and industry groups; annual internal training and awareness campaigns including routine testing of employee awareness and an emphasis on resiliency, including business response and recovery. If the measures we are taking to protect against cybersecurity disruptions prove to be insufficient or if our proprietary data is otherwise not protected, ExxonMobil, as well as our customers, employees, or third parties, could be adversely affected. We are also exposed to potential harm from cybersecurity events that may affect the operations of third-parties, including our partners, suppliers, service providers (including providers of cloud-hosting services for our data or applications), and customers. Cybersecurity disruptions could cause physical harm to people or the environment; damage or destroy assets; compromise business systems; result in proprietary information being altered, lost, or stolen; result in employee, customer, or third-party information being compromised; or otherwise disrupt our business operations. We could incur significant costs to remedy the effects of a major cybersecurity disruption in addition to costs in connection with resulting regulatory actions, litigation, or reputational harm.

Preparedness. Our operations may be disrupted by severe weather events, natural disasters, human error, and similar events. For example, hurricanes may damage our offshore production facilities or coastal refining and petrochemical plants in vulnerable areas. Our facilities are designed, engineered, constructed, and operated to withstand a variety of extreme climatic and other conditions, with safety factors built in to cover a number of uncertainties, including those associated with wave, wind, and current intensity, marine ice flow patterns, permafrost stability, storm surge magnitude, temperature extremes, extreme rainfall events, and earthquakes. Our consideration of changing weather conditions and inclusion of safety factors in design covers the engineering uncertainties that climate change and other events may potentially introduce. Our ability to mitigate the adverse impacts of these events depends in part upon the effectiveness of our robust facility engineering, our rigorous disaster preparedness and response, and business continuity planning.

Insurance limitations. The ability of the Corporation to insure against many of the risks it faces as described in this Item 1A is limited by the availability and cost of coverage, which may not be economic, as well as the capacity of the applicable insurance markets, which may not be sufficient.

Competition. As noted in Item 1 above, the energy and petrochemical industries are highly competitive. We face competition not only from other private firms, but also from state-owned companies that are increasingly competing for opportunities outside of their home countries and as partners with other private firms. In some cases, these state-owned companies may pursue opportunities in furtherance of strategic objectives of their government owners, with less focus on financial returns than companies owned by private shareholders, such as ExxonMobil. Technology and expertise provided by industry service companies may also enhance the competitiveness of firms that may not have the internal resources and capabilities of ExxonMobil or reduce the need for resource-owning countries to partner with private-sector oil and gas companies in order to monetize national resources. As described in more detail above, our hydrocarbon-based energy products are also subject to growing and, in many cases, government-supported competition from alternative energy sources.

Reputation. Our reputation is an important corporate asset. Factors that could have a negative impact on our reputation include an operating incident or significant cybersecurity disruption; changes in consumer views concerning our products; a perception by investors or others that the Corporation is making insufficient progress with respect to our ambition to play a leading role in the energy transition, or that pursuit of this ambition may result in allocation of capital to investments with reduced returns; and other adverse events such as those described in this Item 1A. Negative impacts on our reputation could in turn make it more difficult for us to compete successfully for new opportunities, obtain necessary regulatory approvals, obtain financing, and attract talent, or they could reduce consumer demand for our branded products. ExxonMobil's reputation may also be harmed by events which negatively affect the image of our industry as a whole.

Projections, estimates, and descriptions of ExxonMobil's plans and objectives included or incorporated in Items 1, 1A, 2, 7, and 7A of this report are forward-looking statements. Actual future results, including project completion dates, production rates, capital expenditures, costs, and business plans could differ materially due to, among other things, the factors discussed above and elsewhere in this report.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

Information with regard to oil and gas producing activities follows:

1. Disclosure of Reserves

A. Summary of Oil and Gas Reserves at Year-End 2022

The table below summarizes the oil-equivalent proved reserves in each geographic area and by product type for consolidated subsidiaries and equity companies. Natural gas is converted to an oil-equivalent basis at six billion cubic feet per one million barrels. The Corporation has reported proved reserves on the basis of the average of the first-day-of-the-month price for each month during the last 12-month period. No major discovery or other favorable or adverse event has occurred since December 31, 2022 that would cause a significant change in the estimated proved reserves as of that date.

Proved Reserves	Crude Oil (million bbls)	Natural Gas Liquids (million bbls)	Bitumen (million bbls)	Synthetic Oil (million bbls)	Natural Gas (billion cubic ft)	Oil-Equivalent Total All Products (million bbls)
Developed						
Consolidated Subsidiaries						
United States	1,174	514	—	—	9,577	3,284
Canada/Other Americas ⁽¹⁾	377	1	2,288	248	371	2,976
Europe	5	—	—	—	408	73
Africa	236	23	—	—	307	310
Asia	2,020	47	—	—	2,037	2,407
Australia/Oceania	38	12	—	—	3,162	577
Total Consolidated	3,850	597	2,288	248	15,862	9,627
Equity Companies						
United States	119	7	—	—	127	147
Europe	2	—	—	—	326	56
Africa	5	—	—	—	663	116
Asia	235	125	—	—	5,020	1,197
Total Equity Company	361	132	—	—	6,136	1,516
Total Developed	4,211	729	2,288	248	21,998	11,143
Undeveloped						
Consolidated Subsidiaries						
United States	1,030	538	—	—	4,068	2,246
Canada/Other Americas ⁽¹⁾	568	—	132	105	337	861
Europe	—	—	—	—	5	1
Africa	35	—	—	—	5	36
Asia	774	39	—	—	1,024	983
Australia/Oceania	28	2	—	—	2,846	504
Total Consolidated	2,435	579	132	105	8,285	4,631
Equity Companies						
United States	—	—	—	—	—	—
Europe	—	—	—	—	54	9
Africa	—	—	—	—	—	—
Asia	521	223	—	—	7,289	1,959
Total Equity Company	521	223	—	—	7,343	1,968
Total Undeveloped	2,956	802	132	105	15,628	6,599
Total Proved Reserves	7,167	1,531	2,420	353	37,626	17,742

⁽¹⁾ Other Americas includes proved developed reserves of 243 million barrels of crude oil and 191 billion cubic feet of natural gas, as well as proved undeveloped reserves of 549 million barrels of crude oil and 311 billion cubic feet of natural gas.

In the preceding reserves information, consolidated subsidiary and equity company reserves are reported separately. However, the Corporation operates its business with the same view of equity company reserves as it has for reserves from consolidated subsidiaries.

The Corporation anticipates several projects will come online over the next few years providing additional production capacity. However, actual volumes will vary from year to year due to the timing of individual project start-ups; operational outages; reservoir performance; regulatory changes; the impact of fiscal and commercial terms; asset sales; weather events; price effects on production sharing contracts; changes in the amount and timing of capital investments that may vary depending on the oil and gas price environment; international trade patterns and relations; and other factors described in Item 1A. Risk Factors.

The estimation of proved reserves, which is based on the requirement of reasonable certainty, is an ongoing process based on rigorous technical evaluations, commercial and market assessments and detailed analysis of well and reservoir information such as flow rates and reservoir pressures. Furthermore, the Corporation only records proved reserves for projects which have received significant funding commitments by management toward the development of the reserves. Although the Corporation is reasonably certain that proved reserves will be produced, the timing and amount recovered can be affected by a number of factors including completion of development projects, reservoir performance, regulatory approvals, government policies, consumer preferences, and significant changes in crude oil and natural gas price levels. In addition, proved reserves could be affected by an extended period of low prices which could reduce the level of the Corporation's capital spending and also impact our partners' capacity to fund their share of joint projects.

B. Technologies Used in Establishing Proved Reserves Additions in 2022

Additions to ExxonMobil's proved reserves in 2022 were based on estimates generated through the integration of available and appropriate geological, engineering and production data, utilizing well-established technologies that have been demonstrated in the field to yield repeatable and consistent results.

Data used in these integrated assessments included information obtained directly from the subsurface via wellbores, such as well logs, reservoir core samples, fluid samples, static and dynamic pressure information, production test data, and surveillance and performance information. The data utilized also included subsurface information obtained through indirect measurements including high-quality 3-D and 4-D seismic data, calibrated with available well control information. The tools used to interpret the data included seismic processing software, reservoir modeling and simulation software, and data analysis packages.

In some circumstances, where appropriate analog reservoirs were available, reservoir parameters from these analogs were used to increase the quality of and confidence in the reserves estimates.

C. Qualifications of Reserves Technical Oversight Group and Internal Controls over Proved Reserves

ExxonMobil has a dedicated Global Reserves and Resources group that provides technical oversight and is separate from the operating organization. Primary responsibilities of this group include oversight of the reserves estimation process for compliance with Securities and Exchange Commission (SEC) rules and regulations, review of annual changes in reserves estimates, and the reporting of ExxonMobil's proved reserves. This group also maintains the official company reserves estimates for ExxonMobil's proved reserves of crude oil, natural gas liquids, bitumen, synthetic oil, and natural gas. In addition, the group provides training to personnel involved in the reserves estimation and reporting process within ExxonMobil and its affiliates. The Global Reserves and Resources Manager has more than 30 years of experience in reservoir engineering and reserves assessment, has a degree in Engineering, and served on the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE). The group is staffed with individuals that have an average of more than 15 years of technical experience in the petroleum industry, including expertise in the classification and categorization of reserves under SEC guidelines. This group includes individuals who hold degrees in either Engineering or Geology.

The Global Reserves and Resources group maintains a central database containing the official company reserves estimates. Appropriate controls, including limitations on database access and update capabilities, are in place to ensure data integrity within this central database. An annual review of the system's controls is performed by internal audit. Key components of the reserves estimation process include technical evaluations, commercial and market assessments, analysis of well and field performance, and long-standing approval guidelines. No changes may be made to the reserves estimates in the central database, including additions of any new initial reserves estimates or subsequent revisions, unless these changes have been thoroughly reviewed and evaluated by duly authorized geoscience and engineering professionals within the operating organization. In addition, changes to reserves estimates that exceed certain thresholds require further review and approval by the appropriate level of management within the operating organization before the changes may be made in the central database. Endorsement by the Global Reserves and Resources group for all proved reserves changes is a mandatory component of this review process. After all changes are made, reviews are held with senior management for final endorsement.

2. Proved Undeveloped Reserves

At year-end 2022, approximately 6.6 billion oil-equivalent barrels (GOEB) of ExxonMobil's proved reserves were classified as proved undeveloped. This represents 37 percent of the 17.7 GOEB reported in proved reserves. This compares to 6.3 GOEB of proved undeveloped reserves reported at the end of 2021. During the year, ExxonMobil conducted development activities that resulted in the transfer of approximately 1.0 GOEB from proved undeveloped to proved developed reserves by year end. The largest transfers were related to development activities in the United States, Mozambique, Guyana, and the United Arab Emirates. During 2022, extensions and discoveries, primarily in the United States and Guyana, resulted in the addition of approximately 1.4 GOEB of proved undeveloped reserves, along with an increase of approximately 0.7 GOEB due to purchases in Asia. Also, the Corporation reclassified approximately 0.8 GOEB of proved undeveloped reserves which no longer met the SEC definition of proved reserves, primarily in the United States and Canada.

Overall, investments of \$12.1 billion were made by the Corporation during 2022 to progress the development of reported proved undeveloped reserves, including \$12.0 billion for oil and gas producing activities, along with additional investments for other non-oil and gas producing activities such as the construction of support infrastructure and other related facilities. These investments represented 71 percent of the \$17.0 billion in total reported Upstream capital and exploration expenditures.

One of ExxonMobil's requirements for reporting proved reserves is that management has made significant funding commitments toward the development of the reserves. ExxonMobil has a disciplined investment strategy and many major fields require long lead-time in order to be developed. Development projects typically take several years from the time of recording proved undeveloped reserves to the start of production and can exceed five years for large and complex projects. Proved undeveloped reserves in Australia, Kazakhstan, the United States, and the United Arab Emirates have remained undeveloped for five years or more primarily due to constraints on the capacity of infrastructure, as well as the time required to complete development for very large projects. The Corporation is reasonably certain that these proved reserves will be produced; however, the timing and amount recovered can be affected by a number of factors including completion of development projects, reservoir performance, regulatory approvals, government policies, consumer preferences, the pace of co-venturer/government funding, changes in the amount and timing of capital investments, and significant changes in crude oil and natural gas price levels. Of the proved undeveloped reserves that have been reported for five or more years, over 80 percent are contained in the aforementioned countries. In Australia, proved undeveloped reserves are associated with future compression for the Gorgon Jansz LNG project. In Kazakhstan, the proved undeveloped reserves are related to the remainder of the Tengizchevroil joint venture development that includes a production license in the Tengiz - Korolev field complex. The Tengizchevroil joint venture is producing, and proved undeveloped reserves will continue to move to proved developed as approved development phases progress. In the United Arab Emirates, proved undeveloped reserves are associated with an approved development plan and continued drilling investment for the producing Upper Zakum field.

3. Oil and Gas Production, Production Prices and Production Costs

A. Oil and Gas Production

The table below summarizes production by final product sold and by geographic area for the last three years.

(thousands of barrels daily)	2022		2021		2020	
	Crude Oil	NGL	Crude Oil	NGL	Crude Oil	NGL
Crude oil and natural gas liquids production						
Consolidated Subsidiaries						
United States	523	211	482	195	481	154
Canada/Other Americas ⁽¹⁾	196	2	130	3	121	5
Europe	2	—	16	3	22	5
Africa	233	5	241	7	301	11
Asia	407	23	407	21	449	23
Australia/Oceania	27	16	28	15	29	15
Total Consolidated Subsidiaries	1,388	257	1,304	244	1,403	213
Equity Companies						
United States	41	1	43	1	49	1
Europe	2	—	3	—	3	—
Africa	—	—	—	—	—	—
Asia	216	59	207	60	208	62
Total Equity Companies	259	60	253	61	260	63
Total crude oil and natural gas liquids production	1,647	317	1,557	305	1,663	276
Bitumen production						
Consolidated Subsidiaries						
Canada/Other Americas	327		365		342	
Synthetic oil production						
Consolidated Subsidiaries						
Canada/Other Americas	63		62		68	
Total liquids production	2,354		2,289		2,349	
(millions of cubic feet daily)						
Natural gas production available for sale						
Consolidated Subsidiaries						
United States	2,531		2,724		2,668	
Canada/Other Americas ⁽¹⁾	148		195		277	
Europe	306		377		447	
Africa	64		43		9	
Asia	779		807		872	
Australia/Oceania	1,440		1,280		1,219	
Total Consolidated Subsidiaries	5,268		5,426		5,492	
Equity Companies						
United States	20		22		23	
Europe	361		431		342	
Africa	7		—		—	
Asia	2,639		2,658		2,614	
Total Equity Companies	3,027		3,111		2,979	
Total natural gas production available for sale	8,295		8,537		8,471	
(thousands of oil-equivalent barrels daily)						
Oil-equivalent production	3,737		3,712		3,761	

⁽¹⁾ Other Americas includes crude oil production for 2022, 2021, and 2020 of 120 thousand, 48 thousand, and 29 thousand barrels daily, respectively; and natural gas production available for sale for 2022, 2021, and 2020 of 45 million, 36 million, and 45 million cubic feet daily, respectively.

B. Production Prices and Production Costs

The table below summarizes average production prices and average production costs by geographic area and by product type for the last three years.

(dollars per unit)	United States	Canada/Other Americas	Europe	Africa	Asia	Australia/Oceania	Total
2022							
Consolidated Subsidiaries							
Average production prices							
Crude oil, per barrel	93.60	97.05	91.32	103.45	94.94	94.43	96.16
NGL, per barrel	38.54	45.22	71.43	57.83	35.77	46.91	39.37
Natural gas, per thousand cubic feet	5.37	4.40	21.17	2.57	2.60	11.47	7.48
Bitumen, per barrel	—	64.12	—	—	—	—	64.12
Synthetic oil, per barrel	—	96.08	—	—	—	—	96.08
Average production costs, per oil-equivalent barrel - total	9.40	24.63	23.77	21.68	7.31	4.97	13.09
Average production costs, per barrel - bitumen	—	29.90	—	—	—	—	29.90
Average production costs, per barrel - synthetic oil	—	51.52	—	—	—	—	51.52
Equity Companies							
Average production prices							
Crude oil, per barrel	94.58	—	90.91	60.00	94.32	—	94.32
NGL, per barrel	39.53	—	—	—	59.52	—	59.05
Natural gas, per thousand cubic feet	5.49	—	21.10	2.72	13.08	—	13.97
Average production costs, per oil-equivalent barrel - total	40.42	—	26.86	42.24	1.45	—	5.57
Total							
Average production prices							
Crude oil, per barrel	93.67	97.05	91.15	103.42	94.73	94.43	95.88
NGL, per barrel	38.55	45.22	71.43	57.83	52.85	46.91	43.09
Natural gas, per thousand cubic feet	5.37	4.40	21.14	2.59	10.70	11.47	9.85
Bitumen, per barrel	—	64.12	—	—	—	—	64.12
Synthetic oil, per barrel	—	96.08	—	—	—	—	96.08
Average production costs, per oil-equivalent barrel - total	10.57	24.63	25.43	21.79	4.02	4.97	11.43
Average production costs, per barrel - bitumen	—	29.90	—	—	—	—	29.90
Average production costs, per barrel - synthetic oil	—	51.52	—	—	—	—	51.52
2021							
Consolidated Subsidiaries							
Average production prices							
Crude oil, per barrel	65.03	68.56	66.20	70.21	67.28	69.00	67.14
NGL, per barrel	32.24	30.51	42.31	54.57	32.62	43.07	33.65
Natural gas, per thousand cubic feet	3.02	2.92	11.83	1.67	2.11	6.64	4.33
Bitumen, per barrel	—	44.26	—	—	—	—	44.26
Synthetic oil, per barrel	—	64.73	—	—	—	—	64.73
Average production costs, per oil-equivalent barrel - total	8.33	22.47	25.31	18.92	7.16	5.14	12.15
Average production costs, per barrel - bitumen	—	22.69	—	—	—	—	22.69
Average production costs, per barrel - synthetic oil	—	48.87	—	—	—	—	48.87
Equity Companies							
Average production prices							
Crude oil, per barrel	67.06	—	62.60	—	65.85	—	66.01
NGL, per barrel	29.94	—	—	—	52.14	—	51.64
Natural gas, per thousand cubic feet	3.11	—	8.19	—	6.54	—	6.74
Average production costs, per oil-equivalent barrel - total	30.51	—	38.82	—	1.59	—	6.67
Total							
Average production prices							
Crude oil, per barrel	65.20	68.56	65.54	70.21	66.80	69.00	66.96
NGL, per barrel	32.23	30.51	42.31	54.57	47.10	43.07	37.27
Natural gas, per thousand cubic feet	3.02	2.92	9.89	1.67	5.50	6.64	5.21
Bitumen, per barrel	—	44.26	—	—	—	—	44.26
Synthetic oil, per barrel	—	64.73	—	—	—	—	64.73
Average production costs, per oil-equivalent barrel - total	9.24	22.47	31.79	19.04	4.06	5.14	10.92
Average production costs, per barrel - bitumen	—	22.69	—	—	—	—	22.69
Average production costs, per barrel - synthetic oil	—	48.87	—	—	—	—	48.87

<i>(dollars per unit)</i>	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total
2020							
Consolidated Subsidiaries							
Average production prices							
Crude oil, per barrel	34.97	37.26	41.39	42.27	39.39	36.67	38.31
NGL, per barrel	13.83	10.34	20.11	21.32	21.37	27.92	16.05
Natural gas, per thousand cubic feet	0.98	1.56	3.13	1.24	1.49	4.34	2.01
Bitumen, per barrel	—	17.71	—	—	—	—	17.71
Synthetic oil, per barrel	—	37.32	—	—	—	—	37.32
Average production costs, per oil-equivalent barrel - total	9.82	18.40	21.22	16.67	6.50	5.35	11.57
Average production costs, per barrel - bitumen	—	19.22	—	—	—	—	19.22
Average production costs, per barrel - synthetic oil	—	33.61	—	—	—	—	33.61
Equity Companies							
Average production prices							
Crude oil, per barrel	39.10	—	38.95	—	35.18	—	35.97
NGL, per barrel	11.05	—	—	—	30.02	—	29.58
Natural gas, per thousand cubic feet	1.19	—	3.85	—	3.14	—	3.20
Average production costs, per oil-equivalent barrel - total	25.13	—	30.74	—	1.63	—	5.34
Total							
Average production prices							
Crude oil, per barrel	35.35	37.26	41.11	42.27	38.07	36.67	37.95
NGL, per barrel	13.80	10.34	20.11	21.32	27.65	27.92	19.16
Natural gas, per thousand cubic feet	0.98	1.56	3.44	1.24	2.72	4.34	2.43
Bitumen, per barrel	—	17.71	—	—	—	—	17.71
Synthetic oil, per barrel	—	37.32	—	—	—	—	37.32
Average production costs, per oil-equivalent barrel - total	10.55	18.40	24.76	16.73	3.91	5.35	10.21
Average production costs, per barrel - bitumen	—	19.22	—	—	—	—	19.22
Average production costs, per barrel - synthetic oil	—	33.61	—	—	—	—	33.61

Average production prices have been calculated by using sales quantities from the Corporation's own production as the divisor. Average production costs have been computed by using net production quantities for the divisor. The volumes of crude oil and natural gas liquids (NGL) production used for this computation are shown in the oil and gas production table in section 3.A. The volumes of natural gas used in the calculation are the production volumes of natural gas available for sale and are also shown in section 3.A. The natural gas available for sale volumes are different from those shown in the reserves table in the "Oil and Gas Reserves" part of the "Supplemental Information on Oil and Gas Exploration and Production Activities" portion of the Financial Section of this report due to volumes consumed or flared. Natural gas is converted to an oil-equivalent basis at six million cubic feet per one thousand barrels.

4. Drilling and Other Exploratory and Development Activities

A. Number of Net Productive and Dry Wells Drilled

	2022	2021	2020
Net Productive Exploratory Wells Drilled			
Consolidated Subsidiaries			
United States	1	1	4
Canada/Other Americas	3	5	2
Europe	—	—	—
Africa	—	—	1
Asia	—	—	—
Australia/Oceania	—	—	—
Total Consolidated Subsidiaries	4	6	7
Equity Companies			
United States	—	—	—
Europe	—	—	—
Africa	—	—	—
Asia	—	—	—
Total Equity Companies	—	—	—
Total productive exploratory wells drilled	4	6	7
Net Dry Exploratory Wells Drilled			
Consolidated Subsidiaries			
United States	—	1	—
Canada/Other Americas	4	3	1
Europe	—	—	—
Africa	—	—	—
Asia	—	—	1
Australia/Oceania	—	—	—
Total Consolidated Subsidiaries	4	4	2
Equity Companies			
United States	—	—	—
Europe	—	—	—
Africa	—	—	—
Asia	—	—	—
Total Equity Companies	—	—	—
Total dry exploratory wells drilled	4	4	2

	2022	2021	2020
Net Productive Development Wells Drilled			
Consolidated Subsidiaries			
United States	473	433	412
Canada/Other Americas	33	28	36
Europe	—	1	2
Africa	3	1	2
Asia	5	4	15
Australia/Oceania	—	—	4
Total Consolidated Subsidiaries	514	467	471
Equity Companies			
United States	49	13	60
Europe	—	1	1
Africa	—	1	—
Asia	10	5	5
Total Equity Companies	59	20	66
Total productive development wells drilled	573	487	537
Net Dry Development Wells Drilled			
Consolidated Subsidiaries			
United States	—	4	6
Canada/Other Americas	—	—	—
Europe	—	—	—
Africa	—	—	—
Asia	—	—	—
Australia/Oceania	—	—	1
Total Consolidated Subsidiaries	—	4	7
Equity Companies			
United States	—	—	—
Europe	—	—	—
Africa	—	—	—
Asia	—	—	—
Total Equity Companies	—	—	—
Total dry development wells drilled	—	4	7
Total number of net wells drilled	581	501	553

B. Exploratory and Development Activities Regarding Oil and Gas Resources Extracted by Mining Technologies

Syncrude Operations. Syncrude is a joint venture established to recover shallow deposits of oil sands using open-pit mining methods to extract the crude bitumen, and then upgrade it to produce a high-quality, light (32 degrees API), sweet, synthetic crude oil. Imperial Oil Limited is the owner of a 25 percent interest in the joint venture. Exxon Mobil Corporation has a 69.6 percent interest in Imperial Oil Limited. In 2022, the company's share of net production of synthetic crude oil was about 63 thousand barrels per day and share of net acreage was about 55 thousand acres in the Athabasca oil sands deposit.

Kearl Operations. Kearl is a joint venture established to recover shallow deposits of oil sands using open-pit mining methods to extract the crude bitumen. Imperial Oil Limited holds a 70.96 percent interest in the joint venture and ExxonMobil Canada Properties holds the other 29.04 percent. Exxon Mobil Corporation has a 69.6 percent interest in Imperial Oil Limited and a 100 percent interest in ExxonMobil Canada Properties. Kearl is comprised of six oil sands leases covering about 49 thousand acres in the Athabasca oil sands deposit.

Kearl is located approximately 40 miles north of Fort McMurray, Alberta, Canada. Bitumen is extracted from oil sands and processed through bitumen extraction and froth treatment trains. The product, a blend of bitumen and diluent, is shipped to our refineries and to other third parties. Diluent is natural gas condensate or other light hydrocarbons added to the crude bitumen to facilitate transportation by pipeline and rail. During 2022, average net production at Kearl was about 221 thousand barrels per day.

5. Present Activities

A. Wells Drilling

Wells Drilling	Year-End 2022		Year-End 2021	
	Gross	Net	Gross	Net
Consolidated Subsidiaries				
United States	804	472	1,059	588
Canada/Other Americas	54	40	44	33
Europe	2	1	2	1
Africa	10	2	11	2
Asia	18	5	11	3
Australia/Oceania	1	—	—	—
Total Consolidated Subsidiaries	889	520	1,127	627
Equity Companies				
United States	13	2	12	—
Europe	—	—	—	—
Africa	—	—	—	—
Asia	8	3	2	1
Total Equity Companies	21	5	14	1
Total gross and net wells drilling	910	525	1,141	628

B. Review of Principal Ongoing Activities

United States

ExxonMobil's year-end 2022 acreage holdings totaled 9.5 million net acres, of which 0.2 million net acres were offshore. In 2022, ExxonMobil relinquished 1 million net acres, of which 0.2 million were offshore. ExxonMobil was active in areas onshore and offshore in the lower 48 states and in Alaska. Development activities continued on the Golden Pass liquefied natural gas export project.

During the year, a total of 519.9 net exploratory and development wells were completed in the inland lower 48 states. Development activities focused on liquids-rich opportunities in the onshore U.S., primarily in the Permian Basin of West Texas and New Mexico.

ExxonMobil's net acreage in the Gulf of Mexico at year-end 2022 was 0.1 million acres. A total of 0.9 net development wells were completed during the year.

Participation in Alaska production and development continued with a total of 2.6 net development wells completed.

Canada / Other Americas

Canada

Oil and Gas Operations: ExxonMobil's year-end 2022 acreage holdings totaled 4.3 million net acres, of which 2.5 million net acres were offshore. In 2022, ExxonMobil relinquished 2.5 million net acres, of which 1.5 million were offshore. A total of 1.3 net exploratory and development wells were completed during the year.

In Situ Bitumen Operations: ExxonMobil's year-end 2022 in situ bitumen acreage holdings totaled 0.5 million net onshore acres. A total of 24 net development wells at Cold Lake were completed during the year.

Argentina

ExxonMobil's net acreage totaled 2.9 million acres at year-end 2022, of which 2.6 million net acres were offshore. During the year, a total of 5.4 net development wells were completed.

Brazil

ExxonMobil's net acreage totaled 2.6 million offshore acres at year-end 2022. During the year, a total of 1.5 net exploratory wells were completed. Development activities continued on the Bacalhau Phase 1 project.

Guyana

ExxonMobil's net acreage totaled 4.6 million offshore acres at year-end 2022. During the year, a total of 6 net exploratory and development wells were completed. The Liza Phase 2 Unity floating production, storage and offloading vessel commenced operations, and development activities continued on the Payara project. The Yellowtail project was funded in 2022.

Europe

Germany

ExxonMobil's net acreage totaled 1.4 million onshore acres at year-end 2022.

Netherlands

ExxonMobil's net interest in licenses totaled 1.4 million acres at year-end 2022, of which 0.4 million acres were offshore. During the year, a total of 0.2 net development well was completed. In 2022, the Dutch Government further reduced Groningen gas extraction and continues to evaluate the timing for cessation of production.

United Kingdom

ExxonMobil's net interest in licenses totaled 0.1 million offshore acres at year-end 2022.

Africa

Angola

ExxonMobil's net acreage totaled 3 million acres at year-end 2022, of which 2.9 million net acres were offshore. During the year, a total of 3.3 net exploratory and development wells were completed.

Equatorial Guinea

ExxonMobil's net acreage totaled 0.1 million offshore acres at year-end 2022.

Mozambique

ExxonMobil's net acreage totaled 0.7 million offshore acres at year-end 2022. In 2022, ExxonMobil relinquished 1 million net offshore acres outside of the core Area 4 development. The Coral South Floating LNG development began production in October 2022.

Nigeria

ExxonMobil's net acreage totaled 0.9 million offshore acres at year-end 2022. During the year, a total of 0.4 net exploratory and development wells were completed.

Asia

Azerbaijan

ExxonMobil's net acreage totaled 7 thousand offshore acres at year-end 2022. During the year, a total of 1 net development wells were completed.

Indonesia

ExxonMobil's net acreage totaled 0.1 million onshore acres at year-end 2022.

Iraq

ExxonMobil's net acreage totaled 36 thousand onshore acres at year-end 2022. During the year, a total of 0.3 net development well was completed. Oil field rehabilitation activities continued during 2022 and across the life of this project will include drilling of new wells; working over of existing wells; and optimization, debottlenecking and expansion of facilities.

Kazakhstan

ExxonMobil's net acreage totaled 0.3 million acres at year-end 2022, of which 0.2 million net acres were offshore. During the year, a total of 2.3 net development wells were completed. Development activities continued on the Tengiz Expansion project.

Malaysia

ExxonMobil's interests in production sharing contracts covered 0.2 million net offshore acres at year-end 2022.

Qatar

Through our joint ventures with QatarEnergy, ExxonMobil's net acreage totaled 80 thousand offshore acres at year-end 2022. ExxonMobil participated in 52.3 million tonnes per year gross liquefied natural gas capacity and 3.4 billion cubic feet per day of flowing gas capacity at year end. During the year, a total of 8.2 net development wells were completed. The North Field Production Sustainment Compression project was funded in 2022. ExxonMobil also announced participation in Qatar's North Field East project via the Qatar Liquefied Gas Company Limited (QG7) venture, representing 18.5 thousand net acres and 8 million tonnes per year gross liquefied natural gas capacity expected to begin in 2026.

Russia

Effective October 14, 2022, the Russian government unilaterally terminated the Corporation's interests in Sakhalin, transferring operations to a Russian operator. Refer to "Note 2: Russia" of the Financial Section of this report for additional information.

Thailand

ExxonMobil's net onshore acreage in Thailand concessions totaled 16 thousand acres at year-end 2022. During the year, a total of 0.1 net development well was completed.

United Arab Emirates

ExxonMobil's net acreage in the Abu Dhabi offshore Upper Zakum oil concession was 81 thousand acres at year-end 2022. During the year, a total of 2.8 net development wells were completed. Development activities continued on the Upper Zakum 1 MBD Sustainment project.

Australia / Oceania

Australia

ExxonMobil's net acreage totaled 1.2 million offshore acres and 10 thousand onshore acres at year-end 2022. In 2022, 0.6 million net offshore acres were relinquished.

The co-venturer-operated Gorgon Jansz liquefied natural gas (LNG) development consists of a subsea infrastructure for offshore production and transportation of the gas, a 15.6 million tonnes per year LNG facility and a 280 million cubic feet per day domestic gas plant located on Barrow Island, Western Australia. Development activities continued on the Gorgon Stage 2 project and Jansz Io Compression project during the year.

Papua New Guinea

ExxonMobil's net acreage totaled 2.1 million onshore acres at year-end 2022. In 2022, ExxonMobil relinquished 1.2 million net offshore acres. The Papua New Guinea (PNG) liquefied natural gas integrated development includes gas production and processing facilities in the PNG Highlands, onshore and offshore pipelines, and a 6.9 million tonnes per year liquefied natural gas facility near Port Moresby.

Worldwide Exploration

At year-end 2022, exploration activities were under way in several areas in which ExxonMobil has no established production operations and thus are not included above. A total of 18.8 million net acres were held at year-end 2022 and 1.2 net exploratory wells were completed during the year in these countries.

6. Delivery Commitments

ExxonMobil sells crude oil and natural gas from its producing operations under a variety of contractual obligations, some of which may specify the delivery of a fixed and determinable quantity for periods longer than one year. ExxonMobil also enters into natural gas sales contracts where the source of the natural gas used to fulfill the contract can be a combination of our own production and the spot market. Worldwide, we are contractually committed to deliver approximately 36 million barrels of oil and 2.3 trillion cubic feet of natural gas for the period from 2023 through 2025. We expect to fulfill the majority of these delivery commitments with production from our proved developed reserves. Any remaining commitments will be fulfilled with production from our proved undeveloped reserves and purchases on the open market as necessary.

7. Oil and Gas Properties, Wells, Operations and Acreage

A. Gross and Net Productive Wells

Gross and Net Productive Wells	Year-End 2022				Year-End 2021			
	Oil		Gas		Oil		Gas	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net
Consolidated Subsidiaries								
United States	19,006	7,576	11,495	7,516	19,401	7,566	18,670	10,773
Canada/Other Americas	4,394	4,310	2,903	1,033	4,656	4,548	3,209	1,247
Europe	536	127	433	205	439	116	441	207
Africa	590	191	24	10	1,102	416	24	10
Asia	999	318	147	86	1,038	333	137	80
Australia/Oceania	473	89	92	38	522	99	94	40
Total Consolidated Subsidiaries	25,998	12,611	15,094	8,888	27,158	13,078	22,575	12,357
Equity Companies								
United States	12,068	4,777	3,341	331	12,108	4,793	3,355	333
Europe	57	20	482	150	57	20	547	171
Africa	—	—	6	2	—	—	—	—
Asia	233	58	145	33	225	56	168	35
Total Equity Companies	12,358	4,855	3,974	516	12,390	4,869	4,070	539
Total gross and net productive wells	38,356	17,466	19,068	9,404	39,548	17,947	26,645	12,896

There were 19,571 gross and 17,165 net operated wells at year-end 2022 and 23,645 gross and 20,528 net operated wells at year-end 2021. The number of wells with multiple completions was 1,010 gross in 2022 and 1,082 gross in 2021.

B. Gross and Net Developed Acreage

Gross and Net Developed Acreage (thousands of acres)	Year-End 2022		Year-End 2021	
	Gross	Net	Gross	Net
Consolidated Subsidiaries				
United States	11,022	6,681	12,180	7,503
Canada/Other Americas ⁽¹⁾	2,113	1,509	2,905	2,075
Europe ⁽²⁾	1,238	580	1,234	580
Africa	2,186	736	2,409	818
Asia	1,582	462	1,929	557
Australia/Oceania	3,242	1,067	3,242	1,067
Total Consolidated Subsidiaries	21,383	11,035	23,899	12,600
Equity Companies				
United States	702	166	687	163
Europe	3,646	1,117	3,646	1,116
Africa	178	44	—	—
Asia	665	157	701	160
Total Equity Companies	5,191	1,484	5,034	1,439
Total gross and net developed acreage	26,574	12,519	28,933	14,039

⁽¹⁾ Includes developed acreage in Other Americas of 490 gross and 311 net thousands of acres for 2022 and 2021.

⁽²⁾ Year-end 2021 developed acreage in Europe was restated for gross and net.

Separate acreage data for oil and gas are not maintained because, in many instances, both are produced from the same acreage.

C. Gross and Net Undeveloped Acreage

Gross and Net Undeveloped Acreage (thousands of acres)	Year-End 2022		Year-End 2021	
	Gross	Net	Gross	Net
Consolidated Subsidiaries				
United States	6,455	2,587	6,751	2,807
Canada/Other Americas ⁽¹⁾	32,441	15,838	36,764	18,246
Europe ⁽²⁾	12,592	8,231	14,811	6,163
Africa	20,620	13,113	23,797	15,186
Asia	766	227	766	227
Australia/Oceania	4,811	2,309	8,638	4,112
Total Consolidated Subsidiaries	77,685	42,305	91,527	46,741
Equity Companies				
United States	150	61	159	64
Europe	482	131	596	139
Africa	418	104	596	149
Asia	296	19	—	—
Total Equity Companies	1,346	315	1,351	352
Total gross and net undeveloped acreage	79,031	42,620	92,878	47,093

⁽¹⁾ Includes undeveloped acreage in Other Americas of 25,096 gross and 11,977 net thousands of acres for 2022 and 26,084 gross and 12,471 net thousands of acres for 2021.

⁽²⁾ Year-end 2021 undeveloped acreage in Europe was restated for gross and net.

ExxonMobil's investment in developed and undeveloped acreage is comprised of numerous concessions, blocks, and leases. The terms and conditions under which the Corporation maintains exploration and/or production rights to the acreage are property-specific, contractually defined, and vary significantly from property to property. Work programs are designed to ensure that the exploration potential of any property is fully evaluated before expiration. In some instances, the Corporation may elect to relinquish acreage in advance of the contractual expiration date if the evaluation process is complete and there is not a business basis for extension. In cases where additional time may be required to fully evaluate acreage, the Corporation has generally been successful in obtaining extensions. The scheduled expiration of leases and concessions for undeveloped acreage over the next three years is not expected to have a material adverse impact on the Corporation.

D. Summary of Acreage Terms

United States

Oil and gas exploration and production rights are acquired from mineral interest owners through a lease. Mineral interest owners include the Federal and State governments, as well as private mineral interest owners. Leases typically have an exploration period ranging from one to 10 years, and a production period that normally remains in effect until production ceases. Under certain circumstances, a lease may be held beyond its exploration term even if production has not commenced. In some instances regarding private property, a “fee interest” is acquired where the underlying mineral interests are owned outright.

Canada / Other Americas

Canada

Exploration licenses or leases in onshore areas are acquired for varying periods of time with renewals or extensions possible. These licenses or leases entitle the holder to continue existing licenses or leases upon completing specified work. In general, these license and lease agreements are held as long as there is proven production capability on the licenses and leases. Exploration licenses in offshore eastern Canada and the Beaufort Sea are held by work commitments of various amounts and rentals. They are valid for a term of nine years. Offshore production licenses are valid for 25 years, with rights of extension for continued production. Significant discovery licenses in the offshore relating to currently undeveloped discoveries do not have a definite term.

Argentina

The Federal Hydrocarbon Law was amended in 2014. Pursuant to the amended law, the production term for an onshore unconventional concession is 35 years and 25 years for a conventional concession, with unlimited 10-year extensions possible once a field has been developed. In 2019, the government granted three offshore exploration licenses, with terms of eight years, divided into two exploration periods of four years, with an optional extension of five years for each license.

Brazil

The exploration and production of oil and gas are governed by concession contracts and production sharing contracts. Concession contracts provide for an exploration period of up to eight years and a production period of 27 years. Production sharing contracts provide for an exploration period of up to seven years and a production period of up to 28 years.

Guyana

The Petroleum (Exploration and Production) Act authorizes the government of Guyana to grant petroleum prospecting and production licenses and to enter into petroleum agreements for the exploration and production of hydrocarbons. Petroleum agreements provide for an exploration period of up to 10 years and a production period of 20 years, with a 10-year extension.

Europe

Germany

Exploration concessions are granted for an initial maximum period of five years, with an unlimited number of extensions up to three years each. Extensions are subject to specific minimum work commitments. Production licenses are normally granted for 20 to 25 years with multiple possible extensions subject to production on the license.

Netherlands

Under the Mining Law, effective January 1, 2003, exploration and production licenses for both onshore and offshore areas are issued for a period as explicitly defined in the license. The term is based on the period of time necessary to perform the activities for which the license is issued. License conditions are stipulated in the license and are based on the Mining Law.

Production rights granted prior to January 1, 2003, remain subject to their existing terms and differ slightly for onshore and offshore areas. Onshore production licenses issued prior to 1988 were indefinite; from 1988 they were issued for a period as explicitly defined in the license, ranging from 35 to 45 years. Offshore production licenses issued before 1976 were issued for a fixed period of 40 years; from 1976 they were again issued for a period as explicitly defined in the license, ranging from 15 to 40 years.

United Kingdom

Acreage terms are fixed by the government and are periodically changed. For example, many of the early licenses issued under the first four licensing rounds provided an initial term of six years with relinquishment of at least one-half of the original area at the end of the initial term, subject to extension for a further 40 years. At the end of any such 40-year term, licenses may continue in producing areas until cessation of production; or licenses may continue in development areas for periods agreed on a case-by-case basis until they become producing areas; or licenses terminate in all other areas. The majority of traditional licenses currently issued have an initial exploration term of four years with a second term extension of four years, and a final production term of 18 years, with a mandatory relinquishment of 50 percent of the acreage after the initial term and of all acreage that is not covered by a development plan at the end of the second term.

Africa

Angola

Exploration and production activities are governed by either production sharing agreements or other contracts with initial exploration terms ranging from three to four years with options to extend from one to five years. The production periods range from 20 to 30 years, and the agreements generally provide for negotiated extensions.

Equatorial Guinea

Exploration, development and production activities are governed by production sharing contracts negotiated with the State Ministry of Mines and Hydrocarbons. The production period for crude oil is 30 years.

Mozambique

Exploration and production activities are generally governed by concession contracts with the Government of the Republic of Mozambique, represented by the Ministry of Mineral Resources and Energy. An interest in Area 4 offshore Mozambique was acquired in 2017. Terms for Area 4 are governed by the Exploration and Production Concession Contract (EPCC) for Area 4 Offshore of the Rovuma Block. The EPCC expires 30 years after an approved plan of development becomes effective for a given discovery area.

In 2018, an interest was acquired in offshore blocks A5-B, Z5-C, and Z5-D. Terms for the three blocks are governed by their respective EPCCs, with blocks Z5-C and Z5-D having an initial exploration phase that expired in 2022, resulting in a relinquishment of acreage in those blocks. Block A5-B's initial exploration phase expires in 2023. A5-B's EPCC provides a development and production period that expires 30 years after the approval of a plan of development.

Nigeria

Exploration and production activities in the deepwater offshore areas are typically governed by production sharing contracts (PSCs) with the national oil company, the Nigerian National Petroleum Corporation (NNPC). NNPC typically holds the underlying Oil Prospecting License (OPL) and any resulting Oil Mining Lease (OML). The terms of the PSCs are generally 30 years, including a 10-year exploration period (an initial exploration phase that can be divided into multiple optional periods) covered by an OPL. Upon commercial discovery, an OPL may be converted to an OML. Partial relinquishment is required under the PSC at the end of the 10-year exploration period, and OMLs have a 20-year production period that may be extended, subject to the partial relinquishment. In August 16, 2021, the Petroleum Industry Act (PIA) was enacted to replace the Petroleum Act of 1969. This granted Petroleum Prospecting Licenses (PPLs - replacing OPLs) with an initial term of five years and optional five-year extension. Petroleum Mining Leases (PMLs - replacing OMLs) are granted for each commercial discovery in the PPL for a 20-year term. The PIA also had a "savings provision" which allowed NNPC to renegotiate its PSCs and renew their OMLs for 20 years under existing 1969 Act terms, within 12 months from the enactment of the PIA. On August 11, 2022, the leases for OML 133 and 138 were renewed under the savings provision.

OMLs granted under the 1969 Petroleum Act, which include all deepwater OMLs, have a maximum term of 20 years without distinction for onshore or offshore location and are renewable, upon 12-months written notice. All future renewals will be conducted under PIA terms.

OMLs granted prior to the 1969 Petroleum Act (i.e., under the Mineral Oils Act 1914, repealed by the 1969 Petroleum Act) were for 30 years onshore and 40 years in offshore areas and have been renewed, effective March 11, 2011, for a further period of 20 years. Operations under these pre-1969 OMLs are conducted under a joint venture agreement with NNPC rather than a PSC. Commercial terms applicable to the existing joint venture oil production are defined by the Petroleum Profits Tax Act (PPT). This was also repealed by the PIA in August 2021 with lease holders having the option to convert to PIA terms or retain PPT terms until their current leases expire.

Azerbaijan

The production sharing agreement (PSA) for the development of the Azeri-Chirag-Gunashli field was established for an initial period of 30 years starting from the PSA execution date in 1994. The PSA was amended in September 2017 to extend the term by 25 years to 2049.

Indonesia

Exploration and production activities in Indonesia are generally governed by cooperation contracts, usually in the form of a production sharing contract (PSC). The current PSCs have an exploration period of six years, which can be extended once for a period of four years with a total contract period of 30 years including an exploitation period. PSC terms can be extended for a maximum of 20 years for each extension with the approval of the government.

Iraq

Development and production activities in the state-owned oil and gas fields are governed by contracts with regional oil companies of the Iraqi Ministry of Oil. An ExxonMobil affiliate entered into a contract with Basra Oil Company of the Iraqi Ministry of Oil for the rights to participate in the development and production activities of the West Qurna Phase I oil and gas field effective March 1, 2010. The term of the contract is 20 years with the right to extend for a period of five to 15 years. The contract provides for cost recovery plus per-barrel fees for incremental production above specified levels.

Kazakhstan

Onshore exploration and production activities are governed by the production license, exploration license, and joint venture agreements negotiated with the Republic of Kazakhstan. Existing production operations have a 40-year production period that commenced in 1993.

Offshore exploration and production activities are governed by a production sharing agreement negotiated with the Republic of Kazakhstan. The exploration period is six years followed by separate appraisal periods for each discovery. The production period for each discovery, which includes development, is 20 years from the date of declaration of commerciality with the possibility of two 10-year extensions.

Malaysia

Production activities are governed by production sharing contracts (PSCs) negotiated with the national oil company. The PSCs have production terms of 25 years. Extensions are generally subject to the national oil company's prior written approval.

Qatar

The State of Qatar grants gas production development project rights to develop and supply gas from the offshore North Field to permit the economic development and production of gas reserves sufficient to satisfy the gas and LNG sales obligations of these projects. The initial terms for these rights generally extend for 25 years. Extensions and terms are subject to State of Qatar approval.

Russia

Terms for ExxonMobil's Sakhalin acreage were fixed by a production sharing agreement between the Russian government and the Sakhalin-1 consortium, of which ExxonMobil was the operator. Effective October 14, 2022, the Russian government unilaterally terminated the Corporation's interests in Sakhalin, transferring operations to a Russian operator.

Refer to "Note 2: Russia" of the Financial Section of this report for additional information.

Thailand

The Petroleum Act of 1971 allows production under ExxonMobil's concessions for 30 years with a 10-year extension at terms generally prevalent at the time.

United Arab Emirates

An interest in the development and production activities of the offshore Upper Zakum field was acquired in 2006. In 2017, the governing agreements were extended to 2051.

Australia

Exploration and production activities conducted offshore in Commonwealth waters are governed by Federal legislation. Exploration permits are granted for an initial term of six years with two possible five-year renewal periods. Retention leases may be granted for resources that are not commercially viable at the time of application but are likely to become commercially viable within 15 years. These are granted for periods of five years, and renewals may be requested. Prior to July 1998, production licenses were granted initially for 21 years, with a further renewal of 21 years and thereafter indefinitely, i.e., for the life of the field. Effective from July 1998, new production licenses are granted indefinitely. In each case, a production license may be terminated if no production operations have been carried on for five years.

Papua New Guinea

Exploration and production activities are governed by the Oil and Gas Act. Petroleum prospecting licenses are granted for an initial term of six years with a five-year extension possible (an additional extension of three years is possible in certain circumstances). Generally, a 50-percent relinquishment of the license area is required at the end of the initial six-year term, if extended. Petroleum development licenses are granted for an initial 25-year period. An extension for further consecutive period(s) of up to 20 years may be granted at the Minister's discretion. Petroleum retention licenses may be granted for gas resources that are not commercially viable at the time of application but may become commercially viable within the maximum possible retention time of 15 years. Petroleum retention licenses are granted for an initial five-year period, and may only be extended, at the Minister's discretion, twice for the maximum retention time of 15 years.

Information with regard to refining capacity:

ExxonMobil manufactures, trades, and sells petroleum products. The refining and supply operations encompass a global network of manufacturing plants, transportation systems, and distribution centers that provide a range of fuels, lubricants, feedstocks, and other products to our customers around the world.

Refining Capacity At Year-End 2022 ⁽¹⁾

				ExxonMobil Share KBD ⁽²⁾	ExxonMobil Interest %
United States					
Joliet	Illinois	■		258	100
Baton Rouge	Louisiana	■	▲	523	100
Billings ⁽³⁾	Montana	■		60	100
Baytown	Texas	■	▲	565	100
Beaumont	Texas	■	▲	369	100
Total United States				1,775	
Canada					
Strathcona	Alberta	■		197	69.6
Nanticoke	Ontario	■		113	69.6
Sarnia	Ontario	■		123	69.6
Total Canada				433	
Europe					
Antwerp	Belgium	■		307	100
Fos-sur-Mer	France	■		133	82.9
Gravenchon	France	■	▲	244	82.9
Karlsruhe	Germany	■		78	25
Trecate ⁽³⁾	Italy	■		132	75
Rotterdam	Netherlands	■	▲	192	100
Fawley	United Kingdom	■	▲	262	100
Total Europe				1,348	
Asia Pacific					
Fujian	China	■		67	25
Jurong/PAC	Singapore	■	▲	592	100
Sriracha ⁽³⁾	Thailand	■		167	66
Total Asia Pacific				826	
Middle East					
Yanbu	Saudi Arabia	■		200	50
Total Worldwide				4,582	

■ Energy Products □ Specialty Products

⁽¹⁾ Capacity data is based on 100 percent of rated refinery process unit stream-day capacities under normal operating conditions, less the impact of shutdowns for regular repair and maintenance activities, averaged over an extended period of time. The listing excludes refining capacity for a minor interest held through equity securities in the Laffan Refinery in Qatar for which results are reported in the Upstream segment.

⁽²⁾ Thousands of barrels per day (KBD). ExxonMobil share reflects 100 percent of atmospheric distillation capacity in operations of ExxonMobil and majority-owned subsidiaries. For companies owned 50 percent or less, ExxonMobil share is the greater of ExxonMobil's interest or that portion of distillation capacity normally available to ExxonMobil.

⁽³⁾ The Corporation announced sales agreements relating to these assets and expects the transactions to close in 2023.

Information with regard to retail fuel sites:

Within the Energy Products segment, retail fuels sites sell products and services throughout the world through our *Exxon*, *Esso*, and *Mobil* brands.

Number of Retail Fuel Sites At Year-End 2022

	Owned/leased	Distributors/resellers	Total
United States ⁽¹⁾	—	11,139	11,139
Canada	—	2,415	2,415
Europe ⁽²⁾	197	5,830	6,027
Asia Pacific ⁽³⁾	563	1,438	2,001
Latin America	—	510	510
Middle East/Africa	221	200	421
Worldwide	981	21,532	22,513

⁽¹⁾ In October 2022, the Corporation reached an agreement with Par Pacific Holdings for the sale of the Billings refinery and select midstream assets, which includes about 300 retail fuel sites, and expects the transaction to close in 2023.

⁽²⁾ In December 2022, the Corporation reached an agreement with Italiana Petroli for the sale of the Italy fuels business, which includes about 2,300 retail fuel sites, and expects the transaction to close in 2023.

⁽³⁾ In January 2023, the Corporation announced the sale of its interest in Esso Thailand, which includes a network of about 800 retail fuel sites, and expects the transaction to close in 2023.

Information with regard to chemical complex capacity:

ExxonMobil manufactures and sells petrochemicals. The large/integrated chemical complexes supply olefins, polyolefins, and a wide variety of other petrochemical products.

Chemical Complex Capacity At Year-End 2022 ⁽¹⁾

<i>(millions of metric tons per year, unless otherwise noted)</i>		Ethylene	Polyethylene	Polypropylene	ExxonMobil Interest %
North America					
Baton Rouge	Louisiana	1.1	1.3	0.9	100
Baytown	Texas	4.0	—	0.7	100
Beaumont	Texas	0.9	1.7	—	100
Corpus Christi	Texas	0.9	0.7	—	50
Mont Belvieu	Texas	—	2.3	—	100
Samia	Ontario	0.3	0.5	—	69.6
Total North America		7.2	6.5	1.6	
Europe					
Antwerp	Belgium	—	0.4	—	100
Fife	United Kingdom	0.4	—	—	50
Gravenchon	France	0.4	0.4	0.3	100
Meerhout	Belgium	—	0.5	—	100
Total Europe		0.8	1.3	0.3	
Middle East					
Al Jubail	Saudi Arabia	0.7	0.7	—	50
Yanbu	Saudi Arabia	1.0	0.7	0.2	50
Total Middle East		1.7	1.4	0.2	
Asia Pacific					
Fujian	China	0.3	0.2	0.2	25
Singapore	Singapore	1.9	1.9	0.9	100
Total Asia Pacific		2.2	2.1	1.1	
Total Worldwide		11.9	11.2	3.2	

⁽¹⁾ Capacity reflects 100 percent for operations of majority-owned subsidiaries. For companies owned 50 percent or less, capacity is ExxonMobil's interest.

Due to rounding, numbers presented above may not add up precisely to the totals indicated.

ITEM 3. LEGAL PROCEEDINGS

ExxonMobil has elected to use a \$1 million threshold for disclosing environmental proceedings.

On August 4, 2022, XTO Energy, Inc. (“XTO”) received a letter from the Department of Justice (“DOJ”) notifying XTO of the United States Environmental Protection Agency’s (“EPA”) request to initiate a potential civil action against XTO regarding the Schnegg well in Powhatan Point, Ohio. The letter did not quantify an associated civil penalty potentially sought by the DOJ. The EPA alleges XTO breached its duty under the General Duty Clause of the Clean Air Act for the Schnegg well, and such breaches resulted in the 2018 well blowout. Neither a civil action has been filed nor a draft consent decree has been provided by the DOJ. XTO is assessing the factual basis of the allegation and any associated penalties. In discussions in January 2023, the DOJ indicated it may seek a potential penalty substantially in excess of \$1 million and XTO strongly disagrees with DOJ’s initial position.

On November 21, 2022, the State of Texas, acting by and through its Attorney General (“State”), filed a complaint against the Corporation (captioned State of Texas v. Exxon Mobil Corporation) in Travis County District Court, TX, Cause No. D-1-GN-22-006534, for alleged violations of the Texas Clean Air Act at the Baytown Olefins Plant located in Baytown, Texas. The complaint seeks civil penalties for alleged unauthorized air pollution, unauthorized outdoor burning, nuisance, and unauthorized visible emissions associated with multiple alleged air emissions events between 2018 and 2022 in an amount in excess of \$1 million and injunctive relief against the Corporation to enjoin a violation or threatened violation of any Texas Commission on Environmental Quality statute. The State also seeks to recover its fees and costs of litigation.

Refer to the relevant portions of “Note 16: Litigation and Other Contingencies” of the Financial Section of this report for additional information on legal proceedings.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

Information about our Executive Officers (positions and ages as of February 22, 2023)

Name	Age	Current and Prior Positions (up to five years)
Darren W. Woods	58	Chairman of the Board and Chief Executive Officer (since January 1, 2017) Director and President (since January 1, 2016)
Neil A. Chapman	60	Senior Vice President (since January 1, 2018)
Kathryn A. Mikells	57	Senior Vice President and Chief Financial Officer (since August 9, 2021) Chief Financial Officer and a member of the board of directors for Diageo plc (November 2015 - June 2021)
Jack P. Williams, Jr.	59	Senior Vice President (since June 1, 2014)
James R. Chapman	53	Vice President, Tax and Treasurer (since November 28, 2022) Dominion Energy, Inc. (prior to November 28, 2022): Executive Vice President, Chief Financial Officer and Treasurer (January 2019 - November 2022) Senior Vice President, CFO and Treasurer (November 2018 - December 2018) Senior Vice President, Mergers & Acquisitions and Treasurer (February 2016 - October 2018)
Len M. Fox	59	Vice President and Controller (since March 1, 2021 following a special assignment) Assistant Treasurer, Exxon Mobil Corporation (February 1, 2020 - December 31, 2020) Vice President, Chemical Business Services and Treasurer (June 1, 2015 - January 31, 2020)
Jon M. Gibbs	51	President of ExxonMobil Global Projects Company (since April 1, 2021) Senior Vice President, Global Project Delivery, ExxonMobil Global Projects Company (July 1, 2020 - March 31, 2021) President, ExxonMobil Global Services Company (April 1, 2019 - June 30, 2020) Upstream Organization Design Team Lead, ExxonMobil Development Company (January 15, 2019 - March 31, 2019) Vice President, Asia Pacific and Middle East, ExxonMobil Development Company (January 1, 2016 - January 14, 2019)
Liam M. Mallon	60	Vice President (since April 1, 2019) President, ExxonMobil Upstream Company (since April 1, 2022) President, ExxonMobil Upstream Oil & Gas Company (April 1, 2019 - March 31, 2022) President, ExxonMobil Development Company (January 1, 2017 - March 31, 2019)
Karen T. McKee	56	Vice President (since April 1, 2019) President, ExxonMobil Product Solutions Company (since April 1, 2022) President, ExxonMobil Chemical Company (April 1, 2019 - March 31, 2022) Senior Vice President, Basic Chemicals, Integration & Growth, ExxonMobil Chemical Company (August 1, 2017 - March 31, 2019)
Craig S. Morford	64	Vice President and General Counsel (since November 1, 2020) Secretary (since March 1, 2022) Deputy General Counsel (May 1, 2019 - October 31, 2020) Chief Legal and Compliance Officer of Cardinal Health, Inc. (until March 2019)
Darrin L. Talley	58	Vice President, Corporate Strategic Planning (since April 1, 2022) President, ExxonMobil Research and Engineering Company (April 1, 2020 - March 31, 2022) Manager, Corporate Strategy, Corporate Strategic Planning (March 15, 2017 - March 31, 2020)

Officers are generally elected by the Board of Directors at its meeting on the day of each annual election of directors, with each such officer serving until a successor has been elected and qualified. The above-named officers are required to file reports under Section 16 of the Securities Exchange Act of 1934.

PART II

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

The principal market where ExxonMobil common stock (XOM) is traded is the New York Stock Exchange, although the stock is traded on other exchanges in and outside the United States.

There were 310,437 registered shareholders of ExxonMobil common stock at December 31, 2022. At January 31, 2023, the registered shareholders of ExxonMobil common stock numbered 308,630.

On January 30, 2023, the Corporation declared a \$0.91 dividend per common share, payable March 10, 2023.

Reference is made to Item 12 in Part III of this report.

Issuer Purchases of Equity Securities for Quarter Ended December 31, 2022

	Total Number of Shares Purchased ⁽¹⁾	Average Price Paid per Share ⁽²⁾	Total Number of Shares Purchased as Part of Publicly Announced Plans or Programs ⁽³⁾	Approximate Dollar Value of Shares that May Yet Be Purchased Under the Program (Billions of dollars)
October 2022	14,693,713	\$102.09	14,693,705	\$37.9
November 2022	15,273,566	\$112.13	12,755,411	\$36.5
December 2022	13,674,403	\$106.99	13,674,403	\$35.0
Total	43,641,682	\$107.14	41,123,519	

⁽¹⁾ Includes shares withheld from participants in the company's incentive program for personal income taxes.

⁽²⁾ The full-year average price paid per share is \$93.15.

⁽³⁾ In its 2022 Corporate Plan Update released December 8, 2022, the Corporation stated that the company expanded its share repurchase program to up to \$50 billion through 2024, including \$15 billion of repurchases in 2022.

During the fourth quarter, the Corporation did not issue or sell any unregistered equity securities.

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

Reference is made to the section entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations" in the Financial Section of this report.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Reference is made to the section entitled "Market Risks" in the Financial Section of this report. All statements, other than historical information incorporated in this Item 7A, are forward-looking statements. The actual impact of future market changes could differ materially due to, among other things, factors discussed in this report.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Reference is made to the following in the Financial Section of this report:

- Consolidated financial statements, together with the report thereon of PricewaterhouseCoopers LLP (PCAOB ID 238) dated February 22, 2023, beginning with the section entitled “Report of Independent Registered Public Accounting Firm” and continuing through “Note 20: Divestment Activities”;
- “Supplemental Information on Oil and Gas Exploration and Production Activities” (unaudited); and
- “Frequently Used Terms” (unaudited).

Financial Statement Schedules have been omitted because they are not applicable or the required information is shown in the consolidated financial statements or notes thereto.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Management’s Evaluation of Disclosure Controls and Procedures

As indicated in the certifications in Exhibit 31 of this report, the Corporation’s Chief Executive Officer, Chief Financial Officer, and Principal Accounting Officer have evaluated the Corporation’s disclosure controls and procedures as of December 31, 2022. Based on that evaluation, these officers have concluded that the Corporation’s disclosure controls and procedures are effective in ensuring that information required to be disclosed by the Corporation in the reports that it files or submits under the Securities Exchange Act of 1934, as amended, is accumulated and communicated to them in a manner that allows for timely decisions regarding required disclosures and are effective in ensuring that such information is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission’s rules and forms.

Management’s Report on Internal Control Over Financial Reporting

Management, including the Corporation’s Chief Executive Officer, Chief Financial Officer, and Principal Accounting Officer, is responsible for establishing and maintaining adequate internal control over the Corporation’s financial reporting. Management conducted an evaluation of the effectiveness of internal control over financial reporting based on criteria established in *Internal Control - Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that Exxon Mobil Corporation’s internal control over financial reporting was effective as of December 31, 2022.

PricewaterhouseCoopers LLP, an independent registered public accounting firm, audited the effectiveness of the Corporation’s internal control over financial reporting as of December 31, 2022, as stated in their report included in the Financial Section of this report.

Changes in Internal Control Over Financial Reporting

There were no changes during the Corporation’s last fiscal quarter that materially affected, or are reasonably likely to materially affect, the Corporation’s internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Reference is made to the section of this report titled “Information about our Executive Officers”.

Incorporated by reference to the following from the registrant’s definitive proxy statement for the 2023 annual meeting of shareholders (the “2023 Proxy Statement”):

- The section entitled “Election of Directors”;
- The portions entitled “Director Qualifications”, “Director Nomination Process and Board Succession”, and “Code of Ethics and Business Conduct” of the section entitled “Corporate Governance”; and
- The “Director Independence” portion, “Board Meetings and Annual Meeting Attendance” portion, the membership table of the portion entitled “Board Committees”, the “Audit Committee” portion and the “Nominating and Governance Committee” portion of the section entitled “Corporate Governance”.

ITEM 11. EXECUTIVE COMPENSATION

Incorporated by reference to the sections entitled “Director Compensation”, “Compensation Committee Report”, “Compensation Discussion and Analysis”, “Executive Compensation Tables”, “Pay Ratio”, and “Pay Versus Performance” of the registrant’s 2023 Proxy Statement.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required under Item 403 of Regulation S-K is incorporated by reference to the sections “Certain Beneficial Owners” and “Director and Executive Officer Stock Ownership” of the registrant’s 2023 Proxy Statement.

Equity Compensation Plan Information			
	(a)	(b)	(c)
Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights	Weighted-Average Exercise Price of Outstanding Options, Warrants and Rights	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans [Excluding Securities Reflected in Column (a)]
Equity compensation plans approved by security holders	42,542,460 ⁽¹⁾	—	60,288,068 ⁽²⁾⁽³⁾
Equity compensation plans not approved by security holders	—	—	—
Total	42,542,460	—	60,288,068

⁽¹⁾ The number of restricted stock units to be settled in shares.

⁽²⁾ Available shares can be granted in the form of restricted stock or other stock-based awards. Includes 59,964,868 shares available for award under the 2003 Incentive Program and 323,200 shares available for award under the 2004 Non-Employee Director Restricted Stock Plan.

⁽³⁾ Under the 2004 Non-Employee Director Restricted Stock Plan approved by shareholders in May 2004, and the related standing resolution adopted by the Board, each non-employee director automatically receives 8,000 shares of restricted stock when first elected to the Board and, if the director remains in office, an additional 2,500 restricted shares each following year. While on the Board, each non-employee director receives the same cash dividends on restricted shares as a holder of regular common stock, but the director is not allowed to sell the shares. The restricted shares may be forfeited if the director leaves the Board early.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Incorporated by reference to the portion entitled “Related Person Transactions and Procedures” of the section entitled “Director and Executive Officer Stock Ownership”; and the portion entitled “Director Independence” of the section entitled “Corporate Governance” of the registrant’s 2023 Proxy Statement.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Incorporated by reference to the portion entitled “Audit Committee” of the section entitled “Corporate Governance” and the section entitled “Ratification of Independent Auditors” of the registrant’s 2023 Proxy Statement.

PART IV

ITEM 15. EXHIBIT AND FINANCIAL STATEMENT SCHEDULES

(a) (1) and (2) Financial Statements:

See Table of Contents of the Financial Section of this report.

(b) (3) Exhibits:

See Index to Exhibits of this report.

ITEM 16. FORM 10-K SUMMARY

None.

FINANCIAL SECTION

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BUSINESS PROFILE

Financial	Earnings (Loss) After Income Taxes		Average Capital Employed (Non-GAAP)		Return on Average Capital Employed (Non-GAAP)		Capital and Exploration Expenditures	
	2022	2021	2022	2021	2022	2021	2022	2021
	(millions of dollars)		(millions of dollars)		(percent)		(millions of dollars)	
Upstream								
United States	11,728	3,663	52,555	55,305	22.3	6.6	6,968	4,018
Non-U.S.	24,751	12,112	93,250	101,645	26.5	11.9	10,034	8,236
Total	36,479	15,775	145,805	156,950	25.0	10.1	17,002	12,254
Energy Products								
United States	8,340	668	11,787	11,902	70.8	5.6	1,351	982
Non-U.S.	6,626	(1,014)	18,855	18,537	35.1	(5.5)	1,059	1,005
Total	14,966	(347)	30,642	30,439	48.8	(1.1)	2,410	1,987
Chemical Products								
United States	2,328	3,697	14,694	14,107	15.8	26.2	1,123	1,200
Non-U.S.	1,215	3,292	12,513	11,758	9.7	28.0	1,842	825
Total	3,543	6,989	27,207	25,865	13.0	27.0	2,965	2,025
Specialty Products								
United States	1,190	1,452	2,072	1,997	57.4	72.7	46	185
Non-U.S.	1,225	1,807	6,207	5,915	19.7	30.5	222	141
Total	2,415	3,259	8,279	7,912	29.2	41.2	268	326
Corporate and Financing	(1,663)	(2,636)	16,471	1,724	—	—	59	3
Corporate total	55,740	23,040	228,404	222,890	24.9	10.9	22,704	16,595

See Frequently Used Terms for a definition and calculation of capital employed and return on average capital employed.

Due to rounding, numbers presented may not add up precisely to the totals indicated.

Operating	2022	2021		2022	2021
Net liquids production (thousands of barrels daily)			Refinery throughput (thousands of barrels daily)		
United States	776	721	United States	1,702	1,623
Non-U.S.	1,578	1,568	Non-U.S.	2,328	2,322
Total	2,354	2,289	Total	4,030	3,945
Natural gas production available for sale (millions of cubic feet daily)			Energy Products sales ⁽²⁾ (thousands of barrels daily)		
United States	2,551	2,746	United States	2,426	2,267
Non-U.S.	5,744	5,791	Non-U.S.	2,921	2,863
Total	8,295	8,537	Total	5,347	5,130
Oil-equivalent production ⁽¹⁾ (thousands of oil-equivalent barrels daily)	3,737	3,712	Chemical Products sales ⁽²⁾ (thousands of metric tons)		
			United States	7,270	7,017
			Non-U.S.	11,897	12,126
			Total	19,167	19,142
			Specialty Products sales ⁽²⁾ (thousands of metric tons)		
			United States	2,049	1,943
			Non-U.S.	5,762	5,723
			Total	7,810	7,666

⁽¹⁾ Natural gas is converted to an oil-equivalent basis at six million cubic feet per one thousand barrels.

⁽²⁾ Data reported net of purchases/sales contracts with the same counterparty.

Due to rounding, numbers presented may not add up precisely to the totals indicated.

FINANCIAL INFORMATION

<i>(millions of dollars, except where stated otherwise)</i>	2022	2021	2020
Sales and other operating revenue	398,675	276,692	178,574
Net income (loss) attributable to ExxonMobil	55,740	23,040	(22,440)
Earnings (loss) per common share (dollars)	13.26	5.39	(5.25)
Earnings (loss) per common share – assuming dilution (dollars)	13.26	5.39	(5.25)
Earnings (loss) to average ExxonMobil share of equity (percent)	30.7	14.1	(12.9)
Working capital	28,586	2,511	(11,470)
Ratio of current assets to current liabilities (times)	1.41	1.04	0.80
Additions to property, plant and equipment	18,338	12,541	17,342
Property, plant and equipment, less allowances	204,692	216,552	227,553
Total assets	369,067	338,923	332,750
Exploration expenses, including dry holes	1,025	1,054	1,285
Research and development costs	824	843	1,016
Long-term debt	40,559	43,428	47,182
Total debt	41,193	47,704	67,640
Debt to capital (percent)	16.9	21.4	29.2
Net debt to capital (percent) ⁽¹⁾	5.4	18.9	27.8
ExxonMobil share of equity at year-end	195,049	168,577	157,150
ExxonMobil share of equity per common share (dollars)	47.78	39.77	37.12
Weighted average number of common shares outstanding (millions)	4,205	4,275	4,271
Number of regular employees at year-end (thousands) ⁽²⁾	62.3	63.0	72.0

⁽¹⁾ Debt net of cash.

⁽²⁾ Regular employees are defined as active executive, management, professional, technical and wage employees who work full time or part time for the Corporation and are covered by the Corporation's benefit plans and programs.

FREQUENTLY USED TERMS

Listed below are definitions of several of ExxonMobil's key business and financial performance measures. These definitions are provided to facilitate understanding of the terms and their calculation.

Cash Flow From Operations and Asset Sales (Non-GAAP)

Cash flow from operations and asset sales is the sum of the net cash provided by operating activities and proceeds associated with sales of subsidiaries, property, plant and equipment, and sales and returns of investments from the Consolidated Statement of Cash Flows. This cash flow reflects the total sources of cash both from operating the Corporation's assets and from the divesting of assets. The Corporation employs a long-standing and regular disciplined review process to ensure that assets are contributing to the Corporation's strategic objectives. Assets are divested when they are no longer meeting these objectives or are worth considerably more to others. Because of the regular nature of this activity, we believe it is useful for investors to consider proceeds associated with asset sales together with cash provided by operating activities when evaluating cash available for investment in the business and financing activities, including shareholder distributions.

Cash Flow From Operations and Asset Sales <i>(millions of dollars)</i>	2022	2021	2020
Net cash provided by operating activities	76,797	48,129	14,668
Proceeds associated with sales of subsidiaries, property, plant and equipment, and sales and returns of investments	5,247	3,176	999
Cash flow from operations and asset sales (Non-GAAP)	82,044	51,305	15,667

Capital Employed (Non-GAAP)

Capital employed is a measure of net investment. When viewed from the perspective of how the capital is used by the businesses, it includes ExxonMobil's net share of property, plant and equipment and other assets less liabilities, excluding both short-term and long-term debt. When viewed from the perspective of the sources of capital employed in total for the Corporation, it includes ExxonMobil's share of total debt and equity. Both of these views include ExxonMobil's share of amounts applicable to equity companies, which the Corporation believes should be included to provide a more comprehensive measure of capital employed.

Capital Employed <i>(millions of dollars)</i>	2022	2021	2020
Business uses: asset and liability perspective			
Total assets	369,067	338,923	332,750
Less liabilities and noncontrolling interests share of assets and liabilities			
Total current liabilities excluding notes and loans payable	(68,411)	(52,367)	(35,905)
Total long-term liabilities excluding long-term debt	(56,990)	(63,169)	(65,075)
Noncontrolling interests share of assets and liabilities	(9,205)	(8,746)	(8,773)
Add ExxonMobil share of debt-financed equity company net assets	3,705	4,001	4,140
Total capital employed (Non-GAAP)	238,166	218,642	227,137
Total corporate sources: debt and equity perspective			
Notes and loans payable	634	4,276	20,458
Long-term debt	40,559	43,428	47,182
ExxonMobil share of equity	195,049	168,577	157,150
Less noncontrolling interests share of total debt	(1,781)	(1,640)	(1,793)
Add ExxonMobil share of equity company debt	3,705	4,001	4,140
Total capital employed (Non-GAAP)	238,166	218,642	227,137

FREQUENTLY USED TERMS

Return on Average Capital Employed (Non-GAAP)

Return on average capital employed (ROCE) is a performance measure ratio. From the perspective of the business segments, ROCE is annual business segment earnings divided by average business segment capital employed (average of beginning and end-of-year amounts). These segment earnings include ExxonMobil's share of segment earnings of equity companies, consistent with our capital employed definition, and exclude the cost of financing. The Corporation's total ROCE is net income attributable to ExxonMobil excluding the after-tax cost of financing, divided by total corporate average capital employed. The Corporation has consistently applied its ROCE definition for many years and views it as one of the best measures of historical capital productivity in our capital-intensive, long-term industry. Additional measures, which are more cash flow based, are used to make investment decisions.

Return on Average Capital Employed <i>(millions of dollars)</i>	2022	2021	2020
Net income (loss) attributable to ExxonMobil	55,740	23,040	(22,440)
Financing costs (after-tax)			
Gross third-party debt	(1,213)	(1,196)	(1,272)
ExxonMobil share of equity companies	(198)	(170)	(182)
All other financing costs – net	276	11	666
Total financing costs	(1,135)	(1,355)	(788)
Earnings (loss) excluding financing costs (Non-GAAP)	56,875	24,395	(21,652)
Average capital employed	228,404	222,890	234,031
Return on average capital employed – corporate total (Non-GAAP)	24.9%	10.9%	(9.3)%

FREQUENTLY USED TERMS

Structural Cost Savings

Structural cost savings describe decreases in certain expenses as a result of operational efficiencies, workforce reductions, and other cost saving measures that are expected to be sustainable compared to 2019 levels. Relative to 2019, estimated cumulative annual structural cost savings totaled \$7 billion. The total change between periods in expenses below will reflect both structural cost savings and other changes in spend, including market factors, such as inflation and foreign exchange impacts, as well as changes in activity levels and costs associated with new operations. Estimates of cumulative annual structural savings may be revised depending on whether cost reductions realized in prior periods are determined to be sustainable compared to 2019 levels. Structural cost savings are stewarded internally to support management's oversight of spending over time. This measure is useful for investors to understand the Corporation's efforts to optimize spending through disciplined expense management.

Calculation of Structural Cost Savings (billions of dollars)	2019	2022			
Components of operating costs					
From ExxonMobil's Consolidated Statement of Income (U.S. GAAP)					
Production and manufacturing expenses	36.8	42.6			
Selling, general and administrative expenses	11.4	10.1			
Depreciation and depletion (includes impairments)	19.0	24.0			
Exploration expenses, including dry holes	1.3	1.0			
Non-service pension and postretirement benefit expense	1.2	0.5			
Subtotal	69.7	78.2			
ExxonMobil's share of equity company expenses	9.1	13.0			
Total operating costs (Non-GAAP)	78.8	91.2			
Less:					
Depreciation and depletion (includes impairments)	19.0	24.0			
Non-service pension and postretirement benefit expense	1.2	0.5			
Other adjustments (includes equity company depreciation and depletion)	3.6	3.5			
Total cash operating expenses (cash opex) (Non-GAAP)	55.0	63.2			
Energy and production taxes	11.0	23.8			
	Market	Activity / Other	Structural Savings		
Total cash operating expenses (cash opex) excluding energy and production taxes (Non-GAAP)	44.0	+3	-1	-7	39.4

FREQUENTLY USED TERMS

Earnings (Loss) excluding Identified Items (Non-GAAP)

Earnings (loss) excluding Identified Items, are earnings (loss) excluding individually significant non-operational events with an absolute corporate total earnings impact of at least \$250 million in a given quarter. The earnings (loss) impact of an Identified Item for an individual segment in a given quarter may be less than \$250 million when the item impacts several segments or several periods. Management uses these figures to improve comparability of the underlying business across multiple periods by isolating and removing significant non-operational events from business results. The Corporation believes this view provides investors increased transparency into business results and trends, and provides investors with a view of the business as seen through the eyes of management. Earnings (loss) excluding Identified Items is not meant to be viewed in isolation or as a substitute for net income (loss) attributable to ExxonMobil as prepared in accordance with U.S. GAAP.

Upstream (millions of dollars)	2022			2021			2020		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Earnings (loss) (U.S. GAAP)	11,728	24,751	36,479	3,663	12,112	15,775	(19,385)	(645)	(20,030)
Impairments	—	(3,790)	(3,790)	(263)	(489)	(752)	(17,092)	(2,244)	(19,336)
Gain/(loss) on sale of assets	299	587	886	—	459	459	—	—	—
Inventory valuation - lower of cost or market	—	—	—	—	—	—	—	(61)	(61)
Tax-related items	—	(1,415)	(1,415)	—	—	—	—	(297)	(297)
Contractual provisions	—	—	—	—	(250)	(250)	—	—	—
Other	—	1,380	1,380	—	—	—	—	—	—
Identified Items	299	(3,238)	(2,939)	(263)	(280)	(543)	(17,092)	(2,602)	(19,694)
Earnings (loss) excluding Identified Items (Non-GAAP)	11,429	27,989	39,418	3,926	12,392	16,318	(2,293)	1,957	(336)

Energy Products (millions of dollars)	2022			2021			2020		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Earnings (loss) (U.S. GAAP)	8,340	6,626	14,966	668	(1,014)	(347)	(1,342)	(1,230)	(2,572)
Impairments	(58)	(216)	(274)	—	—	—	(4)	(374)	(378)
Tax-related items	—	(410)	(410)	—	—	—	—	(262)	(262)
Identified Items	(58)	(626)	(684)	—	—	—	(4)	(636)	(640)
Earnings (loss) excluding Identified Items (Non-GAAP)	8,398	7,252	15,650	668	(1,014)	(347)	(1,338)	(594)	(1,932)

Chemical Products (millions of dollars)	2022			2021			2020		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Earnings (loss) (U.S. GAAP)	2,328	1,215	3,543	3,697	3,292	6,989	1,196	1,061	2,257
Impairments	—	—	—	—	—	—	(90)	(2)	(92)
Tax-related items	—	—	—	—	—	—	—	(13)	(13)
Identified Items	—	—	—	—	—	—	(90)	(15)	(105)
Earnings (loss) excluding Identified Items (Non-GAAP)	2,328	1,215	3,543	3,697	3,292	6,989	1,286	1,076	2,362

Specialty Products (millions of dollars)	2022			2021			2020		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Earnings (loss) (U.S. GAAP)	1,190	1,225	2,415	1,452	1,807	3,259	571	630	1,201
Impairments	—	(40)	(40)	—	—	—	—	(219)	(219)
Gain/(loss) on sale of assets	—	—	—	498	136	634	—	—	—
Tax-related items	—	—	—	—	—	—	—	(9)	(9)
Identified Items	—	(40)	(40)	498	136	634	—	(228)	(228)
Earnings (loss) excluding Identified Items (Non-GAAP)	1,190	1,265	2,455	954	1,672	2,625	571	858	1,429

FREQUENTLY USED TERMS

Corporate and Financing <i>(millions of dollars)</i>	2022	2021	2020
Earnings (loss) (U.S. GAAP)	(1,663)	(2,636)	(3,296)
Impairments	(98)	—	(35)
Gain/(loss) on sale of assets	—	(12)	—
Tax-related items	324	—	—
Severance charges	—	(52)	(326)
Other	76	—	—
Identified Items	302	(64)	(361)
Earnings (loss) excluding Identified Items (Non-GAAP)	(1,965)	(2,572)	(2,935)

Corporate Total <i>(millions of dollars)</i>	2022	2021	2020
Net income (loss) attributable to ExxonMobil (U.S. GAAP)	55,740	23,040	(22,440)
Impairments	(4,202)	(752)	(20,060)
Gain/(loss) on sale of assets	886	1,081	—
Inventory valuation - lower of cost or market	—	—	(61)
Tax-related items	(1,501)	—	(581)
Severance charges	—	(52)	(326)
Contractual provisions	—	(250)	—
Other	1,456	—	—
Identified Items	(3,361)	27	(21,028)
Earnings (loss) excluding Identified Items (Non-GAAP)	59,101	23,013	(1,412)

References in this discussion to Corporate earnings (loss) mean net income (loss) attributable to ExxonMobil (U.S. GAAP) from the Consolidated Statement of Income. Unless otherwise indicated, references to earnings (loss), Upstream, Energy Products, Chemical Products, Specialty Products, and Corporate and Financing earnings (loss), and earnings (loss) per share are ExxonMobil's share after excluding amounts attributable to noncontrolling interests.

Due to rounding, numbers presented may not add up precisely to the totals indicated.

FORWARD-LOOKING STATEMENTS

Statements related to outlooks; projections; descriptions of strategic, operating, and financial plans and objectives; statements of future ambitions and plans; and other statements of future events or conditions are forward-looking statements. Similarly, discussion of emission-reduction roadmaps or future plans related to carbon capture, biofuel, hydrogen, plastics recycling, and other plans to drive towards net-zero emissions are dependent on future market factors, such as continued technological progress and policy support, and represent forward-looking statements. Actual future results, including financial and operating performance; total capital expenditures and mix, including allocations of capital to low carbon solutions; cost reductions and efficiency gains, including the ability to offset inflationary pressure; ambitions to achieve net-zero operated Scope 1 and Scope 2 emissions by 2050; plans to reach net-zero operated Scope 1 and 2 emissions in our unconventional Permian Basin operated assets by 2030, to eliminate routine flaring in-line with World Bank Zero Routine Flaring, and to reach near-zero methane emissions from operated assets, within evolving growth, start-up, divestment, and technological efforts; timing and outcome of projects to capture and store CO₂, and produced biofuels; timing and outcome of hydrogen projects; timing to increase the use of plastic waste as feedstock for advanced recycling; cash flow, dividends and shareholder returns, including the timing and amounts of share repurchases; future debt levels and credit ratings; business and project plans, timing, costs, capacities and returns; and resource recoveries and production rates could differ materially due to a number of factors. These include global or regional changes in the supply and demand for oil, natural gas, petrochemicals, and feedstocks and other market factors, economic conditions or seasonal fluctuations that impact prices and differentials for our product; government policies supporting lower carbon investment opportunities such as the U.S. Inflation Reduction Act or policies limiting the attractiveness of future investment such as the additional European taxes on the energy sector; variable impacts of trading activities on our margins and results each quarter; actions of competitors and commercial counterparties; the outcome of commercial negotiations, including final agreed terms and conditions; the ability to access debt markets; the impacts of COVID-19 or other public health crises, including the effects of government responses on people and economies; reservoir performance, including variability and timing factors applicable to unconventional resources; the level and outcome of exploration projects and decisions to invest in future reserves; timely completion of development and other construction projects; final management approval of future projects and any changes in the scope, terms, or costs of such projects as approved; changes in law, taxes, or regulation including environmental regulations, trade sanctions, and timely granting of governmental permits and certifications; government policies and support and market demand for low carbon technologies; war, civil unrest, attacks against the company or industry, and other political or security disturbances; expropriations, seizure, or capacity, insurance or shipping limitations by foreign governments or laws; opportunities for potential investments or divestments and satisfaction of applicable conditions to closing, including regulatory approvals; the capture of efficiencies within and between business lines and the ability to maintain near-term cost reductions as ongoing efficiencies; unforeseen technical or operating difficulties and unplanned maintenance; the development and competitiveness of alternative energy and emission-reduction technologies; the results of research programs and the ability to bring new technologies to commercial scale on a cost-competitive basis; and other factors discussed under Item 1A. Risk Factors.

Forward-looking and other statements regarding our environmental, social and other sustainability efforts and aspirations are not an indication that these statements are necessarily material to investors or requiring disclosure in our filing with the SEC. In addition, historical, current, and forward-looking environmental, social and sustainability-related statements may be based on standards for measuring progress that are still developing, internal controls and processes that continue to evolve, and assumptions that are subject to change in the future, including future rule-making.

Energy demand models are forward-looking by nature and aim to replicate system dynamics of the global energy system, requiring simplifications. The reference to any scenario in this report, including any potential net-zero scenarios, does not imply ExxonMobil views any particular scenario as likely to occur. In addition, energy demand scenarios require assumptions on a variety of parameters. As such, the outcome of any given scenario using an energy demand model comes with a high degree of uncertainty. For example, the International Energy Agency (IEA) describes its Net Zero Emissions (NZE) by 2050 scenario as extremely challenging, requiring unprecedented innovation, unprecedented international cooperation and sustained support and participation from consumers. Third-party scenarios discussed in this report reflect the modeling assumptions and outputs of their respective authors, not ExxonMobil, and their use by ExxonMobil is not an endorsement by ExxonMobil of their underlying assumptions, likelihood or probability. Investment decisions are made on the basis of ExxonMobil's separate planning process. Any use of the modeling of a third-party organization within this report does not constitute or imply an endorsement by ExxonMobil of any or all of the positions or activities of such organization.

The term "project" as used in this report can refer to a variety of different activities and does not necessarily have the same meaning as in any government payment transparency reports.

OVERVIEW

The following discussion and analysis of ExxonMobil's financial results, as well as the accompanying financial statements and related notes to consolidated financial statements to which they refer, are the responsibility of the management of Exxon Mobil Corporation. The Corporation's accounting and financial reporting fairly reflect its integrated business model involving exploration for, and production of, crude oil and natural gas; manufacture, trade, transport and sale of crude oil, natural gas, petroleum products, petrochemicals, and a wide variety of specialty products; and pursuit of lower-emission business opportunities including carbon capture and storage, hydrogen, and lower-emission fuels. ExxonMobil's operating segments are Upstream, Energy Products, Chemical Products, and Specialty Products. Where applicable, ExxonMobil voluntarily discloses additional U.S., Non-U.S., and regional splits to help investors better understand the company's operations.

Effective April 2022, the Corporation streamlined its business structure by combining the Chemical and Downstream businesses into Product Solutions. The company is organized along three businesses – Upstream, Product Solutions, and Low Carbon Solutions, aligning along market-focused value chains. Product Solutions consists of Energy Products, Chemical Products, and Specialty Products. Low Carbon Solutions will continue to be included in Corporate and Financing as the business continues to mature through commercialization and deployment of technology. The businesses are supported by a combined technology organization, and other centralized service-delivery groups, including a global projects organization.

ExxonMobil, with its resource base, financial strength, disciplined investment approach and technology portfolio, is well-positioned to participate in substantial investments to develop new energy supplies. The company's integrated business model, with significant investments in Upstream, Energy Products, Chemical Products, and Specialty Products segments and Low Carbon Solutions business, generally reduces the Corporation's risk from changes in commodity prices. While commodity prices depend on supply and demand and may be volatile on a short-term basis, ExxonMobil's investment decisions are grounded on fundamentals reflected in our long-term business outlook, and use a disciplined approach in selecting and pursuing the most attractive investment opportunities. The Corporate Plan is a fundamental annual management process that is the basis for setting operating and capital objectives in addition to providing the economic assumptions used for investment evaluation purposes. The foundation for the assumptions supporting the Corporate Plan is the Outlook for Energy (Outlook), and Corporate Plan volume projections are based on individual field production profiles, which are also updated at least annually. Price ranges for crude oil, natural gas, including price differentials, refinery and chemical margins, volumes, development and operating costs, including greenhouse gas emissions pricing, and foreign currency exchange rates are based on Corporate Plan assumptions developed annually by major region and are utilized for investment evaluation purposes. Major investment opportunities are evaluated over a range of potential market conditions. Once we make major investments, we complete a reappraisal process to ensure we learn from the investment decision and incorporate the lessons into future projects.

BUSINESS ENVIRONMENT

Long-Term Business Outlook

ExxonMobil's business planning is underpinned by a deep understanding of long-term market fundamentals. These fundamentals include supply and demand trends, the scale and variety of energy needs worldwide; capability, practicality and affordability of energy alternatives including low-carbon solutions; greenhouse gas emission-reduction technologies; and supportive government policies. The company's Outlook considers these fundamentals to form the basis for the company's long-term business planning, investment decisions, and research programs. The Outlook reflects the company's view of global energy demand and supply through 2050. It is a projection based on current trends in technology, government policies, consumer preferences, geopolitics, and economic development.

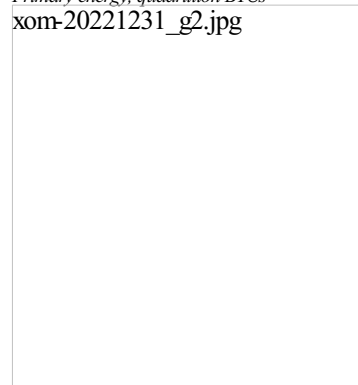
In addition, ExxonMobil considers a range of scenarios - including remote scenarios - to help inform perspective of the future and enhance strategic thinking over time. Included in the range of these scenarios are the Intergovernmental Panel on Climate Change Lower 2°C scenarios and the IEA NZE by 2050 scenario. The IEA describes the IEA NZE as extremely challenging, requiring all stakeholders – governments, businesses, investors, and citizens – to take immediate, unprecedented action. The IEA acknowledges that society is not currently on the IEA NZE pathway. No single transition pathway can be reasonably predicted, given the wide range of uncertainties. Key unknowns include yet-to-be-developed government policies, market conditions, and advances in technology that may influence the cost, pace, and potential availability of certain pathways. Scenarios that employ a full complement of technology options are likely to provide the most economically efficient pathways.

Using our own experts and third-party sources, we monitor a variety of signposts that may indicate a potential shift in the energy transition. For example, the regional pace of the transition could be influenced by the cost of new technologies compared to existing or alternative energy sources. To effectively evaluate the pace of change, ExxonMobil uses many scenarios to help identify signposts that provide leading indicators of future developments and allow for timely adjustments to future versions of the Outlook.

Non-OECD countries projected to drive energy demand growth

Primary energy, quadrillion BTUs

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Source: ExxonMobil 2022 Outlook for Energy

By 2050, the world's population is projected at around 9.7 billion people, or about 2 billion more than in 2021. Coincident with this population increase, the Outlook projects worldwide economic growth to average close to 2.5 percent per year, with economic output growing by around 110 percent by 2050 compared to 2021. As economies and populations grow, and as living standards improve for billions of people, the need for energy is expected to continue to rise. Even with significant efficiency gains, global energy demand is projected to rise by almost 15 percent from 2021 to 2050. This increase in energy demand is expected to be driven by developing countries (i.e., those that are not member nations of the Organization for Economic Co-operation and Development (OECD)).

As expanding prosperity drives global energy demand higher, increasing use of energy-efficient technologies and practices as well as lower-emission products will continue to help significantly reduce energy consumption and CO₂ emissions per unit of economic output over time. Substantial efficiency gains are likely in all key aspects of the world's economy through 2050, affecting energy requirements for power generation, transportation, industrial applications, and residential and commercial needs.

Under our Outlook, global electricity demand is expected to increase over 75 percent from 2021 to 2050, with developing countries likely to account for about 80 percent of the increase. Consistent with this projection, power generation is expected to remain the largest and fastest growing major segment of global primary energy demand, supported by a wide variety of energy sources. The share of coal-fired generation is expected to decline substantially and approach 15 percent of the world's electricity in 2050, versus nearly 35 percent in 2021, in part due to policies to improve air quality as well as reduce greenhouse gas emissions to address risks related to climate change. From 2021 to 2050, the amount of electricity supplied using natural gas, nuclear power, and renewables is expected to more than double, accounting for the entire growth in electricity supplies and offsetting the reduction of coal. Electricity from wind and solar is expected to increase more than 550 percent, helping total renewables (including other sources, e.g., hydropower) to account for over 80 percent of the increase in electricity supplies worldwide through 2050. Total renewables are expected to reach about 50 percent of global electricity supplies by 2050. Natural gas and nuclear are expected to be about 25 percent and 10 percent, respectively, of global electricity supplies by 2050. Supplies of electricity by energy type will reflect significant differences across regions reflecting a wide range of factors including the cost and availability of various energy supplies and policy developments.

Under our Outlook, energy for transportation - including cars, trucks, ships, trains and airplanes - is expected to increase by over 30 percent from 2021 to 2050. Transportation energy demand is expected to account for around 65 percent of the growth in liquid fuels demand worldwide over this period. Light-duty vehicle demand for liquid fuels is projected to peak by around 2025, and then decline to levels seen in the early-2000s by 2050, as the impact of better fuel economy and significant growth in electric cars, led by China, Europe, and the United States, work to offset growth in the worldwide car fleet of almost 70 percent. By 2050, light-duty vehicles are expected to account for around 15 percent of global liquid fuels demand. During the same time period, nearly all the world's commercial transportation fleets are expected to continue to run on liquid fuels, including biofuels, which are expected to be widely available and offer practical advantages in providing a large quantity of energy in small volumes.

Almost half of the world's energy use is dedicated to industrial activity. As the global middle class continues to grow, demand for durable products, appliances, and consumable goods will increase. Industry uses energy products both as a fuel and as a feedstock for chemicals, asphalt, lubricants, waxes, and other specialty products. The Outlook anticipates technology advances, as well as the increasing shift toward cleaner forms of energy, such as electricity and natural gas, with coal declining. Demand for oil will continue to grow as a feedstock for industry.

As populations grow and prosperity rises, more energy will be needed to power homes, offices, schools, shopping centers, hospitals, etc. Combined residential and commercial energy demand is projected to rise by around 15 percent through 2050. Led by the growing economies of developing nations, average worldwide household electricity use will rise about 75 percent between 2021 and 2050.

Liquid fuels provide the largest share of global energy supplies today reflecting broad-based availability, affordability, ease of transportation, and fitness as a practical solution to meet a wide variety of needs. By 2050, global demand for liquid fuels is projected to grow to approximately 110 million oil equivalent barrels per day, an increase of about 17 percent from 2021. The non-OECD share of global liquid fuels demand is expected to increase to nearly 70 percent by 2050, as liquid fuels demand in the OECD is expected to decline by around 20 percent. Much of the global liquid fuels demand today is met by crude production from conventional sources; these supplies will remain important, and significant development activity is expected to offset much of the natural declines from these fields. At the same time, a variety of emerging supply sources - including tight oil, deepwater, oil sands, natural gas liquids, and biofuels - are expected to grow to help meet rising demand. The world’s resource base is sufficient to meet projected demand through 2050 as technology advances continue to expand the availability of more economic and lower-carbon supply options. However, timely investments will remain critical to meeting global needs with reliable and affordable supplies.

Natural gas is a lower-emission, versatile and practical fuel for a wide variety of applications, and it is expected to grow the most of any primary energy type from 2021 to 2050, meeting about 40 percent of global energy demand growth. Global natural gas demand is expected to rise nearly 25 percent from 2021 to 2050, with around two-thirds of that increase coming from the Asia Pacific region. Significant growth in supplies of unconventional gas - the natural gas found in shale and other tight rock formations - will help meet these needs. In total, about 50 percent of the growth in natural gas supplies is expected to be from unconventional sources. At the same time, conventionally-produced natural gas is likely to remain the cornerstone of global supply, meeting around two-thirds of worldwide demand in 2050. LNG trade will expand significantly, meeting about 50 percent of the increase in global demand growth, with much of this supply expected to help meet rising demand in Asia Pacific.

Oil and natural gas projected to play a critical role in the global energy mix



Source: ExxonMobil 2022 Outlook for Energy

Source: ExxonMobil 2022 Outlook for Energy

The world’s energy mix is highly diverse and will remain so through 2050. Oil is expected to remain the largest source of energy with its share remaining close to 30 percent in 2050. Coal and gas are the next largest sources of energy today, with the share of natural gas growing to more than 25 percent by 2050, while the share of coal falls to about half that of natural gas. Nuclear power is projected to grow, as many nations are likely to expand nuclear capacity to address rising electricity needs as well as energy security and environmental issues. Total renewable energy is expected to exceed 20 percent of global energy by 2050, with other renewables (e.g., biomass, hydropower, geothermal) contributing a combined share of more than 10 percent. Total energy supplied from wind and solar is expected to increase rapidly, growing over 480 percent from 2021 to 2050, when they are projected to be around 10 percent of the world energy mix.

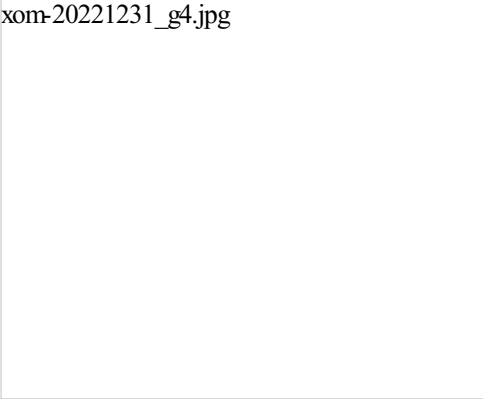
Decarbonization of industry activities will require a suite of nascent or future lower-carbon technologies and supporting policies. Lower-emission fuels, hydrogen-based fuels, and carbon capture and storage are three key lower-carbon solutions needed to support a lower-emission future, in addition to wind and solar. Along with electrification, lower-emission fuels are expected to play an important role in decarbonization of the transportation sector, particularly in hard-to-decarbonize areas, such as aviation. Low-carbon hydrogen will be a key enabler replacing traditional furnace fuel to decarbonize the industrial sector. Hydrogen and hydrogen-based fuels like ammonia are also expected to make inroads into commercial transportation as technology improves to lower its cost and policy develops to support the needed infrastructure development. Carbon capture and storage on its own, or in combination with hydrogen production, is among the few proven technologies that could enable CO2 emission reductions from high-emitting and hard-to-decarbonize sectors such as power generation and heavy industries, including manufacturing, refining, and petrochemicals.

Significant oil and natural gas investment needed to meet projected global demand

Projected oil supply and demand

Million barrels per day

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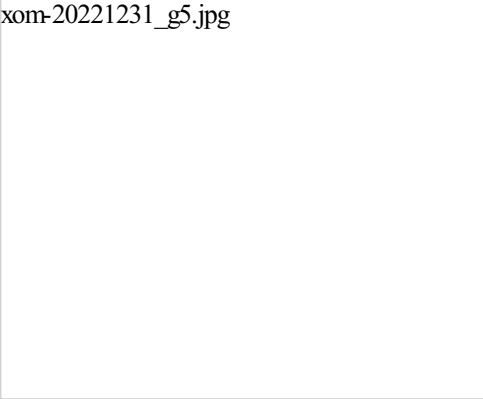


Excludes biofuels; IEA STEPS and IEA NZE Source: IEA WEO 2021; Outlook Source: ExxonMobil 2022 Outlook for Energy; Average IPCC Lower 2°C Source: IPCC AR6 Scenarios Database hosted by IIASA release 1.0 average IPCC C3: 311 “Likely below 2°C” scenarios used

Projected global natural gas supply and demand

Billion cubic feet per day

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IEA STEPS and IEA NZE Source: IEA WEO 2021; Outlook Source: ExxonMobil 2022 Outlook for Energy; Average IPCC Lower 2°C Source: IPCC AR6 Scenarios Database hosted by IIASA release 1.0 average IPCC C3: 311 “Likely below 2°C” scenarios used

To meet this projected demand under our Outlook and the IEA’s Stated Policies Scenario (STEPS), the Corporation anticipates that the world’s available oil and gas resource base will grow, not only from new discoveries, but also from increases in previously discovered fields. Technology will underpin these increases. The investments to develop and supply resources to meet global demand through 2050 will be significant, and would be needed to meet even the rapidly declining demand for oil and gas envisioned in the IEA’s Net Zero Emissions by 2050 scenario.

International accords and underlying regional and national regulations covering greenhouse gas emissions continue to evolve with uncertain timing and outcome, making it difficult to predict their business impact. For many years, the Corporation has taken into account policies established to reduce energy-related greenhouse gas emissions in its long-term Outlook. The climate accord reached at the Conference of the Parties (COP 21) in Paris set many new goals, and many related policies are still emerging. Our Outlook reflects an environment with increasingly stringent climate policies and is consistent with the global aggregation of Nationally Determined Contributions (NDCs), submitted by the nations that are signatories to the Paris Agreement, as available at the end of 2021. Our Outlook seeks to identify potential impacts of climate-related government policies, which often target specific sectors. For purposes of the Outlook, a proxy cost on energy-related CO2 emissions is assumed, based on regional considerations and relative levels of economic development, and by 2050, reaches up to \$150 per metric ton for OECD nations and up to \$100 per metric ton for non-OECD nations. China and other leading non-OECD nations are expected to trail OECD policy initiatives. Nevertheless, as people and nations look for ways to reduce risks of global climate change, they will continue to need practical solutions that do not jeopardize the affordability or reliability of the energy they need. The Corporation continues to monitor the updates to the NDCs that nations provided around COP 27 in Egypt in November 2022 as well as other policy developments in light of net-zero ambitions formulated by some nations.

The information provided in the Outlook includes ExxonMobil’s internal estimates and projections based upon internal data and analyses as well as publicly available information from external sources including the International Energy Agency.

Progress Reducing Emissions

The Corporation's strategy seeks to maximize the advantages of our scale, business integration, leading technology, functional excellence, and our people to build globally competitive businesses that lead industry in earnings and cash flow growth across a range of future scenarios. We strive to play a leading role in the energy transition, bringing to bear these same advantages while retaining investment flexibility across a portfolio of evolving opportunities to grow shareholder value.

With advances in technology and the support of clear and consistent government policies, we aim to achieve net-zero operated Scope 1 and 2 greenhouse gas emissions by 2050. To this end, we have taken a comprehensive approach to create greenhouse gas emission-reduction roadmaps for our major operated assets. The roadmaps build on the company's 2030 emission-reduction plans and, notably, include reaching net-zero emissions (Scopes 1 and 2) in our unconventional Permian Basin operated assets by 2030. We completed these roadmaps in 2022. Many of the required reduction steps are unaffordable with today's technology and policy support. We plan to update the roadmaps as needed to reflect technology, policy, and other necessary developments, including the development and acquisition of major operated assets.

Compared to 2016 levels, our 2030 emission-reduction plans include a 20-30 percent reduction in corporate-wide greenhouse gas intensity, 40-50 percent reduction in upstream greenhouse gas intensity, 70-80 percent reduction in company-wide methane intensity, and 60-70 percent reduction in corporate-wide hydrocarbon flaring intensity. In achieving these objectives, we also expect to see absolute reduction in:

- Corporate-wide greenhouse gas emissions by approximately 20 percent;
- Upstream greenhouse gas emissions of approximately 30 percent;
- Corporate-wide hydrocarbon flaring of approximately 60 percent;
- Corporate-wide methane emissions by approximately 70 percent; and
- World Bank Zero Routine Flaring by 2030.

These emission-reduction plans cover Scope 1 and 2 emissions from assets we operate.

Since formally launching ExxonMobil's Low Carbon Solutions business in early 2021, the Corporation has significantly grown the pipeline of emission-reduction opportunities in carbon capture and storage, hydrogen, and lower-emission fuels. Low Carbon Solutions leverages the Corporation's unique combination of existing assets, technical capabilities, project management skills, and broad relationships with industry and governments to accelerate emission reductions for customers and help to reduce emissions in our existing businesses.

The Corporation plans to invest in initiatives to lower greenhouse gas emissions. These investments are designed to reduce emissions in the company's operations and are also directed toward reducing others' emissions through commercializing and scaling carbon capture and storage, hydrogen, and lower-emission fuels. Policy support, along with technology advancements, are important to the development and deployment of lower-emission technologies necessary for a net-zero future.

Recent Business Environment

Prior to the COVID-19 pandemic, many companies in the industry invested below the levels needed to maintain or increase production capacity to meet anticipated demand. During the COVID-19 pandemic, this decline in investments accelerated as industry revenue collapsed resulting in underinvestment and supply tightness as demand for petroleum and petrochemical products recovered. In addition, industry rationalization of refining assets resulted in more than 3 million barrels per day of capacity being taken offline. Across late 2021 and the first half of 2022, these reductions, along with supply chain constraints, and a continuation of demand recovery led to a steady increase in oil and natural gas prices and refining margins.

Demand for petroleum and petrochemical products grew in 2022, with the Corporation's financial results benefiting from stronger prices and margins, notably for crude oil and natural gas as well as refining products. The rate and pace of recovery, however, has varied across geographies and business lines, with industry Chemical margins falling below the bottom of the 10-year range late in 2022 reflecting weakening global demand and capacity additions. Commodity and product prices are expected to remain volatile given the current global economic uncertainty and geopolitical events affecting supply and demand.

The general rate of inflation across major countries experienced a brief decline in the initial stage of the COVID-19 pandemic, before starting to increase steadily in 2021 due to an imbalance in supply and demand. The underlying factors include, but are not limited to, time cycle of capacity investments, supply chain disruptions, shipping bottlenecks, labor constraints, and side effects from monetary and fiscal expansions. Inflationary pressure intensified in 2022 with additional impacts from the Russia-Ukraine conflict, and currently remains elevated despite policy tightening by major central banks and a moderating pace of world economic expansion. The Corporation closely monitors market trends and works to mitigate both operating and capital cost impacts in all price environments.

Organizational changes implemented over the past several years enabled the Corporation to realize \$7 billion of structural cost savings⁽¹⁾ versus 2019, through increased operational efficiencies and reduced overhead costs. Included in these savings is the completion of the workforce reduction programs, which are estimated to generate savings of approximately \$2 billion per year compared to 2019 from lower employee and contractor costs. The company continues to take actions to streamline its business structure to improve effectiveness and reduce costs. The changes more fully leverage global functional capabilities, improve line of sight to markets, and enhance resource allocation to the highest corporate priorities.

⁽¹⁾ Refer to *Frequently Used Terms* for definition of structural cost savings.

Russia-Ukraine Conflict

In response to Russia's military action in Ukraine, the Corporation announced in early 2022 that it planned to discontinue operations on the Sakhalin-1 project ("Sakhalin") and develop steps to exit the venture. The Corporation's first-quarter results included after-tax charges of \$3.4 billion largely representing the impairment of its operations related to Sakhalin (refer to Note 2 for further information on Russia). While the Corporation's affiliate was in force majeure due to the impact of global sanctions, it continued to make concerted attempts to engage in good-faith exit discussions with the Russian government and all Sakhalin partners. The Corporation remained focused on safety of people, protection of the environment, and integrity of operations. Effective October 14, through two decrees the Russian government unilaterally terminated the Corporation's interests in Sakhalin, transferring operations to a Russian operator.

The Corporation's fourth-quarter results include an after-tax benefit of \$1.1 billion largely reflecting the impact of the expropriation on the company's various obligations related to Sakhalin. The Corporation's exit from the project results in approximately 150 million oil-equivalent barrels no longer qualifying as proved reserves at year-end 2022.

The Corporation holds a 25 percent interest in Tengizchevroil, LLP (TCO), which operates the Tengiz and Korolev oil fields in Kazakhstan, and a 16.8 percent working interest in the Kashagan field in Kazakhstan. Oil production from those operations is exported through the Caspian Pipeline Consortium (CPC), in which the Corporation holds a 7.5 percent interest. CPC traverses parts of Kazakhstan and Russia to tanker-loading facilities on the Russian coast of the Black Sea. In the event that Russia takes countermeasures in response to existing sanctions related to its military actions in Ukraine, it is possible that the transportation of Kazakhstan oil through the CPC pipeline could be disrupted, curtailed, temporarily suspended, or otherwise restricted. In such a case, the Corporation could experience a loss of cash flows of uncertain duration from its operations in Kazakhstan. For reference, after-tax earnings related to the Corporation's interests in Kazakhstan in 2022 were approximately \$2.5 billion, and its share of combined oil and gas production was approximately 246 thousand oil-equivalent barrels per day.

Additional European Taxes on the Energy Sector

On October 6, 2022, European Union ("EU") Member States adopted an EU Council Regulation which, along with other measures, introduced a new tax described as an emergency intervention to address high energy prices. This regulation imposed a mandatory tax on certain companies active in the crude petroleum, coal, natural gas, and refinery sectors. The regulation required Member States to levy a minimum 33 percent tax on in-scope companies' 2022 and/or 2023 "surplus profits", defined in the regulation as taxable profits exceeding 120 percent of the annual average profits during the 2018-2021 period. EU Member States were required to implement the tax, or an equivalent national measure, by December 31, 2022. The enactment of these regulations by Member States resulted in an after-tax charge of approximately \$1.8 billion to the Corporation's fourth-quarter 2022 results, mainly reflected in the line "Income tax expense (benefit)" on the Consolidated Statement of Income.

The future impact of this regulation and other measures directed at the energy sector which were imposed by EU Member States and the UK over the last few months could be a reduction to earnings of up to \$2 billion depending on commodity prices and levels of taxable income.

BUSINESS RESULTS

Upstream

ExxonMobil continues to sustain a diverse growth portfolio of exploration and development opportunities, which enables the Corporation to be selective, maximizing shareholder value and mitigating political and technical risks. ExxonMobil's fundamental strategies guide our global Upstream business, including capturing material and accretive opportunities to continually high-grade the resource portfolio, selectively developing attractive oil and natural gas resources, developing and applying high-impact technologies, and pursuing productivity and efficiency gains as well as a reduction in greenhouse gas emissions. These strategies are underpinned by a relentless focus on operational excellence, development of our employees, and investment in the communities within which we operate.

As future development projects and drilling activities bring new production online, the Corporation expects a shift in the geographic mix and in the type of opportunities from which volumes are produced. Based on current investment plans, the proportion of oil-equivalent production from the Americas is generally expected to increase over the next several years. About half of the Corporation's global production comes from unconventional, deepwater, and LNG resources. This proportion is generally expected to grow over the next few years.

The Upstream capital program continues to prioritize low cost-of-supply opportunities. ExxonMobil has a strong pipeline of development projects including continued growth in Guyana, Brazil, the Permian Basin, as well as LNG expansion opportunities in Qatar, Mozambique, Papua New Guinea, and the United States.

The Corporation anticipates several projects will come online over the next few years providing additional production capacity. However, actual volumes will vary from year to year due to the timing of individual project start-ups; operational outages; reservoir performance; regulatory changes; the impact of fiscal and commercial terms; asset sales; weather events; price effects on production sharing contracts; changes in the amount and timing of capital investments that may vary depending on the oil and gas price environment; international trade patterns and relations; and other factors described in Item 1A. Risk Factors.

ExxonMobil believes prices over the long term will continue to be driven by market supply and demand, with the demand side largely being a function of general economic activities, levels of prosperity, technology advances, consumer preference and government policies. On the supply side, prices may be significantly impacted by political events, the actions of OPEC and other large government resource owners, alternative energy sources, and other factors.

Key Recent Events

Significant progress was made on key new developments during 2022.

Guyana: Exploration success continued with 10 additional discoveries in 2022 in the Stabroek block. The Liza Phase 2 Unity floating production, storage and offloading vessel started production in February 2022, and our combined Liza Phase 1 and 2 developments produced above previous expectations, averaging more than 360 thousand oil-equivalent barrels per day in the fourth quarter. On Payara, the third project, development drilling continued and anticipated start-up timing has been accelerated to year-end 2023. Yellowtail is the fourth and largest world-class development project and is expected to achieve first oil in 2025.

Brazil: Development work is progressing on the Bacalhau Phase 1 project.

Permian: Production volumes averaged about 550 thousand oil-equivalent barrels per day (koebd) in 2022, approximately 90 koebd higher than the previous year. The Corporation was successful in increasing drilling performance and continuing to improve capital efficiency. ExxonMobil previously announced plans to achieve net-zero greenhouse gas emissions (Scope 1 and 2) from our operated unconventional operations in the Permian Basin by 2030. Towards this objective, we advanced several emissions-reduction initiatives in 2022 including elimination of all routine flaring⁽¹⁾, progress with pneumatic device replacement, electrification of equipment and enhancements to methane emissions detection technology.

LNG: ExxonMobil continued work to expand its LNG portfolio and secured participation in the Qatar North Field East project, which will increase ExxonMobil's participation in Qatar LNG production from 52 to 60 million metric tons per year. The Coral South Floating LNG development began production in October 2022 as the first development in Mozambique's Rovuma Basin, and is expected to produce up to 3.4 million metric tons of LNG per year. The company also completed key commercial milestones to begin the Papua New Guinea expansion, and the Golden Pass LNG project remains on schedule for 2024 start-up in the U.S. Gulf Coast.

⁽¹⁾ References to routine flaring herein are consistent with the World Bank's Zero Routine Flaring Reduction Partnership's (GGFRP) principle of routine flaring, and excludes safety and non-routine flaring.

Upstream Financial Results

<i>(millions of dollars)</i>	2022	2021	2020
Earnings (loss) (U.S. GAAP)			
United States	11,728	3,663	(19,385)
Non-U.S.	24,751	12,112	(645)
Total	36,479	15,775	(20,030)
Identified Items ⁽¹⁾			
United States	299	(263)	(17,092)
Non-U.S.	(3,238)	(280)	(2,602)
Total	(2,939)	(543)	(19,694)
Earnings (loss) excluding Identified Items ⁽¹⁾ (Non-GAAP)			
United States	11,429	3,926	(2,293)
Non-U.S.	27,989	12,392	1,957
Total	39,418	16,318	(336)

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

2022 Upstream Earnings Factor Analysis

(millions of dollars)

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Price – Higher realizations increased earnings by \$21,290 million reflecting tight supply and recovering demand, and favorable mark-to-market impacts of \$2,800 million.

Volume/Mix – Volume and mix effects decreased earnings by \$110 million. The earnings benefit from volume growth in Guyana and the Permian was offset by the volume loss from divestments, the Russia expropriation, and other impacts including weather-related downtime.

Other – All other items decreased earnings by \$880 million as strong cost control partly offset impacts from inflation and increased activity.

Identified Items ⁽¹⁾ – 2021 \$(543) million loss as a result of impairments of \$(752) million and contractual provisions of \$(250) million, partly offset by a \$459 million gain from the U.K. Central and Northern North Sea divestment; 2022 \$(2,939) million loss mainly driven by the Russia expropriation \$(2,185) million and impacts from additional European taxes \$(1,415) million, partly offset by gains of \$886 million on the sale of the Romania, U.S. Barnett Shale, and XTO Energy Canada assets.

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

2021 Upstream Earnings Factor Analysis
(millions of dollars)

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Price – Higher realizations increased earnings by \$14,960 million.

Volume/Mix – Unfavorable volume and mix effects decreased earnings by \$340 million.

Other – All other items increased earnings by \$2,040 million, primarily driven by lower expenses of \$1,360 million and one-time favorable tax items.

Identified Items⁽¹⁾ – 2020 \$(19,694) million loss primarily reflected impairments of dry gas assets; 2021 \$(543) million loss was as a result of impairments of \$(752) million and contractual provisions of \$(250) million, partly offset by a \$459 million gain from the U.K Central and Northern North Sea divestment.

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

Upstream Operational Results

	2022	2021	2020
Net production of crude oil, natural gas liquids, bitumen and synthetic oil (thousands of barrels daily)			
United States	776	721	685
Canada/Other Americas	588	560	536
Europe	4	22	30
Africa	238	248	312
Asia	705	695	742
Australia/Oceania	43	43	44
Worldwide	2,354	2,289	2,349
Net natural gas production available for sale (millions of cubic feet daily)			
United States	2,551	2,746	2,691
Canada/Other Americas	148	195	277
Europe	667	808	789
Africa	71	43	9
Asia	3,418	3,465	3,486
Australia/Oceania	1,440	1,280	1,219
Worldwide	8,295	8,537	8,471
Oil-equivalent production ⁽²⁾ (thousands of oil-equivalent barrels daily)	3,737	3,712	3,761

⁽²⁾ Natural gas is converted to an oil-equivalent basis at six million cubic feet per one thousand barrels.

Upstream Additional Information

(thousands of barrels daily)	2022	2021
Volumes Reconciliation (Oil-equivalent production) ⁽¹⁾		
Prior Year	3,712	3,761
Entitlements - Net Interest	(44)	(1)
Entitlements - Price / Spend / Other	(34)	(97)
Government Mandates	80	8
Divestments	(71)	(24)
Growth / Other	94	65
Current Year	3,737	3,712

⁽¹⁾ Natural gas is converted to an oil-equivalent basis at six million cubic feet per one thousand barrels.

2022 versus 2021	2022 production of 3.7 million oil-equivalent barrels per day increased 25 thousand barrels per day from 2021. Growth in the Permian and Guyana, and easing government-mandated curtailments more than offset the impacts from divestments, the Russia expropriation, and lower entitlements due to higher prices.
2021 versus 2020	2021 production of 3.7 million oil-equivalent barrels per day decreased 49 thousand barrels per day from 2020, as higher demand and growth were more than offset by lower entitlements due to higher prices, decline, and divestments.

Listed below are descriptions of ExxonMobil's volumes reconciliation factors, which are provided to facilitate understanding of the terms.

Entitlements - Net Interest are changes to ExxonMobil's share of production volumes caused by non-operational changes to volume-determining factors. These factors consist of net interest changes specified in Production Sharing Contracts (PSCs), which typically occur when cumulative investment returns or production volumes achieve defined thresholds, changes in equity upon achieving pay-out in partner investment carry situations, equity redeterminations as specified in venture agreements, or as a result of the termination or expiry of a concession. Once a net interest change has occurred, it typically will not be reversed by subsequent events, such as lower crude oil prices.

Entitlements - Price, Spend and Other are changes to ExxonMobil's share of production volumes resulting from temporary changes to non-operational volume-determining factors. These factors include changes in oil and gas prices or spending levels from one period to another. According to the terms of contractual arrangements or government royalty regimes, price or spending variability can increase or decrease royalty burdens and/or volumes attributable to ExxonMobil. For example, at higher prices, fewer barrels are required for ExxonMobil to recover its costs. These effects generally vary from period to period with field spending patterns or market prices for oil and natural gas. Such factors can also include other temporary changes in net interest as dictated by specific provisions in production agreements.

Government Mandates are changes to ExxonMobil's sustainable production levels as a result of temporary non-operational production limits or sanctions imposed by governments, generally upon a country, sector, type or method of production.

Divestments are reductions in ExxonMobil's production arising from commercial arrangements to fully or partially reduce equity in a field or asset in exchange for financial or other economic consideration.

Growth and Other factors comprise all other operational and non-operational factors not covered by the above definitions that may affect volumes attributable to ExxonMobil. Such factors include, but are not limited to, production enhancements from project and work program activities, acquisitions including additions from asset exchanges, downtime, market demand, natural field decline, and any fiscal or commercial terms that do not affect entitlements.

Energy Products

ExxonMobil's Energy Products is one of the largest, most integrated businesses of its kind among international oil companies, with significant representation across the entire fuels value chain including refining, logistics, trading, and marketing. This segment brings fuels and aromatics value chains together, recognizing their history of working closely to optimize manufacturing sites, and includes catalysts and licensing.

With the largest refining footprint among international oil companies, ExxonMobil's Energy Products earnings are closely tied to industry refining margins. Refining margins are largely driven by differences in commodity prices and are a function of the difference between what a refinery pays for its raw materials and the market prices for the products produced. Crude oil and many products are widely traded with published prices, including those quoted on multiple exchanges around the world (e.g. New York Mercantile Exchange and Intercontinental Exchange). Prices for these commodities are determined by the global marketplace and are influenced by many factors, including global and regional supply/demand balances, inventory levels, industry refinery operations, import/export balances, currency fluctuations, seasonal demand, weather, and political considerations. While industry refining margins significantly impact Energy Products earnings, strong operations performance, product mix optimization, and disciplined cost control are also critical to strong financial performance.

Refining margins increased sharply in 2022, well above the top of the 10-year historical range (2010–2019). Demand for gasoline and diesel recovered to pre-pandemic levels, while jet fuel demand remained below historical levels reflecting continued COVID-19 impacts. Refinery shutdowns and lack of investments driven by the pandemic reduced industry capacity and resulted in a tight market.

Refining margins are anticipated to remain volatile in the near term as a result of significant global factors including China demand recovery and export quotas, recession fears, impacts from price caps and sanctions, low inventory levels, and new refining capacity additions.

Key Recent Events

Future capacity additions: The company mechanically completed its Beaumont Refinery expansion. This expansion will bring 250,000 barrels per day of crude distillation capacity to the market in first quarter 2023.

Strathcona Renewable Diesel Project: Progressed 20,000 barrels per day renewable diesel project, culminating in final investment decision in January 2023 for the largest such facility in Canada.

Billings divestment⁽¹⁾: In October 2022, ExxonMobil and its affiliates reached an agreement with Par Pacific Holdings for the sale of the Billings Refinery and select midstream assets in Montana and Washington.

Italy Fuels divestment⁽¹⁾: In December 2022, ExxonMobil reached an agreement with Italiana Petroli to sell its interest in the Trecate Refinery joint venture, select midstream assets, and the fuels marketing business.

Esso Thailand divestment⁽¹⁾: In January 2023, ExxonMobil reached an agreement with Bangchak Corporation to sell its interest in Esso Thailand, which includes the Sriracha Refinery, select distribution terminals, and a network of Esso-branded retail stations.

⁽¹⁾ The Corporation expects the transactions to close in 2023.

Energy Products Financial Results

(millions of dollars)	2022	2021	2020
Earnings (loss) (U.S. GAAP)			
United States	8,340	668	(1,342)
Non-U.S.	6,626	(1,014)	(1,230)
Total	14,966	(347)	(2,572)
Identified Items ⁽¹⁾			
United States	(58)	—	(4)
Non-U.S.	(626)	—	(636)
Total	(684)	—	(640)
Earnings (loss) excluding Identified Items ⁽¹⁾ (Non-GAAP)			
United States	8,398	668	(1,338)
Non-U.S.	7,252	(1,014)	(594)
Total	15,650	(347)	(1,932)

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

Due to rounding, numbers presented may not add up precisely to the totals indicated.

2022 Energy Products Earnings Factor Analysis

(millions of dollars)

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Margins – Increased earnings by \$14,360 million as industry refining conditions significantly improved from increased demand and low inventories, as well as stronger trading and marketing margins.

Volume/Mix – Increased earnings by \$1,060 million reflecting improved product yields and higher throughput.

Other – Increased earnings by \$570 million due to favorable foreign exchange and year-end inventory effects.

Identified Items ⁽¹⁾ – 2022 \$(684) million loss was driven by additional European taxes on the energy sector and impairments.

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

2021 Energy Products Earnings Factor Analysis
(millions of dollars)

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Margins – Increased earnings by \$1,360 million as industry refining conditions improved.

Volume/Mix – Decreased earnings by \$90 million reflecting higher planned maintenance.

Other – Increased earnings by \$320 million due to lower expenses, partly offset by unfavorable foreign exchange impacts.

Identified Items ⁽¹⁾ – 2020 \$(640) million loss was primarily as a result of impairments and unfavorable tax items.

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

Energy Products Operational Results

<i>(thousands of barrels daily)</i>	2022	2021	2020
Refinery throughput			
United States	1,702	1,623	1,549
Canada	418	379	340
Europe	1,192	1,210	1,173
Asia Pacific	539	571	553
Other	179	162	158
Worldwide	4,030	3,945	3,773
Energy Products sales ⁽²⁾			
United States	2,426	2,267	2,159
Non-U.S.	2,921	2,863	2,704
Worldwide	5,347	5,130	4,863
Gasoline, naphthas	2,232	2,158	1,994
Heating oils, kerosene, diesel	1,774	1,749	1,751
Aviation fuels	338	220	213
Heavy fuels	235	269	249
Other energy products	768	734	656
Worldwide	5,347	5,130	4,863

⁽²⁾ Data reported net of purchases/sales contracts with the same counterparty.

Chemical Products

ExxonMobil is a leading global manufacturer and marketer of petrochemicals that support modern living. Chemical Products helps meet society's evolving needs by providing a wide range of innovative, valuable products in an efficient and responsible manner. This is supported by our unique combination of industry-leading scale and integration along with ExxonMobil's proprietary technology, which is fundamental to producing performance products that enable lighter, more durable solutions that use less material, save energy, and reduce costs and waste. These competitive advantages are underpinned by operational excellence, advantaged investments, and cost discipline. This segment includes olefins, polyolefins, and intermediates.

Over the long term, worldwide demand for chemicals is expected to grow faster than the economy as a whole, driven by global population growth, an expanding middle class, and improving living standards. Chemical Products integration with refineries, performance product mix, and project execution capability improves returns on investments across a range of market environments.

In 2022, chemical industry margins decreased, falling below the 10-year historical range (2010-2019), reflecting bottom-of-cycle conditions in Asia Pacific, increased industry capacity, and the closure of the regional pricing disconnect between Asia and the Atlantic Basin. Despite the decline in industry margins, Chemical Products earnings remained above the segment's 10-year average, benefiting from strong reliability, expense management, and mix of performance products.

Key Recent Events

Polypropylene expansion: ExxonMobil successfully started up a new polypropylene unit in Baton Rouge, Louisiana. This increased capacity by 450,000 metric tons per year, meeting growing demand for high-performance, lightweight, and durable plastics.

Advanced recycling: ExxonMobil started up one of North America's largest advanced recycling units at our integrated manufacturing complex in Baytown, Texas. This facility uses proprietary technology to break down hard-to-recycle plastics and transform them into raw materials for new products. It is capable of processing more than 80 million pounds of plastic waste per year, supporting a circular economy for post-use plastics and helping divert plastic waste currently sent to landfills.

Future capacity additions: ExxonMobil is making additional, long-term chemical investments with our Chemical expansion in Baytown, Texas, which will produce performance chemicals such as Vistamaxx™ polymers and Elevexx™ linear alpha olefins, and in China, where we continue to progress construction of our multi-billion dollar chemical complex in the Dayawan Petrochemical Industrial Park in Huizhou, Guangdong Province.

Chemical Products Financial Results

<i>(millions of dollars)</i>	2022	2021	2020
Earnings (loss) (U.S. GAAP)			
United States	2,328	3,697	1,196
Non-U.S.	1,215	3,292	1,061
Total	3,543	6,989	2,257
Identified Items ⁽¹⁾			
United States	—	—	(90)
Non-U.S.	—	—	(15)
Total	—	—	(105)
Earnings (loss) excluding Identified Items ⁽¹⁾ (Non-GAAP)			
United States	2,328	3,697	1,286
Non-U.S.	1,215	3,292	1,076
Total	3,543	6,989	2,362

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

2022 Chemical Products Earnings Factor Analysis

(millions of dollars)

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Margins – Lower margins decreased earnings by \$3,030 million with normalization of regional prices during the year, increased supply, and bottom-of-cycle conditions in Asia Pacific.

Volume/Mix – Product mix decreased earnings by \$170 million.

Other – All other items decreased earnings by \$250 million primarily as a result of higher expenses from production capacity additions, and foreign exchange effects from a stronger U.S. dollar.

2021 Chemical Products Earnings Factor Analysis*(millions of dollars)*

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Margins – Stronger margins increased earnings by \$4,370 million.

Volume/Mix – Higher volumes increased earnings by \$130 million.

Other – All other items increased earnings by \$130 million primarily as a result of lower expenses.

Identified Items ⁽¹⁾ – 2020 \$(105) million loss was driven by impairments.

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

Chemical Products Operational Results

<i>(thousands of metric tons)</i>	2022	2021	2020
Chemical prime product sales ⁽²⁾			
United States	7,270	7,017	6,602
Non-U.S.	11,897	12,126	12,186
Worldwide	19,167	19,142	18,787

⁽²⁾ Data reported net of purchases/sales contracts with the same counterparty.

Due to rounding, numbers presented may not add up precisely to the totals indicated.

Specialty Products

ExxonMobil Specialty Products is a combination of business units that manufacture and market a range of performance products including high-quality lubricants, basestocks, waxes, synthetics, elastomers, and resins. Leveraging ExxonMobil's proprietary technologies, Specialty Products focuses on providing performance products that help customers improve efficiency in the transportation and industrial sectors.

Demand for lubricants is expected to remain strong and grow in the industrial, aviation, and marine sectors. Specialty Products is well-positioned to help meet that demand through advantaged projects that leverage ExxonMobil's integration and world-class brands, such as Mobil 1.

In 2021, ExxonMobil completed the acquisition of Materia, a U.S.-based specialty chemical company. This business, built on proprietary technology, is now a part of the Specialty Products segment. Materia's new class of polymers has properties well-suited for infrastructure, oil and gas, and mobility segments, notably wind turbine blades, steel rebar replacement, and anti-corrosion paints. Plans are being progressed to bring the product to market at scale.

Key Recent Events

Singapore Resid Upgrade Project: Progressed project which will leverage two proprietary technologies to upgrade fuel oil to Group II lubes and clean products, further strengthening ExxonMobil's position as the largest basestock producer in the world.

Specialty Products Financial Results

<i>(millions of dollars)</i>	2022	2021	2020
Earnings (loss) (U.S. GAAP)			
United States	1,190	1,452	571
Non-U.S.	1,225	1,807	630
Total	2,415	3,259	1,201
Identified Items ⁽¹⁾			
United States	—	498	—
Non-U.S.	(40)	136	(228)
Total	(40)	634	(228)
Earnings (loss) excluding Identified Items ⁽¹⁾ (Non-GAAP)			
United States	1,190	954	571
Non-U.S.	1,265	1,672	858
Total	2,455	2,625	1,429

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

Due to rounding, numbers presented may not add up precisely to the totals indicated.

2022 Specialty Products Earnings Factor Analysis

(millions of dollars)

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Margins – Margins decreased earnings by \$220 million driven by higher feed costs and energy prices.

Volume/Mix – Higher volumes increased earnings by \$20 million on robust demand.

Other – All other items increased earnings by \$30 million primarily as a result of positive year-end inventory effects, offset by increased expenses from higher maintenance and inflation, and unfavorable foreign exchange impacts.

Identified Items ⁽¹⁾ – 2021 \$634 million gain resulted from the *Santoprene* divestment; 2022 \$(40) million loss from impairments.

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

2021 Specialty Products Earnings Factor Analysis*(millions of dollars)*

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Margins – Stronger margins, particularly for basestocks, increased earnings by \$680 million.

Volume/Mix – Higher volumes increased earnings by \$300 million.

Other – All other items increased earnings by \$220 million primarily as a result of lower expenses.

Identified Items ⁽¹⁾ – 2020 \$(228) million loss was driven by impairments; 2021 \$634 million gain came from the *Santoprene* divestment.

⁽¹⁾ Refer to *Frequently Used Terms* for definition of Identified Items and earnings (loss) excluding Identified Items.

Specialty Products Operational Results

<i>(thousands of metric tons)</i>	2022	2021	2020
Specialty Products sales ⁽²⁾			
United States	2,049	1,943	1,897
Non-U.S.	5,762	5,723	5,340
Worldwide	7,810	7,666	7,237

⁽²⁾ Data reported net of purchases/sales contracts with the same counterparty.

Due to rounding, numbers presented may not add up precisely to the totals indicated.

Corporate and Financing

Corporate and Financing is comprised of corporate activities that support the Corporation's operating segments and ExxonMobil's Low Carbon Solutions business. Corporate activities include general administrative support functions, financing and insurance activities. Low Carbon Solutions activities will be included in Corporate and Financing until the business is established with a material level of assets and customer contracts.

Corporate and Financing Financial Results

<i>(millions of dollars)</i>	2022	2021	2020
Earnings (loss) (U.S. GAAP)	(1,663)	(2,636)	(3,296)
Identified Items ⁽¹⁾	302	(64)	(361)
Earnings (loss) excluding Identified Items ⁽¹⁾ (Non-GAAP)	(1,965)	(2,572)	(2,935)

⁽¹⁾ Refer to Frequently Used Terms for definition of Identified Items and earnings (loss) excluding Identified Items.

2022	Corporate and Financing expenses were \$1,663 million in 2022 compared to \$2,636 million in 2021, with the decrease mainly due to lower pension-related expenses, favorable one-time tax impacts, and lower financing costs.
2021	Corporate and Financing expenses were \$2,636 million in 2021 compared to \$3,296 million in 2020, with the decrease mainly due to the absence of prior year severance costs and lower financing costs.

LIQUIDITY AND CAPITAL RESOURCES

Sources and Uses of Cash

(millions of dollars)	2022	2021	2020
Net cash provided by/(used in)			
Operating activities	76,797	48,129	14,668
Investing activities	(14,742)	(10,235)	(18,459)
Financing activities	(39,114)	(35,423)	5,285
Effect of exchange rate changes	(78)	(33)	(219)
Increase/(decrease) in cash and cash equivalents	22,863	2,438	1,275
Total cash and cash equivalents (December 31)	29,665	6,802	4,364

Total cash and cash equivalents were \$29.7 billion at the end of 2022, up \$22.9 billion from the prior year. The major sources of funds in 2022 were net income including noncontrolling interests of \$57.6 billion, the adjustment for the noncash provision of \$24.0 billion for depreciation and depletion, proceeds from asset sales of \$5.2 billion, and other investing activities of \$1.5 billion. The major uses of funds included spending for additions to property, plant and equipment of \$18.4 billion; dividends to shareholders of \$14.9 billion; the purchase of ExxonMobil stock of \$15.2 billion; a debt reduction of \$7.2 billion; and additional investments and advances of \$3.1 billion.

Total cash and cash equivalents were \$6.8 billion at the end of 2021, up \$2.4 billion from the prior year. The major sources of funds in 2021 were net income including noncontrolling interests of \$23.6 billion, the adjustment for the noncash provision of \$20.6 billion for depreciation and depletion, contributions from operational working capital of \$4.2 billion, proceeds from asset sales of \$3.2 billion, and other investing activities of \$1.5 billion. The major uses of funds included a debt reduction of \$19.7 billion; spending for additions to property, plant and equipment of \$12.1 billion; dividends to shareholders of \$14.9 billion; and additional investments and advances of \$2.8 billion.

The Corporation has access to significant capacity of long-term and short-term liquidity. Internally generated funds are expected to cover the majority of financial requirements, supplemented by long-term and short-term debt. On December 31, 2022, the Corporation had undrawn short-term committed lines of credit of \$0.3 billion and undrawn long-term lines of credit of \$1.2 billion.

To support cash flows in future periods, the Corporation will need to continually find or acquire and develop new fields, and continue to develop and apply new technologies and recovery processes to existing fields, in order to maintain or increase production. After a period of production at plateau rates, it is the nature of oil and gas fields to eventually produce at declining rates for the remainder of their economic life. Decline rates can vary widely by individual field due to a number of factors, including, but not limited to, the type of reservoir, fluid properties, recovery mechanisms, work activity, and age of the field. In particular, the Corporation's key tight-oil plays have higher initial decline rates which tend to moderate over time. Furthermore, the Corporation's net interest in production for individual fields can vary with price and the impact of fiscal and commercial terms.

The Corporation has long been successful at mitigating the effects of natural field decline through disciplined investments in quality opportunities and project execution. The Corporation anticipates several projects will come online over the next few years providing additional production capacity. However, actual volumes will vary from year to year due to the timing of individual project start-ups; operational outages; reservoir performance; regulatory changes; the impact of fiscal and commercial terms; asset sales; weather events; price effects on production sharing contracts; changes in the amount and timing of investments that may vary depending on the oil and gas price environment; and international trade patterns and relations. The Corporation's cash flows are also highly dependent on crude oil and natural gas prices. Please refer to Item 1A. Risk Factors for a more complete discussion of risks.

The Corporation's financial strength enables it to make large, long-term capital expenditures. Capital and exploration expenditures in 2022 were \$22.7 billion, reflecting the Corporation's continued active investment program. The Corporation plans to invest in the range of \$23 billion to \$25 billion in 2023.

Actual spending could vary depending on the progress of individual projects and property acquisitions. The Corporation has a large and diverse portfolio of development projects and exploration opportunities, which helps mitigate the overall political and technical risks of the Corporation's Upstream segment and associated cash flow. Further, due to its financial strength and diverse portfolio of opportunities, the risk associated with failure or delay of any single project would not have a significant impact on the Corporation's liquidity or ability to generate sufficient cash flows for operations and its fixed commitments.

The Corporation, as part of its ongoing asset management program, continues to evaluate its mix of assets for potential upgrade. Because of the ongoing nature of this program, dispositions will continue to be made from time to time which will result in either gains or losses. Additionally, the Corporation continues to evaluate opportunities to enhance its business portfolio through acquisitions of assets or companies, and enters into such transactions from time to time. Key criteria for evaluating acquisitions include strategic fit, potential for future growth and attractive current valuations. Acquisitions may be made with cash, shares of the Corporation's common stock, or both.

ExxonMobil closely monitors the potential impact of Interbank Offered Rate (IBOR) reform, including LIBOR, under a number of scenarios and has taken steps to mitigate the potential impact. Accordingly, ExxonMobil does not believe this event represents a material risk to the Corporation's consolidated results of operations or financial condition.

Cash Flow from Operating Activities

2022

Cash provided by operating activities totaled \$76.8 billion in 2022, \$28.7 billion higher than 2021. The major source of funds was net income including noncontrolling interests of \$57.6 billion, an increase of \$34.0 billion. The noncash provision for depreciation and depletion was \$24.0 billion, up \$3.4 billion from the prior year. The adjustment for the net gain on asset sales was \$1.0 billion, a decrease of \$0.2 billion. The adjustment for dividends received less than equity in current earnings of equity companies was a reduction of \$2.4 billion, compared to a reduction of \$0.7 billion in 2021. Changes in operational working capital, excluding cash and debt, decreased cash in 2022 by \$0.2 billion.

2021

Cash provided by operating activities totaled \$48.1 billion in 2021, \$33.5 billion higher than 2020. The major source of funds was net income including noncontrolling interests of \$23.6 billion, an increase of \$46.8 billion. The noncash provision for depreciation and depletion was \$20.6 billion, down \$25.4 billion from the prior year. The adjustment for the net gain on asset sales was \$1.2 billion, an increase of \$1.2 billion. The adjustment for dividends received less than equity in current earnings of equity companies was a reduction of \$0.7 billion, compared to a reduction of \$1.0 billion in 2020. Changes in operational working capital, excluding cash and debt, increased cash in 2021 by \$4.2 billion.

Cash Flow from Investing Activities

2022

Cash used in investing activities netted to \$14.7 billion in 2022, \$4.5 billion higher than 2021. Spending for property, plant and equipment of \$18.4 billion increased \$6.3 billion from 2021. Proceeds from asset sales and returns of investments of \$5.2 billion compared to \$3.2 billion in 2021. Additional investments and advances were \$0.3 billion higher in 2022, while proceeds from other investing activities including collection of advances were \$1.5 billion during the year.

2021

Cash used in investing activities netted to \$10.2 billion in 2021, \$8.2 billion lower than 2020. Spending for property, plant and equipment of \$12.1 billion decreased \$5.2 billion from 2020. Proceeds from asset sales and returns of investments of \$3.2 billion compared to \$1.0 billion in 2020. Additional investments and advances were \$2.0 billion lower in 2021, while proceeds from other investing activities including collection of advances decreased by \$1.2 billion.

Cash Flow from Financing Activities

2022

Cash used in financing activities was \$39.1 billion in 2022, \$3.7 billion higher than 2021. Dividend payments on common shares increased to \$3.55 per share from \$3.49 per share and totaled \$14.9 billion. During 2022, the Corporation utilized cash to reduce debt by \$7.2 billion.

ExxonMobil share of equity increased \$26.5 billion to \$195.0 billion. The addition to equity for earnings was \$55.7 billion. This was offset by reductions for dividends to ExxonMobil shareholders of \$14.9 billion. Foreign exchange translation effects of \$3.1 billion for the stronger U.S. dollar reduced equity, and a \$3.6 billion change in the funded status of the postretirement benefits reserves increased equity.

During 2022, Exxon Mobil Corporation restarted its share repurchase program for up to \$50 billion in shares through 2024, including the purchase of 162 million shares at a cost of \$15 billion in 2022.

2021

Cash flow from financing activities was \$35.4 billion in 2021, \$40.7 billion higher than 2020. Dividend payments on common shares increased to \$3.49 per share from \$3.48 per share and totaled \$14.9 billion. During 2021, the Corporation utilized cash to reduce debt by \$19.7 billion.

ExxonMobil share of equity increased \$11.4 billion to \$168.6 billion. The addition to equity for earnings was \$23.0 billion. This was offset by reductions for distributions to ExxonMobil shareholders of \$14.9 billion, all in the form of dividends. Foreign exchange translation effects of \$0.9 billion for the stronger U.S. dollar reduced equity, and a \$3.8 billion change in the funded status of the postretirement benefits reserves increased equity.

During 2021, Exxon Mobil Corporation suspended its share repurchase program used to offset shares or units settled in shares issued in conjunction with the company's benefit plans and programs.

Contractual Obligations

The Corporation has contractual obligations involving commitments to third parties that impact its liquidity and capital resource needs. These contractual obligations are primarily for leases, debt, asset retirement obligations, pension and other postretirement benefits, take-or-pay and unconditional purchase obligations, and firm capital commitments. See Notes 9, 11, 14 and 17 for information related to asset retirement obligations, leases, long-term debt and pensions, respectively.

In addition, the Corporation also enters into commodity purchase obligations (volumetric commitments but no fixed or minimum price) which are resold shortly after purchase, either in an active, highly liquid market or under long-term, unconditional sales contracts with similar pricing terms. Examples include long-term, noncancelable LNG and natural gas purchase commitments and commitments to purchase refinery products at market prices. These commitments are not meaningful in assessing liquidity and cash flow, because the purchases will be offset in the same periods by cash received from the related sales transactions.

Take-or-pay obligations are noncancelable, long-term commitments for goods and services. Unconditional purchase obligations are those long-term commitments that are noncancelable or cancelable only under certain conditions, and that third parties have used to secure financing for the facilities that will provide the contracted goods or services. These obligations mainly pertain to pipeline, manufacturing supply and terminal agreements. The total obligation at year-end 2022 for take-or-pay and unconditional purchase obligations was \$38.2 billion. Cash payments expected in 2023 and 2024 are \$3.8 billion and \$3.5 billion, respectively.

Guarantees

The Corporation and certain of its consolidated subsidiaries were contingently liable at December 31, 2022 for guarantees relating to notes, loans and performance under contracts (Note 16). Where guarantees for environmental remediation and other similar matters do not include a stated cap, the amounts reflect management's estimate of the maximum potential exposure. Where it is not possible to make a reasonable estimation of the maximum potential amount of future payments, future performance is expected to be either immaterial or have only a remote chance of occurrence. Guarantees are not reasonably likely to have a material effect on the Corporation's financial condition, changes in financial condition, revenues or expenses, results of operations, liquidity, capital expenditures or capital resources.

Financial Strength

On December 31, 2022, the Corporation had total unused short-term committed lines of credit of \$0.3 billion (Note 6) and total unused long-term committed lines of credit of \$1.2 billion (Note 14). The table below shows the Corporation's consolidated debt to capital ratios.

<i>(percent)</i>	2022	2021	2020
Debt to capital	16.9	21.4	29.2
Net debt to capital	5.4	18.9	27.8

Management views the Corporation's financial strength to be a competitive advantage of strategic importance. The Corporation's financial position gives it the opportunity to access the world's capital markets across a range of market conditions, and enables the Corporation to take on large, long-term capital commitments in the pursuit of maximizing shareholder value.

Stronger industry conditions in 2021 and 2022 enabled the Corporation to strengthen the balance sheet and return debt to pre-pandemic levels. The Corporation reduced debt by \$19.9 billion in 2021 and an additional \$6.5 billion in 2022, ending the year with \$41.2 billion in total debt.

Litigation and Other Contingencies

As discussed in Note 16, a variety of claims have been made against ExxonMobil and certain of its consolidated subsidiaries in a number of pending lawsuits. Based on a consideration of all relevant facts and circumstances, the Corporation does not believe the ultimate outcome of any currently pending lawsuit against ExxonMobil will have a material adverse effect upon the Corporation's operations, financial condition, or financial statements taken as a whole. There are no events or uncertainties beyond those already included in reported financial information that would indicate a material change in future operating results or financial condition. Refer to Note 16 for additional information on legal proceedings and other contingencies.

CAPITAL AND EXPLORATION EXPENDITURES

Capital and exploration expenditures (Capex) represent the combined total of additions at cost to property, plant and equipment, and exploration expenses on a before-tax basis from the Consolidated Statement of Income. ExxonMobil's Capex includes its share of similar costs for equity companies. Capex excludes assets acquired in nonmonetary exchanges, the value of ExxonMobil shares used to acquire assets, and depreciation on the cost of exploration support equipment and facilities recorded to property, plant and equipment when acquired. While ExxonMobil's management is responsible for all investments and elements of net income, particular focus is placed on managing the controllable aspects of this group of expenditures.

(millions of dollars)	2022			2021		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Upstream (including exploration expenses)	6,968	10,034	17,002	4,018	8,236	12,254
Energy Products	1,351	1,059	2,410	982	1,005	1,987
Chemical Products	1,123	1,842	2,965	1,200	825	2,025
Specialty Products	46	222	268	185	141	326
Other	59	—	59	3	—	3
Total	9,547	13,157	22,704	6,388	10,207	16,595

Capex in 2022 was \$22.7 billion, as the Corporation continued to pursue opportunities to find and produce new supplies of oil and natural gas to meet global demand for energy. The Corporation plans to invest in the range of \$23 billion to \$25 billion in 2023. Included in the 2023 capital spend range is \$11.6 billion of firm capital commitments. An additional \$11.4 billion of firm capital commitments have been made for years 2024 and beyond. Actual spending could vary depending on the progress of individual projects and property acquisitions.

Upstream spending of \$17.0 billion in 2022 was up 39 percent from 2021, reflecting higher spend in the U.S. Permian Basin and advantaged projects in Guyana. Development projects typically take several years from the time of recording proved undeveloped reserves to the start of production and can exceed five years for large and complex projects. The percentage of proved developed reserves was 63 percent of total proved reserves at year-end 2022, and has been over 60 percent for the last ten years.

Capital investments in Energy Products totaled \$2.4 billion in 2022, an increase of \$0.4 billion from 2021, reflecting higher global project spending, including the refinery expansion in Beaumont, Texas. Chemical Products capital expenditures of \$3.0 billion increased \$0.9 billion, representing increased spend on key growth projects such as the China chemical complex. Specialty Products capital expenditures of \$0.3 billion decreased \$0.1 billion.

TAXES

(millions of dollars)	2022	2021	2020
Income taxes	20,176	7,636	(5,632)
Effective income tax rate	33%	31%	17%
Total other taxes and duties	31,455	32,955	28,425
Total	51,631	40,591	22,793

2022

Total taxes on the Corporation's income statement were \$51.6 billion in 2022, an increase of \$11.0 billion from 2021. Income tax expense, both current and deferred, was \$20.2 billion compared to \$7.6 billion in 2021. The effective tax rate, which is calculated based on consolidated company income taxes and ExxonMobil's share of equity company income taxes, was 33 percent compared to 31 percent in the prior year driven by impacts from additional European taxes on the energy sector. Total other taxes and duties of \$31.5 billion in 2022 decreased \$1.5 billion.

2021

Total taxes on the Corporation's income statement were \$40.6 billion in 2021, an increase of \$17.8 billion from 2020. Income tax expense, both current and deferred, was \$7.6 billion compared to a \$5.6 billion benefit in 2020. The effective tax rate, which is calculated based on consolidated company income taxes and ExxonMobil's share of equity company income taxes, was 31 percent compared to 17 percent in the prior year due primarily to a change in mix of results in jurisdictions with varying tax rates. Total other taxes and duties of \$33.0 billion in 2021 increased \$4.5 billion.

ENVIRONMENTAL MATTERS

Environmental Expenditures

<i>(millions of dollars)</i>	2022	2021
Capital expenditures	1,864	1,202
Other expenditures	3,835	3,361
Total	5,699	4,563

Throughout ExxonMobil's businesses, new and ongoing measures are taken to prevent and minimize the impact of our operations on air, water and ground. These include a significant investment in refining infrastructure and technology to manufacture clean fuels, as well as projects to monitor and reduce air, water, and waste emissions, and expenditures for asset retirement obligations. Using definitions and guidelines established by the American Petroleum Institute, ExxonMobil's 2022 worldwide environmental expenditures for all such preventative and remediation steps, including ExxonMobil's share of equity company expenditures, were \$5.7 billion, of which \$3.8 billion were included in expenses with the remainder in capital expenditures. As the Corporation progresses its emission-reduction plans, worldwide environmental expenditures are expected to increase to approximately \$7.3 billion in 2023, with capital expenditures expected to account for approximately 46 percent of the total. Costs for 2024 are anticipated to increase to approximately \$8.2 billion, with capital expenditures expected to account for approximately 51 percent of the total.

Environmental Liabilities

The Corporation accrues environmental liabilities when it is probable that obligations have been incurred and the amounts can be reasonably estimated. This policy applies to assets or businesses currently owned or previously disposed. ExxonMobil has accrued liabilities for probable environmental remediation obligations at various sites, including multiparty sites where the U.S. Environmental Protection Agency has identified ExxonMobil as one of the potentially responsible parties. The involvement of other financially responsible companies at these multiparty sites could mitigate ExxonMobil's actual joint and several liability exposure. At present, no individual site is expected to have losses material to ExxonMobil's operations or financial condition. Consolidated company provisions made in 2022 for environmental liabilities were \$185 million (\$146 million in 2021), and the balance sheet reflects liabilities of \$730 million as of December 31, 2022, and \$807 million as of December 31, 2021.

MARKET RISKS

Worldwide Average Realizations ⁽¹⁾	2022	2021	2020
Crude oil and NGL (\$ per barrel)	87.25	61.89	35.41
Natural gas (\$ per thousand cubic feet)	7.48	4.33	2.01

⁽¹⁾ Consolidated subsidiaries.

Crude oil, natural gas, petroleum product, and chemical prices have fluctuated in response to changing market forces. The impacts of these price fluctuations on earnings have varied across the Corporation's operating segments. For the year 2023, a \$1 per barrel change in the weighted-average realized price of oil would have approximately a \$500 million annual after-tax effect on Upstream consolidated plus equity company earnings, excluding the impact of derivatives. Similarly, a \$0.10 per thousand cubic feet change in the worldwide average gas realization would have approximately a \$140 million annual after-tax effect on Upstream consolidated plus equity company earnings, excluding the impact of derivatives. For any given period, the extent of actual benefit or detriment will be dependent on the price movements of individual types of crude oil, results of trading activities, taxes and other government take impacts, price adjustment lags in long-term gas contracts, and crude and gas production volumes. Accordingly, changes in benchmark prices for crude oil and natural gas only provide broad indicators of changes in the earnings experienced in any particular period.

In the very competitive petroleum and petrochemical environment, earnings are primarily determined by margin capture rather than absolute price levels of products sold. Refining margins are a function of the difference between what a refiner pays for its raw materials (primarily crude oil) and the market prices for the range of products produced. These prices in turn depend on global and regional supply/demand balances, inventory levels, refinery operations, import/export balances and weather.

The global energy markets can give rise to extended periods in which market conditions are adverse to one or more of the Corporation's businesses. Such conditions, along with the capital-intensive nature of the industry and very long lead times associated with many of our projects, underscore the importance of maintaining a strong financial position. Management views the Corporation's financial strength as a competitive advantage.

In general, segment results are not dependent on the ability to sell and/or purchase products to/from other segments. Instead, where such sales take place, they are the result of efficiencies and competitive advantages of integrated refinery and chemical complexes. Additionally, intersegment sales are at market-based prices. The products bought and sold between segments can also be acquired in worldwide markets that have substantial liquidity, capacity, and transportation capabilities. Refer to Note 18 for additional information on intersegment revenue.

Although price levels of crude oil and natural gas may rise or fall significantly over the short to medium term due to global economic conditions, political events, decisions by OPEC and other major government resource owners and other factors, industry economics over the long term will continue to be driven by market supply and demand. The Corporation evaluates investments over a range of prices, including estimated greenhouse gas emission costs even in jurisdictions without a current greenhouse gas pricing policy.

The Corporation has an active asset management program in which nonstrategic assets are considered for divestment. The asset management program includes a disciplined, regular review to ensure that assets are contributing to the Corporation's strategic objectives.

Risk Management

The Corporation's size, strong capital structure, geographic diversity, and the complementary nature of its business segments reduce the Corporation's enterprise-wide risk from changes in commodity prices, currency rates, and interest rates. In addition, the Corporation uses commodity-based contracts, including derivatives, to manage commodity price risk and to generate returns from trading. The Corporation's commodity derivatives are not accounted for under hedge accounting. At times, the Corporation also enters into currency and interest rate derivatives, none of which are material to the Corporation's financial position as of December 31, 2022 and 2021, or results of operations for the years ended 2022, 2021, and 2020. Credit risk associated with the Corporation's derivative position is mitigated by several factors, including the use of derivative clearing exchanges and the quality of and financial limits placed on derivative counterparties. No material market or credit risks to the Corporation's financial position, results of operations or liquidity exist as a result of the derivatives described in Note 13. The Corporation maintains a system of controls that includes the authorization, reporting and monitoring of derivative activity.

The Corporation is exposed to changes in interest rates, primarily on its short-term debt and the portion of long-term debt that carries floating interest rates. The impact of a 100-basis-point change in interest rates affecting the Corporation's debt would not be material to earnings or cash flow. The Corporation has access to significant capacity of long-term and short-term liquidity. Internally generated funds are generally expected to cover financial requirements, supplemented by long-term and short-term debt as required. Commercial paper is used to balance short-term liquidity requirements. Some joint-venture partners are dependent on the credit markets, and their funding ability may impact the development pace of joint-venture projects.

The Corporation conducts business in many foreign currencies and is subject to exchange rate risk on cash flows related to sales, expenses, financing and investment transactions. Fluctuations in exchange rates are often offsetting and the impacts on ExxonMobil's geographically and functionally diverse operations are varied. The Corporation makes limited use of currency exchange contracts to mitigate the impact of changes in currency values, and exposures related to the Corporation's use of these contracts are not material.

CRITICAL ACCOUNTING ESTIMATES

The Corporation's accounting and financial reporting fairly reflect its integrated business model involving exploration for, and production of, crude oil and natural gas; manufacture, trade, transport and sale of crude oil, natural gas, petroleum products, petrochemicals, and a wide variety of specialty products; and pursuit of lower-emission business opportunities including carbon capture and storage, hydrogen, and lower-emission fuels. The preparation of financial statements in conformity with U.S. Generally Accepted Accounting Principles (GAAP) requires management to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues, and expenses and the disclosure of contingent assets and liabilities. The Corporation's accounting policies are summarized in Note 1.

Oil and Natural Gas Reserves

The estimation of proved oil and natural gas reserve volumes is an ongoing process based on rigorous technical evaluations, commercial and market assessments, and detailed analysis of well information such as flow rates and reservoir pressure declines, development and production costs, and other factors. The estimation of proved reserves is controlled by the Corporation through long-standing approval guidelines. Reserve changes are made within a well-established, disciplined process driven by senior level geoscience and engineering professionals, assisted by the Global Reserves and Resources Group which has significant technical experience, culminating in reviews with and approval by senior management. Notably, the Corporation does not use specific quantitative reserve targets to determine compensation. Key features of the reserve estimation process are covered in Disclosure of Reserves in Item 2.

Oil and natural gas reserves include both proved and unproved reserves.

- Proved oil and natural gas reserves are determined in accordance with Securities and Exchange Commission (SEC) requirements. Proved reserves are those quantities of oil and natural gas which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible under existing economic and operating conditions and government regulations. Proved reserves are determined using the average of first-of-month oil and natural gas prices during the reporting year.

Proved reserves can be further subdivided into developed and undeveloped reserves. Proved developed reserves include amounts which are expected to be recovered through existing wells with existing equipment and operating methods. Proved undeveloped reserves include amounts expected to be recovered from new wells on undrilled proved acreage or from existing wells where a relatively major expenditure is required for completion. Proved undeveloped reserves are recognized only if a development plan has been adopted indicating that the reserves are scheduled to be drilled within five years, unless specific circumstances support a longer period of time.

The Corporation is reasonably certain that proved reserves will be produced. However, the timing and amount recovered can be affected by a number of factors including completion of development projects, reservoir performance, regulatory approvals, government policy, consumer preferences, and significant changes in oil and natural gas price levels.

- Unproved reserves are quantities of oil and natural gas with less than reasonable certainty of recoverability and include probable reserves. Probable reserves are reserves that, together with proved reserves, are as likely as not to be recovered.

Revisions in previously estimated volumes of proved reserves for existing fields can occur due to the evaluation or re-evaluation of (1) already available geologic, reservoir, or production data, (2) new geologic, reservoir, or production data, or (3) changes in the average of first-of-month oil and natural gas prices and/or costs that are used in the estimation of reserves. Revisions can also result from significant changes in development strategy or production equipment and facility capacity.

Unit-of-Production Depreciation

Oil and natural gas reserve volumes are used as the basis to calculate unit-of-production depreciation rates for most upstream assets. Depreciation is calculated by taking the ratio of asset cost to total proved reserves or proved developed reserves applied to actual production. The volumes produced and asset cost are known, while proved reserves are based on estimates that are subject to some variability.

In the event that the unit-of-production method does not result in an equitable allocation of cost over the economic life of an upstream asset, an alternative method is used. The straight-line method is used in limited situations where the expected life of the asset does not reasonably correlate with that of the underlying reserves. For example, certain assets used in the production of oil and natural gas have a shorter life than the reserves, and as such, the Corporation uses straight-line depreciation to ensure the asset is fully depreciated by the end of its useful life.

To the extent that proved reserves for a property are substantially de-booked and that property continues to produce such that the resulting depreciation charge does not result in an equitable allocation of cost over the expected life, assets will be depreciated using a unit-of-production method based on reserves determined at the most recent SEC price which results in a more meaningful quantity of proved reserves, appropriately adjusted for production and technical changes.

Impairment

The Corporation tests assets or groups of assets for recoverability on an ongoing basis whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable. The Corporation has a robust process to monitor for indicators of potential impairment across its asset groups throughout the year. This process is aligned with the requirements of ASC 360 and ASC 932, and relies, in part, on the Corporation's planning and budgeting cycle.

Because the lifespans of the vast majority of the Corporation's major assets are measured in decades, the future cash flows of these assets are predominantly based on long-term oil and natural gas commodity prices and industry margins, development costs, and production costs. Significant reductions in the Corporation's view of oil or natural gas commodity prices or margin ranges, especially the longer-term prices and margins, and changes in the development plans, including decisions to defer, reduce, or eliminate planned capital spending, can be an indicator of potential impairment. Other events or changes in circumstances, including indicators outlined in ASC 360, can be indicators of potential impairment as well.

In general, the Corporation does not view temporarily low prices or margins as an indication of impairment. Management believes that prices over the long term must be sufficient to generate investments in energy supply to meet global demand. Although prices will occasionally drop significantly, industry prices over the long term will continue to be driven by market supply and demand fundamentals. On the supply side, industry production from mature fields is declining. This is being offset by investments to generate production from new discoveries, field developments, and technology and efficiency advancements. OPEC investment activities and production policies also have an impact on world oil supplies. The demand side is largely a function of general economic activities, alternative energy sources, and levels of prosperity. During the lifespan of its major assets, the Corporation expects that oil and gas prices and industry margins will experience significant volatility. Consequently, these assets will experience periods of higher earnings and periods of lower earnings, or even losses. In assessing whether events or changes in circumstances indicate the carrying value of an asset may not be recoverable, the Corporation considers recent periods of operating losses in the context of its longer-term view of prices and margins.

Outlook for Energy and Cash Flow Assessment. The annual planning and budgeting process, known as the Corporate Plan, is the mechanism by which resources (capital, operating expenses, and people) are allocated across the Corporation. The foundation for the assumptions supporting the Corporate Plan is the Outlook for Energy (Outlook), which contains the Corporation's demand and supply projections based on its assessment of current trends in technology, government policies, consumer preferences, geopolitics, economic development, and other factors. Reflective of the existing global policy environment, the Outlook does not attempt to project the degree of necessary future policy and technology advancement and deployment for the world, or the Corporation, to meet net zero by 2050. As future policies and technology advancements emerge, they will be incorporated into the Outlook, and the Corporation's business plans will be updated accordingly.

If events or changes in circumstances indicate that the carrying value of an asset may not be recoverable, the Corporation estimates the future undiscounted cash flows of the affected properties to judge the recoverability of carrying amounts. In performing this assessment, assets are grouped at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets. Cash flows used in recoverability assessments are based on the assumptions developed in the Corporate Plan, which is reviewed and approved by the Board of Directors, and are consistent with the criteria management uses to evaluate investment opportunities. These evaluations make use of the Corporation's assumptions of future capital allocations, crude oil and natural gas commodity prices including price differentials, refining and chemical margins, volumes, development and operating costs including greenhouse gas emission prices, and foreign currency exchange rates. Notably, when assessing future cash flows, the Corporation includes the estimated costs in support of reaching its 2030 greenhouse gas emission-reduction plans, including its goal of net-zero greenhouse gas emissions (Scope 1 and 2) from unconventional operated assets in the Permian Basin. Volumes are based on projected field and facility production profiles, throughput, or sales. Management's estimate of upstream production volumes used for projected cash flows makes use of proved reserve quantities and may include risk-adjusted unproved reserve quantities. ExxonMobil considers a range of scenarios - including remote scenarios - to help inform perspective of the future and enhance strategic thinking over time. While third-party scenarios, such as the International Energy Agency's Net Zero Emissions by 2050, may be used for these purposes, they are not used as a basis for developing future cash flows for impairment assessments. As part of the Corporate Plan, the Company considers estimated greenhouse gas emission costs, even for jurisdictions without a current greenhouse gas pricing policy.

Fair Value of Impaired Assets. An asset group is impaired if its estimated undiscounted cash flows are less than the asset group's carrying value. Impairments are measured by the excess of the carrying value over fair value. The assessment of fair value is based upon the views of a likely market participant. The principal parameters used to establish fair value include estimates of acreage values and flowing production metrics from comparable market transactions, market-based estimates of historical cash flow multiples, and discounted cash flows. Inputs and assumptions used in discounted cash flow models include estimates of future production volumes, throughput and product sales volumes, commodity prices which are consistent with the average of third-party industry experts and government agencies, refining and chemical margins, drilling and development costs, operating costs, and discount rates which are reflective of the characteristics of the asset group.

Other Impairment Estimates. Unproved properties are assessed periodically to determine whether they have been impaired. Significant unproved properties are assessed for impairment individually, and valuation allowances against the capitalized costs are recorded based on the Corporation's future development plans, the estimated economic chance of success, and the length of time that the Corporation expects to hold the properties. Properties that are not individually significant are aggregated by groups and amortized based on development risk and average holding period.

Long-lived assets that are held for sale are evaluated for possible impairment by comparing the carrying value of the asset with its fair value less the cost to sell. If the net book value exceeds the fair value less cost to sell, the assets are considered impaired and adjusted to the lower value. Judgment is required to determine if assets are held for sale and to determine the fair value less cost to sell.

Investments accounted for by the equity method are assessed for possible impairment when events or changes in circumstances indicate that the carrying value of an investment may not be recoverable. Examples of key indicators include a history of operating losses, negative earnings and cash flow outlook, significant downward revisions to oil and gas reserves, and the financial condition and prospects for the investee's business segment or geographic region. If the decline in value of the investment is other than temporary, the carrying value of the investment is written down to fair value. In the absence of market prices for the investment, discounted cash flows are used to assess fair value, which requires significant judgment.

Recent Impairments. In early 2022, in response to Russia's military action in Ukraine, the Corporation announced that it planned to discontinue operations on the Sakhalin-1 project ("Sakhalin") and develop steps to exit the venture. The Corporation's first quarter results included after-tax charges of \$3.0 billion representing the impairment of its Upstream operations related to Sakhalin. (Refer to Note 2 for further information on Russia.) Other after-tax impairment charges of \$1.6 billion and \$0.3 billion were recognized in Upstream and Energy Products, respectively.

In 2021, largely as a result of changes to Upstream development plans, the Corporation recognized after-tax impairment charges of approximately \$1 billion. In 2020, as part of the Corporation's annual review and approval of its business and strategic plan, a decision was made to no longer develop a significant portion of the dry gas portfolio in the United States, Canada, and Argentina. The impairment of these assets resulted in after-tax charges of \$18.4 billion in Upstream. Other after-tax impairment charges of \$1.8 billion across the year related mainly to impairments of property, plant, and equipment, goodwill, and equity method investments.

Factors which could put further assets at risk of impairment in the future include reductions in the Corporation's price or margin outlooks, changes in the allocation of capital or development plans, reduced long-term demand for the Corporation's products, and operating cost increases which exceed the pace of efficiencies or the pace of oil and natural gas price or margin increases. However, due to the inherent difficulty in predicting future commodity prices or margins, and the relationship between industry prices and costs, it is not practicable to reasonably estimate the existence or range of any potential future impairment charges related to the Corporation's long-lived assets.

For further information regarding impairments in goodwill, equity method investments, property, plant, and equipment, and suspended wells, refer to Notes 3, 7, 9, and 10, respectively.

Asset Retirement Obligations

The Corporation is subject to retirement obligations for certain assets. The fair values of these obligations are recorded as liabilities on a discounted basis, which is typically at the time the assets are installed. In the estimation of fair value, the Corporation uses assumptions and judgments regarding such factors as the existence of a legal obligation for an asset retirement obligation, technical assessments of the assets, estimated amounts and timing of settlements, discount rates, and inflation rates. See Note 9 for further information regarding asset retirement obligations.

Suspended Exploratory Well Costs

The Corporation continues capitalization of exploratory well costs when it has found a sufficient quantity of reserves to justify completion as a producing well and the Corporation is making sufficient progress assessing the reserves and the economic and operating viability of the project. Exploratory well costs not meeting these criteria are charged to expense. Assessing whether the Corporation is making sufficient progress on a project requires careful consideration of the facts and circumstances. The facts and circumstances that support continued capitalization of suspended wells at year-end are disclosed in Note 10.

Pension Benefits

The Corporation and its affiliates sponsor 75 defined benefit (pension) plans in 40 countries. The Pension and Other Postretirement Benefits footnote (Note 17) provides details on pension obligations, fund assets, and pension expense.

Some of these plans (primarily non-U.S.) provide pension benefits that are paid directly by their sponsoring affiliates out of corporate cash flow rather than a separate pension fund because applicable tax rules and regulatory practices do not encourage advance funding. Book reserves are established for these plans. The portion of the pension cost attributable to employee service is expensed as services are rendered. The portion attributable to the increase in pension obligations due to the passage of time is expensed over the term of the obligations, which ends when all benefits are paid. The primary difference in pension expense for unfunded versus funded plans is that pension expense for funded plans also includes a credit for the expected long-term return on fund assets.

For funded plans, including those in the U.S., pension obligations are financed in advance through segregated assets or insurance arrangements. These plans are managed in compliance with the requirements of governmental authorities and meet or exceed required funding levels as measured by relevant actuarial and government standards at the mandated measurement dates. In determining liabilities and required contributions, these standards often require approaches and assumptions that differ from those used for accounting purposes.

The Corporation will continue to make contributions to these funded plans as necessary. All defined-benefit pension obligations, regardless of the funding status of the underlying plans, are fully supported by the financial strength of the Corporation or the respective sponsoring affiliate.

Pension accounting requires explicit assumptions regarding, among others, the long-term expected earnings rate on fund assets, the discount rate for the benefit obligations, and the long-term rate for future salary increases. Pension assumptions are reviewed annually by outside actuaries and senior management. These assumptions are adjusted as appropriate to reflect changes in market rates and outlook. The long-term expected earnings rate on U.S. pension plan assets in 2022 was 4.6 percent. The 10-year and 20-year actual returns on U.S. pension plan assets were 4 percent and 7 percent, respectively. The Corporation establishes the long-term expected rate of return by developing a forward-looking, long-term return assumption for each pension fund asset class, taking into account factors such as the expected real return for the specific asset class and inflation. A single, long-term rate of return is then calculated as the weighted average of the target asset allocation percentages and the long-term return assumption for each asset class. A worldwide reduction of 0.5 percent in the long-term rate of return on assets would increase annual pension expense by approximately \$140 million before tax.

Differences between actual returns on fund assets and the long-term expected return are not recognized in pension expense in the year that the difference occurs. Such differences are deferred, along with other actuarial gains and losses, and are amortized into pension expense over the expected remaining service life of employees.

Litigation and Tax Contingencies

A variety of claims have been made against the Corporation and certain of its consolidated subsidiaries in a number of pending lawsuits. The Corporation accrues an undiscounted liability for those contingencies where the incurrence of a loss is probable and the amount can be reasonably estimated. For contingencies where an unfavorable outcome is reasonably possible and significant, the Corporation discloses the nature of the contingency and, where feasible, an estimate of the possible loss. Management has regular litigation reviews, including updates from corporate and outside counsel, to assess the need for accounting recognition or disclosure of these contingencies. The status of significant claims is summarized in Note 16.

Management judgment is required related to contingent liabilities and the outcome of litigation because both are difficult to predict. However, the Corporation has been successful in defending litigation in the past. Payments have not had a material adverse effect on our operations or financial condition. In the Corporation's experience, large claims often do not result in large awards. Large awards are often reversed or substantially reduced as a result of appeal or settlement.

The Corporation is subject to income taxation in many jurisdictions around the world. The benefits of uncertain tax positions that the Corporation has taken or expects to take in its income tax returns are recognized in the financial statements if management concludes that it is more likely than not that the position will be sustained with the tax authorities. For a position that is likely to be sustained, the benefit recognized in the financial statements is measured at the largest amount that is greater than 50 percent likely of being realized. Significant management judgment is required in the accounting for income tax contingencies and tax disputes because the outcomes are often difficult to predict. The Corporation's unrecognized tax benefits and a description of open tax years are summarized in Note 19.

MANAGEMENT’S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING

Management, including the Corporation’s Chief Executive Officer, Chief Financial Officer, and Principal Accounting Officer, is responsible for establishing and maintaining adequate internal control over the Corporation’s financial reporting. Management conducted an evaluation of the effectiveness of internal control over financial reporting based on criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this evaluation, management concluded that Exxon Mobil Corporation’s internal control over financial reporting was effective as of December 31, 2022.

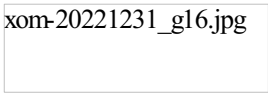
PricewaterhouseCoopers LLP, an independent registered public accounting firm, audited the effectiveness of the Corporation’s internal control over financial reporting as of December 31, 2022, as stated in their report included in the Financial Section of this report.



Darren W. Woods
Chief Executive Officer



Kathryn A. Mikells
Senior Vice President and
Chief Financial Officer



Len M. Fox
Vice President and Controller
(Principal Accounting Officer)

To the Board of Directors and Shareholders of Exxon Mobil Corporation

Opinions on the Financial Statements and Internal Control over Financial Reporting

We have audited the accompanying consolidated balance sheet of Exxon Mobil Corporation and its subsidiaries (the "Corporation") as of December 31, 2022 and 2021, and the related consolidated statements of income, of comprehensive income, of changes in equity and of cash flows for each of the three years in the period ended December 31, 2022, including the related notes (collectively referred to as the "consolidated financial statements"). We also have audited the Corporation's internal control over financial reporting as of December 31, 2022, 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 Corporation as of December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Corporation maintained, in all material respects, effective internal control over financial reporting as of December 31, 2022, based on criteria established in Internal Control - Integrated Framework (2013) issued by the COSO.

Basis for Opinions

The Corporation'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 Corporation's consolidated financial statements and on the Corporation'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 Corporation 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.

The Impact of Proved Oil and Natural Gas Reserves on Upstream Property, Plant and Equipment, Net

As described in Notes 1, 9 and 18 to the consolidated financial statements, the Corporation's consolidated upstream property, plant and equipment (PP&E), net balance was \$144.1 billion as of December 31, 2022, and the related depreciation and depletion expense for the year ended December 31, 2022 was \$19.8 billion. Management uses the successful efforts method to account for its exploration and production activities. Costs incurred to purchase, lease, or otherwise acquire a property (whether unproved or proved) are capitalized when incurred. As disclosed by management, proved oil and natural gas reserve volumes are used as the basis to calculate unit-of-production depreciation rates for most upstream assets. The estimation of proved oil and natural gas reserve volumes is an ongoing process based on technical evaluations, commercial and market assessments, and detailed analysis of well information such as flow rates and reservoir pressure declines, development and production costs, among other factors. As further disclosed by management, reserve changes are made within a well-established, disciplined process driven by senior level geoscience and engineering professionals, assisted by the Global Reserves and Resources Group (together "management's specialists").

The principal considerations for our determination that performing procedures relating to the impact of proved oil and natural gas reserves on upstream PP&E, net is a critical audit matter are (i) the significant judgment by management, including the use of management's specialists, when developing the estimates of proved oil and natural gas reserve volumes, as the reserve volumes are based on engineering assumptions and methods, which in turn led to (ii) a high degree of auditor judgment, subjectivity, and effort in performing procedures and evaluating audit evidence related to the data, methods and assumptions used by management and its specialists in developing the estimates of proved oil and natural gas reserve volumes and the assumptions applied to the data related to future development costs, as applicable.

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 estimates of proved oil and natural gas reserve volumes. The work of management's specialists was used in performing the procedures to evaluate the reasonableness of the proved oil and natural gas reserve volumes. As a basis for using this work, the specialists' qualifications were understood and the Corporation's relationship with the specialists was assessed. The procedures performed also included evaluation of the methods and assumptions used by the specialists, tests of the data used by the specialists, and an evaluation of the specialists' findings. These procedures also included, among others, testing the completeness and accuracy of the data related to future development costs. Additionally, these procedures included evaluating whether the assumptions applied to the data related to future development costs were reasonable considering the past performance of the Corporation.

/s/ PricewaterhouseCoopers LLP

Dallas, Texas

February 22, 2023

We have served as the Corporation's auditor since 1934.

CONSOLIDATED STATEMENT OF INCOME

<i>(millions of dollars)</i>	Note Reference Number	2022	2021	2020
Revenues and other income				
Sales and other operating revenue	18	398,675	276,692	178,574
Income from equity affiliates	7	11,463	6,657	1,732
Other income		3,542	2,291	1,196
Total revenues and other income		413,680	285,640	181,502
Costs and other deductions				
Crude oil and product purchases		228,959	155,164	94,007
Production and manufacturing expenses		42,609	36,035	30,431
Selling, general and administrative expenses		10,095	9,574	10,168
Depreciation and depletion (includes impairments)	2, 9	24,040	20,607	46,009
Exploration expenses, including dry holes		1,025	1,054	1,285
Non-service pension and postretirement benefit expense	17	482	786	1,205
Interest expense		798	947	1,158
Other taxes and duties	19	27,919	30,239	26,122
Total costs and other deductions		335,927	254,406	210,385
Income (loss) before income taxes		77,753	31,234	(28,883)
Income tax expense (benefit)	19	20,176	7,636	(5,632)
Net income (loss) including noncontrolling interests		57,577	23,598	(23,251)
Net income (loss) attributable to noncontrolling interests		1,837	558	(811)
Net income (loss) attributable to ExxonMobil		55,740	23,040	(22,440)
Earnings (loss) per common share (dollars)	12	13.26	5.39	(5.25)
Earnings (loss) per common share - assuming dilution (dollars)	12	13.26	5.39	(5.25)

The information in the Notes to Consolidated Financial Statements is an integral part of these statements.

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

<i>(millions of dollars)</i>	2022	2021	2020
Net income (loss) including noncontrolling interests	57,577	23,598	(23,251)
Other comprehensive income (loss) (net of income taxes)			
Foreign exchange translation adjustment	(3,482)	(872)	1,916
Adjustment for foreign exchange translation (gain)/loss included in net income	—	(2)	14
Postretirement benefits reserves adjustment (excluding amortization)	3,395	3,118	30
Amortization and settlement of postretirement benefits reserves adjustment included in net periodic benefit costs	403	925	896
Total other comprehensive income (loss)	316	3,169	2,856
Comprehensive income (loss) including noncontrolling interests	57,893	26,767	(20,395)
Comprehensive income (loss) attributable to noncontrolling interests	1,659	786	(743)
Comprehensive income (loss) attributable to ExxonMobil	56,234	25,981	(19,652)

The information in the Notes to Consolidated Financial Statements is an integral part of these statements.

CONSOLIDATED BALANCE SHEET

(millions of dollars)	Note Reference Number	December 31, 2022	December 31, 2021
ASSETS			
Current assets			
Cash and cash equivalents		29,640	6,802
Cash and cash equivalents – restricted		25	—
Notes and accounts receivable – net	6	41,749	32,383
Inventories			
Crude oil, products and merchandise	3	20,434	14,519
Materials and supplies		4,001	4,261
Other current assets		1,782	1,189
Total current assets		97,631	59,154
Investments, advances and long-term receivables	8	49,793	45,195
Property, plant and equipment, at cost, less accumulated depreciation and depletion	9	204,692	216,552
Other assets, including intangibles – net		16,951	18,022
Total Assets		369,067	338,923
LIABILITIES			
Current liabilities			
Notes and loans payable	6	634	4,276
Accounts payable and accrued liabilities	6	63,197	50,766
Income taxes payable		5,214	1,601
Total current liabilities		69,045	56,643
Long-term debt	14	40,559	43,428
Postretirement benefits reserves	17	10,045	18,430
Deferred income tax liabilities	19	22,874	20,165
Long-term obligations to equity companies		2,338	2,857
Other long-term obligations		21,733	21,717
Total Liabilities		166,594	163,240
Commitments and contingencies	16		
EQUITY			
Common stock without par value (9,000 million shares authorized, 8,019 million shares issued)		15,752	15,746
Earnings reinvested		432,860	392,059
Accumulated other comprehensive income		(13,270)	(13,764)
Common stock held in treasury (3,937 million shares in 2022 and 3,780 million shares in 2021)		(240,293)	(225,464)
ExxonMobil share of equity		195,049	168,577
Noncontrolling interests		7,424	7,106
Total Equity		202,473	175,683
Total Liabilities and Equity		369,067	338,923

The information in the Notes to Consolidated Financial Statements is an integral part of these statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

(millions of dollars)	Note Reference Number	2022	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES				
Net income (loss) including noncontrolling interests		57,577	23,598	(23,251)
Adjustments for noncash transactions				
Depreciation and depletion (includes impairments)	2, 9	24,040	20,607	46,009
Deferred income tax charges/(credits)	19	3,758	303	(8,856)
Postretirement benefits expense in excess of/(less than) net payments		(2,981)	754	498
Other long-term obligation provisions in excess of/(less than) payments		(1,932)	50	(1,269)
Dividends received greater than/(less than) equity in current earnings of equity companies		(2,446)	(668)	979
Changes in operational working capital, excluding cash and debt				
Notes and accounts receivable <i>reduction/(increase)</i>		(11,019)	(12,098)	5,384
Inventories <i>reduction/(increase)</i>		(6,947)	(489)	(315)
Other current assets <i>reduction/(increase)</i>		(688)	(71)	420
Accounts and other payables <i>increase/(reduction)</i>		18,460	16,820	(7,142)
Net (gain)/loss on asset sales	5	(1,034)	(1,207)	4
All other items - net		9	530	2,207
Net cash provided by operating activities		76,797	48,129	14,668
CASH FLOWS FROM INVESTING ACTIVITIES				
Additions to property, plant and equipment		(18,407)	(12,076)	(17,282)
Proceeds from asset sales and returns of investments		5,247	3,176	999
Additional investments and advances		(3,090)	(2,817)	(4,857)
Other investing activities including collection of advances		1,508	1,482	2,681
Net cash used in investing activities		(14,742)	(10,235)	(18,459)
CASH FLOWS FROM FINANCING ACTIVITIES				
Additions to long-term debt		637	46	23,186
Reductions in long-term debt		(5)	(8)	(8)
Additions to short-term debt ⁽¹⁾		198	12,687	35,396
Reductions in short-term debt ⁽¹⁾		(8,075)	(29,396)	(28,742)
Additions/(reductions) in commercial paper, and debt with three months or less maturity		25	(2,983)	(9,691)
Contingent consideration payments		(58)	(30)	(21)
Cash dividends to ExxonMobil shareholders		(14,939)	(14,924)	(14,865)
Cash dividends to noncontrolling interests		(267)	(224)	(188)
Changes in noncontrolling interests		(1,475)	(436)	623
Common stock acquired		(15,155)	(155)	(405)
Net cash provided by (used in) financing activities		(39,114)	(35,423)	5,285
Effects of exchange rate changes on cash		(78)	(33)	(219)
Increase/(decrease) in cash and cash equivalents		22,863	2,438	1,275
Cash and cash equivalents at beginning of year		6,802	4,364	3,089
Cash and cash equivalents at end of year		29,665	6,802	4,364

⁽¹⁾ Includes commercial paper with a maturity greater than three months.

The information in the Notes to Consolidated Financial Statements is an integral part of these statements.

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

ExxonMobil Share of Equity

<i>(millions of dollars)</i>	Common Stock	Earnings Reinvested	Accumulated Other Comprehensive Income	Common Stock Held in Treasury	ExxonMobil Share of Equity	Non-controlling Interests	Total Equity
Balance as of December 31, 2019	15,637	421,341	(19,493)	(225,835)	191,650	7,288	198,938
Amortization of stock-based awards	696	—	—	—	696	—	696
Other	(645)	—	—	—	(645)	692	47
Net income (loss) for the year	—	(22,440)	—	—	(22,440)	(811)	(23,251)
Dividends - common shares	—	(14,865)	—	—	(14,865)	(188)	(15,053)
Cumulative effect of accounting change	—	(93)	—	—	(93)	(1)	(94)
Other comprehensive income	—	—	2,788	—	2,788	68	2,856
Acquisitions, at cost	—	—	—	(405)	(405)	(68)	(473)
Dispositions	—	—	—	464	464	—	464
Balance as of December 31, 2020	15,688	383,943	(16,705)	(225,776)	157,150	6,980	164,130
Amortization of stock-based awards	534	—	—	—	534	—	534
Other	(476)	—	—	—	(476)	115	(361)
Net income (loss) for the year	—	23,040	—	—	23,040	558	23,598
Dividends - common shares	—	(14,924)	—	—	(14,924)	(224)	(15,148)
Other comprehensive income	—	—	2,941	—	2,941	228	3,169
Acquisitions, at cost	—	—	—	(155)	(155)	(551)	(706)
Dispositions	—	—	—	467	467	—	467
Balance as of December 31, 2021	15,746	392,059	(13,764)	(225,464)	168,577	7,106	175,683
Amortization of stock-based awards	481	—	—	—	481	—	481
Other	(475)	—	—	—	(475)	405	(70)
Net income (loss) for the year	—	55,740	—	—	55,740	1,837	57,577
Dividends - common shares	—	(14,939)	—	—	(14,939)	(267)	(15,206)
Other comprehensive income	—	—	494	—	494	(178)	316
Acquisitions, at cost	—	—	—	(15,295)	(15,295)	(1,479)	(16,774)
Dispositions	—	—	—	466	466	—	466
Balance as of December 31, 2022	15,752	432,860	(13,270)	(240,293)	195,049	7,424	202,473

<i>Common Stock Share Activity (millions of shares)</i>	Issued	Held in Treasury	Outstanding
Balance as of December 31, 2019	8,019	(3,785)	4,234
Acquisitions	—	(8)	(8)
Dispositions	—	7	7
Balance as of December 31, 2020	8,019	(3,786)	4,233
Acquisitions	—	(2)	(2)
Dispositions	—	8	8
Balance as of December 31, 2021	8,019	(3,780)	4,239
Acquisitions	—	(165)	(165)
Dispositions	—	8	8
Balance as of December 31, 2022	8,019	(3,937)	4,082

The information in the Notes to Consolidated Financial Statements is an integral part of these statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The accompanying consolidated financial statements and the supporting and supplemental material are the responsibility of the management of Exxon Mobil Corporation.

The Corporation's principal business involves exploration for, and production of, crude oil and natural gas; manufacture, trade, transport and sale of crude oil, natural gas, petroleum products, petrochemicals and a wide variety of specialty products; and pursuit of lower-emission business opportunities including carbon capture and storage, hydrogen and lower-emission fuels.

The preparation of financial statements in conformity with U.S. Generally Accepted Accounting Principles (GAAP) requires management to make estimates that affect the reported amounts of assets, liabilities, revenues, and expenses and the disclosure of contingent assets and liabilities. Actual results could differ from these estimates. Prior years' data have been reclassified in certain cases to conform to the 2022 presentation basis.

1. Summary of Accounting Policies

Principles of Consolidation and Accounting for Investments

The Consolidated Financial Statements include the accounts of subsidiaries the Corporation controls and any variable interest entities where it is deemed the primary beneficiary. They also include the Corporation's share of the undivided interest in certain upstream assets, liabilities, revenues, and expenses. Amounts representing the Corporation's interest in entities that it does not control, but over which it exercises significant influence, are included in "Investments, advances and long-term receivables". Under the equity method of accounting, the Corporation recognizes its share of the net income of these companies in "Income from equity affiliates".

Majority ownership is normally the indicator of control that is the basis on which subsidiaries are consolidated. However, certain factors may indicate that a majority-owned investment is not controlled and, therefore, should be accounted for using the equity method of accounting. These factors occur where the minority shareholders are granted, by law or by contract, substantive participating rights. These include the right to approve operating policies, expense budgets, financing and investment plans, and management compensation and succession plans.

Investments accounted for by the equity method are assessed for possible impairment when events or changes in circumstances indicate that the carrying value of an investment may not be recoverable. Examples of key indicators include a history of operating losses, negative earnings and cash flow outlook, significant downward revisions to oil and gas reserves, and the financial condition and prospects for the investee's business segment or geographic region. If the decline in value of the investment is other than temporary, the carrying value of the investment is written down to fair value. In the absence of market prices for the investment, discounted cash flows are used to assess fair value. The Corporation's share of the cumulative foreign exchange translation adjustment for equity method investments is reported in "Accumulated other comprehensive income".

Investments in equity securities, other than consolidated subsidiaries and equity method investments, are measured at fair value with changes in fair value recognized in net income. The Corporation uses the modified approach for equity securities that do not have a readily determinable fair value. This modified approach measures investments at cost minus impairment, if any, plus or minus changes resulting from observable price changes in orderly transactions in a similar investment of the same issuer.

Revenue Recognition

The Corporation generally sells crude oil, natural gas, and petroleum and chemical products under short-term agreements at prevailing market prices. In some cases (e.g., natural gas), products may be sold under long-term agreements, with periodic price adjustments to reflect market conditions. Revenue is recognized at the amount the Corporation expects to receive when the customer has taken control, which is typically when title transfers and the customer has assumed the risks and rewards of ownership. The prices of certain sales are based on price indices that are sometimes not available until the next period. In such cases, estimated realizations are accrued when the sale is recognized, and are finalized when the price is available. Such adjustments to revenue from performance obligations satisfied in previous periods are not significant. Payment for revenue transactions is typically due within 30 days. Future volume delivery obligations that are unsatisfied at the end of the period are expected to be fulfilled through ordinary production or purchases. These performance obligations are based on market prices at the time of the transaction and are fully constrained due to market price volatility.

Purchases and sales of inventory with the same counterparty that are entered into in contemplation of one another are combined and recorded as exchanges measured at the book value of the item sold.

"Sales and other operating revenue" and "Notes and accounts receivable" include revenue and receivables both within the scope of ASC 606 "Revenue from Contracts with Customers" and those outside the scope of ASC 606. Long-term receivables are primarily from receivables outside the scope of ASC 606. Contract assets are mainly from marketing assistance programs and are not significant. Contract liabilities are mainly customer prepayments and accruals of expected volume discounts and are not significant.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Income and Other Taxes

The Corporation excludes from the Consolidated Statement of Income certain sales and value-added taxes imposed on and concurrent with revenue-producing transactions with customers and collected on behalf of governmental authorities. Similar taxes, for which the Corporation is not considered to be an agent for the government, are reported on a gross basis (included in both "Sales and other operating revenue" and "Other taxes and duties").

The Corporation accounts for U.S. tax on global intangible low-taxed income as an income tax expense in the period in which it is incurred.

Derivative Instruments

The Corporation may use derivative instruments for trading purposes and to offset exposures associated with commodity prices, foreign currency exchange rates, and interest rates that arise from existing assets, liabilities, firm commitments, and forecasted transactions. All derivative instruments, except those designated as normal purchase and normal sale, are recorded at fair value. Derivative assets and liabilities with the same counterparty are netted if the right of offset exists and certain other criteria are met. Collateral payables or receivables are netted against derivative assets and derivative liabilities, respectively.

Recognition and classification of the gain or loss that results from adjusting a derivative to fair value depends on the purpose for the derivative. All gains and losses from derivative instruments for which the Corporation does not apply hedge accounting are immediately recognized in earnings. The Corporation may designate derivatives as fair value or cash flow hedges. For fair value hedges, the gain or loss from derivative instruments and the offsetting gain or loss from the hedged item are recognized in earnings. For cash flow hedges, the gain or loss from the derivative instrument is initially reported as a component of other comprehensive income and subsequently reclassified into earnings in the period that the forecasted transaction affects earnings.

Fair Value

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. Hierarchy levels 1, 2, and 3 are terms for the priority of inputs to valuation techniques used to measure fair value. Hierarchy level 1 inputs are quoted prices in active markets for identical assets or liabilities. Hierarchy level 2 inputs are inputs other than quoted prices included within level 1 that are directly or indirectly observable for the asset or liability. Hierarchy level 3 inputs are inputs that are not observable in the market.

Inventories

Crude oil, products, and merchandise inventories are carried at the lower of current market value or cost (generally determined under the last-in, first-out method – LIFO). Inventory costs include expenditures and other charges (including depreciation) directly and indirectly incurred in bringing the inventory to its existing condition and location. Selling expenses and general and administrative expenses are reported as period costs and excluded from inventory cost. Inventories of materials and supplies are valued at cost or less.

Property, Plant, and Equipment

Cost Basis. The Corporation uses the "successful efforts" method to account for its exploration and production activities. Under this method, costs are accumulated on a field-by-field basis. Costs incurred to purchase, lease, or otherwise acquire a property (whether unproved or proved) are capitalized when incurred. Exploratory well costs are carried as an asset when the well has found a sufficient quantity of reserves to justify its completion as a producing well and where the Corporation is making sufficient progress assessing the reserves and the economic and operating viability of the project. Exploratory well costs not meeting these criteria are charged to expense. Other exploratory expenditures, including geophysical costs and annual lease rentals, are expensed as incurred. Development costs, including costs of productive wells and development dry holes, are capitalized.

Interest costs incurred to finance expenditures during the construction phase of multiyear projects are capitalized as part of the historical cost of acquiring the constructed assets. The project construction phase commences with the development of the detailed engineering design and ends when the constructed assets are ready for their intended use. Capitalized interest costs are included in property, plant, and equipment and are depreciated over the service life of the related assets.

Depreciation, Depletion, and Amortization. Depreciation, depletion, and amortization are primarily determined under either the unit-of-production method or the straight-line method, which is based on estimated asset service life, taking obsolescence into consideration.

Acquisition costs of proved properties are amortized using a unit-of-production method, computed on the basis of total proved oil and natural gas reserve volumes. Capitalized exploratory drilling and development costs associated with productive depletable extractive properties are amortized using the unit-of-production rates based on the amount of proved developed reserves of oil and gas that are estimated to be recoverable from existing facilities using current operating methods. Under the unit-of-production method, oil and natural gas volumes are considered produced once they have been measured through meters at custody transfer or sales transaction points at the outlet valve on the lease or field storage tank.

In the event that the unit-of-production method does not result in an equitable allocation of cost over the economic life of an upstream asset, an alternative method is used. The straight-line method is used in limited situations where the expected life of the asset does not reasonably correlate with that of the underlying reserves. For example, certain assets used in the production of oil and natural gas have a shorter life than the reserves, and as such, the Corporation uses straight-line depreciation to ensure the asset is fully depreciated by the end of its useful life.

To the extent that proved reserves for a property are substantially de-booked and that property continues to produce such that the resulting depreciation charge does not result in an equitable allocation of cost over the expected life, assets will be depreciated using a unit-of-production method based on reserves determined at the most recent SEC price which results in a more meaningful quantity of proved reserves, appropriately adjusted for production and technical changes.

Investments in refinery, chemical process, and lubes basestock manufacturing equipment are generally depreciated on a straight-line basis over a 25-year life. Service station buildings and fixed improvements are generally depreciated over a 20-year life. Maintenance and repairs, including planned major maintenance, are expensed as incurred. Major renewals and improvements are capitalized, and the assets replaced are retired.

Impairment Assessment. The Corporation tests assets or groups of assets for recoverability on an ongoing basis whenever events or changes in circumstances indicate that the carrying amounts may not be recoverable. Among the events or changes in circumstances which could indicate that the carrying value of an asset or asset group may not be recoverable are the following:

- a significant decrease in the market price of a long-lived asset;
- a significant adverse change in the extent or manner in which an asset is being used or in its physical condition, including a significant decrease in current and projected reserve volumes;
- a significant adverse change in legal factors or in the business climate that could affect the value, including an adverse action or assessment by a regulator;
- an accumulation of project costs significantly in excess of the amount originally expected;
- a current-period operating loss combined with a history and forecast of operating or cash flow losses; and
- a current expectation that, more likely than not, a long-lived asset will be sold or otherwise disposed of significantly before the end of its previously estimated useful life.

The Corporation has a robust process to monitor for indicators of potential impairment across its asset groups throughout the year. This process is aligned with the requirements of ASC 360 and ASC 932, and relies, in part, on the Corporation's planning and budgeting cycle. Asset valuation analysis, profitability reviews, and other periodic control processes assist the Corporation in assessing whether events or changes in circumstances indicate the carrying amounts of any of its assets may not be recoverable.

Because the lifespans of the vast majority of the Corporation's major assets are measured in decades, the future cash flows of these assets are predominantly based on long-term oil and natural gas commodity prices and industry margins, development costs, and production costs. Significant reductions in the Corporation's view of oil or natural gas commodity prices or margin ranges, especially the longer-term prices and margins, and changes in the development plans, including decisions to defer, reduce, or eliminate planned capital spending, can be an indicator of potential impairment. Other events or changes in circumstances can be indicators of potential impairment as well.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

In general, the Corporation does not view temporarily low prices or margins as an indication of impairment. Management believes that prices over the long term must be sufficient to generate investments in energy supply to meet global demand. Although prices will occasionally drop significantly, industry prices over the long term will continue to be driven by market supply and demand fundamentals. On the supply side, industry production from mature fields is declining. This is being offset by investments to generate production from new discoveries, field developments, and technology and efficiency advancements. OPEC investment activities and production policies also have an impact on world oil supplies. The demand side is largely a function of general economic activities, alternative energy sources, and levels of prosperity. During the lifespan of its major assets, the Corporation expects that oil and gas prices and industry margins will experience significant volatility. Consequently, these assets will experience periods of higher earnings and periods of lower earnings, or even losses. In assessing whether events or changes in circumstances indicate the carrying value of an asset may not be recoverable, the Corporation considers recent periods of operating losses in the context of its longer-term view of prices and margins.

In the Upstream, the standardized measure of discounted cash flows included in the Supplemental Information on Oil and Gas Exploration and Production Activities is required to use prices based on the average of first-of-month prices in the year. These prices represent discrete points in time and could be higher or lower than the Corporation's price assumptions which are used for impairment assessments. The Corporation believes the standardized measure does not provide a reliable estimate of the expected future cash flows to be obtained from the development and production of its oil and gas properties or of the value of its oil and gas reserves, and therefore, does not consider it relevant in determining whether events or changes in circumstances indicate the need for an impairment assessment.

Outlook for Energy and Cash Flow Assessment. The annual planning and budgeting process, known as the Corporate Plan, is the mechanism by which resources (capital, operating expenses, and people) are allocated across the Corporation. The foundation for the assumptions supporting the Corporate Plan is the Outlook for Energy (Outlook), which contains the Corporation's demand and supply projections based on its assessment of current trends in technology, government policies, consumer preferences, geopolitics, economic development, and other factors. Reflective of the existing global policy environment, the Outlook does not attempt to project the degree of necessary future policy and technology advancement and deployment for the world, or the Corporation, to meet net zero by 2050. As future policies and technology advancements emerge, they will be incorporated into the Outlook, and the Corporation's business plans will be updated accordingly.

If events or changes in circumstances indicate that the carrying value of an asset may not be recoverable, the Corporation estimates the future undiscounted cash flows of the affected properties to judge the recoverability of carrying amounts. In performing this assessment, assets are grouped at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets. Cash flows used in recoverability assessments are based on the assumptions developed in the Corporate Plan, which is reviewed and approved by the Board of Directors, and are consistent with the criteria management uses to evaluate investment opportunities. These evaluations make use of the Corporation's assumptions of future capital allocations, crude oil and natural gas commodity prices including price differentials, refining and chemical margins, volumes, development and operating costs including greenhouse gas emission prices, and foreign currency exchange rates. Notably, when assessing future cash flows, the Corporation includes the estimated costs in support of reaching its 2030 greenhouse gas emission-reduction plans, including its goal of net-zero greenhouse gas emissions (Scope 1 and 2) from unconventional operated assets in the Permian Basin. Volumes are based on projected field and facility production profiles, throughput, or sales. Management's estimate of upstream production volumes used for projected cash flows makes use of proved reserve quantities and may include risk-adjusted unproved reserve quantities. Cash flow estimates for impairment testing exclude the effects of derivative instruments. As part of the Corporate Plan, the Company considers estimated greenhouse gas emission costs, even for jurisdictions without a current greenhouse gas pricing policy.

Fair Value of Impaired Assets. An asset group is impaired if its estimated undiscounted cash flows are less than the asset group's carrying value. Impairments are measured by the excess of the carrying value over fair value. The assessment of fair value is based upon the views of a likely market participant. The principal parameters used to establish fair value include estimates of acreage values and flowing production metrics from comparable market transactions, market-based estimates of historical cash flow multiples, and discounted cash flows. Inputs and assumptions used in discounted cash flow models include estimates of future production volumes, throughput and product sales volumes, commodity prices which are consistent with the average of third-party industry experts and government agencies, refining and chemical margins, drilling and development costs, operating costs, and discount rates which are reflective of the characteristics of the asset group.

Other Impairments Related to Property, Plant and Equipment. Unproved properties are assessed periodically to determine whether they have been impaired. Significant unproved properties are assessed for impairment individually, and valuation allowances against the capitalized costs are recorded based on the Corporation's future development plans, the estimated economic chance of success, and the length of time that the Corporation expects to hold the properties. Properties that are not individually significant are aggregated by groups and amortized based on development risk and average holding period.

Long-lived assets that are held for sale are evaluated for possible impairment by comparing the carrying value of the asset with its fair value less the cost to sell. If the net book value exceeds the fair value less cost to sell, the assets are considered impaired and adjusted to the lower value. Gains on sales of proved and unproved properties are only recognized when there is neither uncertainty about the recovery of costs applicable to any interest retained nor any substantial obligation for future performance by the Corporation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Environmental Liabilities

Liabilities for environmental costs are recorded when it is probable that obligations have been incurred and the amounts can be reasonably estimated. These liabilities are not reduced by possible recoveries from third parties, and projected cash expenditures are not discounted.

Foreign Currency Translation

The Corporation selects the functional reporting currency for its international subsidiaries based on the currency of the primary economic environment in which each subsidiary operates. Operations in the Product Solutions businesses use the local currency. However, the U.S. dollar is used in countries with a history of high inflation (primarily in Latin America) and Singapore, which predominantly sells into the U.S. dollar export market. Upstream operations which are relatively self-contained and integrated within a particular country, such as in Canada and Europe, use the local currency. Some Upstream operations, primarily in Asia and Africa, use the U.S. dollar because they predominantly sell crude and natural gas production into U.S. dollar-denominated markets.

For all operations, gains or losses from remeasuring foreign currency transactions into the functional currency are included in income.

2. Russia

In response to Russia's military action in Ukraine, the Corporation announced in early 2022 that it planned to discontinue operations on the Sakhalin-1 project ("Sakhalin") and develop steps to exit the venture. In light of this, an impairment assessment was conducted, and management determined that the carrying value of the asset group was not recoverable. As a result, the Corporation's first-quarter earnings included after-tax charges of \$3.4 billion largely representing the full impairment of its operations related to Sakhalin. On a before-tax basis, the charges amounted to \$4.6 billion, substantially all of which is reflected in the line captioned "Depreciation and depletion (including impairments)" on the Consolidated Statement of Income. Effective October 14, the Russian government unilaterally terminated the Corporation's interests in Sakhalin, transferring operations to a Russian operator. The Corporation's fourth-quarter results include an after-tax benefit of \$1.1 billion largely reflecting the impact of the expropriation on the company's various obligations related to Sakhalin. The Corporation's exit from the project results in approximately 150 million oil-equivalent barrels no longer qualifying as proved reserves at year-end 2022.

3. Miscellaneous Financial Information

Research and development expenses totaled \$824 million in 2022, \$843 million in 2021, and \$1,016 million in 2020.

Net income included before-tax aggregate foreign exchange transaction losses of \$218 million, \$18 million, and \$24 million in 2022, 2021, and 2020, respectively.

LIFO Inventory. In 2022, 2021, and 2020, net income included gains of \$367 million, \$54 million, and \$41 million, respectively, attributable to the combined effects of LIFO inventory accumulations and drawdowns. The aggregate replacement cost of inventories was estimated to exceed their LIFO carrying values by \$14.9 billion and \$14.0 billion at December 31, 2022 and 2021, respectively.

Crude oil, products, and merchandise as of year-end 2022 and 2021 consist of the following:

(millions of dollars)	Dec 31, 2022	Dec 31, 2021
Crude oil	6,909	4,162
Petroleum products	6,291	5,081
Chemical products ⁽¹⁾	3,806	3,354
Gas/other	3,428	1,922
Total	20,434	14,519

⁽¹⁾ Chemical products includes basic chemicals (olefins and aromatics), polymers (such as polyolefins, adhesions, specialty elastomers, & butyl), intermediates (e.g. hydrocarbon fluids, plasticizers) and synthetics.

Goodwill Impairments. Mainly as a result of declines in prices for crude oil, natural gas and petroleum products and a significant decline in its market capitalization at the end of the first quarter of 2020, the Corporation recognized before-tax goodwill impairment charges of \$611 million. Fair value of the goodwill reporting units primarily reflected market-based estimates of historical EBITDA multiples at the end of the first quarter. Charges related to goodwill impairments in 2020 are included in "Depreciation and depletion" on the Consolidated Statement of Income.

Restructuring. During 2020, ExxonMobil conducted an extensive global review of staffing levels and subsequently commenced targeted workforce reductions within a number of countries to improve efficiency and reduce costs. The programs were completed by the end of 2021 and included both voluntary and involuntary employee separations as well as reductions in contractors.

In 2020 and 2021, the Corporation recorded before-tax charges of \$450 million and \$58 million respectively, consisting primarily of employee separation costs, associated with announced workforce reduction programs. These costs are captured in "Selling, general and administrative expenses" on the Consolidated Statement of Income and reported within Corporate and Financing. No charges related to the disclosed workforce reduction programs were recorded in 2022, and no further charges are expected.

The reserves recorded in "Accounts payable and accrued liabilities" on the Consolidated Balance Sheet were \$403 million at December 31, 2020, and were not material at year-end 2021 and 2022. The cash outflows associated with this liability balance occurred primarily in 2021, and the remainder will occur over the next few years, mainly in the form of monthly payments.

Government Assistance. ASC 832 "Government Assistance" requires disclosure of certain types of government assistance not otherwise covered by authoritative accounting guidance. During 2022, certain governments outside the United States provided payments which, individually and in aggregate, were immaterial to the Corporation's financial results. Among these are programs where governments endeavor to stabilize or cap fuel and energy costs for local consumers. To compensate producers who sell at the government-mandated prices, these governments provide reimbursements to the producers. In 2022, these reimbursements totaled approximately \$1.5 billion before tax, and were reflected as reductions to the line captioned "Crude oil and product purchases" on the Consolidated Statement of Income. At December 31, 2022, "Notes and accounts receivable - net" on the Consolidated Balance Sheet included \$0.5 billion related to pending government reimbursements. The terms and conditions of these programs, including their duration, vary by country. In the event that any of these programs are discontinued, the Corporation does not expect a significant impact to its financial results. Additionally, in connection with cap and trade programs in certain countries outside the United States, companies receive allowances from governments covering a specified level of emissions from facilities they operate. The terms of these programs vary by country. The Corporation records these allowances at a nominal amount in "Other assets, including intangibles - net" on the Consolidated Balance Sheet.

4. Other Comprehensive Income Information

ExxonMobil Share of Accumulated Other Comprehensive Income (millions of dollars)	Cumulative Foreign Exchange Translation Adjustment	Postretirement Benefits Reserves Adjustment	Total
Balance as of December 31, 2019	(12,446)	(7,047)	(19,493)
Current period change excluding amounts reclassified from accumulated other comprehensive income	1,818	95	1,913
Amounts reclassified from accumulated other comprehensive income	14	861	875
Total change in accumulated other comprehensive income	1,832	956	2,788
Balance as of December 31, 2020	(10,614)	(6,091)	(16,705)
Current period change excluding amounts reclassified from accumulated other comprehensive income ⁽¹⁾	(883)	2,938	2,055
Amounts reclassified from accumulated other comprehensive income	(2)	888	886
Total change in accumulated other comprehensive income	(885)	3,826	2,941
Balance as of December 31, 2021	(11,499)	(2,265)	(13,764)
Current period change excluding amounts reclassified from accumulated other comprehensive income ⁽¹⁾	(3,092)	3,205	113
Amounts reclassified from accumulated other comprehensive income	—	381	381
Total change in accumulated other comprehensive income	(3,092)	3,586	494
Balance as of December 31, 2022	(14,591)	1,321	(13,270)

⁽¹⁾ Cumulative Foreign Exchange Translation Adjustment includes net investment hedge gain/(loss) net of taxes of \$230 million and \$329 million in 2022 and 2021, respectively.

Amounts Reclassified Out of Accumulated Other Comprehensive Income - Before-tax Income/(Expense) (millions of dollars)	2022	2021	2020
Foreign exchange translation gain/(loss) included in net income (Statement of Income line: Other income)	—	2	(14)
Amortization and settlement of postretirement benefits reserves adjustment included in net periodic benefit costs (Statement of Income line: Non-service pension and postretirement benefit expense)	(519)	(1,229)	(1,158)

Income Tax (Expense)/Credit For Components of Other Comprehensive Income (millions of dollars)	2022	2021	2020
Foreign exchange translation adjustment	54	(114)	118
Postretirement benefits reserves adjustment (excluding amortization)	(1,120)	(983)	109
Amortization and settlement of postretirement benefits reserves adjustment included in net periodic benefit costs	(116)	(304)	(262)
Total	(1,182)	(1,401)	(35)

5. Cash Flow Information

The Consolidated Statement of Cash Flows provides information about changes in cash and cash equivalents. Highly liquid investments with maturities of three months or less when acquired are classified as cash equivalents.

For 2022, the “Net (gain)/loss on asset sales” on the Consolidated Statement of Cash Flows includes before-tax amounts from the sale of certain unproved assets in Romania and unconventional assets in Canada and the United States, as well as other smaller divestments. For 2021, the “Net (gain)/loss on asset sales” line includes before-tax amounts from the sale of non-operated upstream assets in the United Kingdom Central and Northern North Sea and the sale of ExxonMobil’s global Santoprene business.

For 2020, the “Depreciation and depletion” and “Deferred income tax charges/(credits)” on the Consolidated Statement of Cash Flows include impacts from asset impairments, primarily in Upstream.

(millions of dollars)	2022	2021	2020
Income taxes paid	15,364	5,341	2,428
Cash interest paid			
Included in cash flows from operating activities	666	819	786
Capitalized, included in cash flows from investing activities	838	655	665
Total cash interest paid	1,504	1,474	1,451

6. Additional Working Capital Information

(millions of dollars)	Dec 31, 2022	Dec 31, 2021
Notes and accounts receivable		
Trade, less reserves of \$168 million and \$159 million	32,844	26,883
Other, less reserves of \$402 million and \$381 million	8,905	5,500
Total	41,749	32,383
Notes and loans payable		
Bank loans	379	276
Commercial paper	74	1,608
Long-term debt due within one year	181	2,392
Total	634	4,276
Accounts payable and accrued liabilities		
Trade payables	33,169	26,623
Payables to equity companies	14,585	8,885
Accrued taxes other than income taxes	3,969	3,896
Other	11,474	11,362
Total	63,197	50,766

Trade notes and accounts receivables include both receivables within the scope of ASC 606 and outside the scope of ASC 606. Receivables outside the scope of ASC 606 primarily relate to physically settled commodity contracts accounted for as derivatives. Credit quality and type of customer are generally similar between receivables within the scope of ASC 606 and those outside it.

The Corporation has short-term committed lines of credit of \$0.3 billion which were unused as of December 31, 2022. These lines are available for general corporate purposes.

The weighted-average interest rate on short-term borrowings outstanding was 1.5 percent and 0.2 percent at December 31, 2022 and 2021, respectively.

7. Equity Company Information

The summarized financial information below includes amounts related to certain less-than-majority-owned companies and majority-owned subsidiaries where minority shareholders possess the right to participate in significant management decisions (see Note 1). These companies are primarily engaged in oil and gas exploration and production, natural gas marketing, transportation of crude oil, and petrochemical manufacturing in North America; natural gas exploration, production and distribution in Europe; liquefied natural gas (LNG) operations in Africa; and exploration, production, LNG operations, and the manufacture and sale of petroleum and petrochemical products in Asia and the Middle East. Also included are several refining and marketing ventures.

The share of total equity company revenues from sales to ExxonMobil consolidated companies was 11 percent, 10 percent and 11 percent in the years 2022, 2021 and 2020, respectively.

The Corporation's ownership in these ventures is in the form of shares in corporate joint ventures as well as interests in partnerships. Differences between the company's carrying value of an equity investment and its underlying equity in the net assets of the affiliate are assigned, to the extent practicable, to specific assets and liabilities based on the company's analysis of the factors giving rise to the difference. The amortization of this difference, as appropriate, is included in "Income from equity affiliates" on the Consolidated Statement of Income.

Impairments related to upstream equity investments of \$0.6 billion, \$0.2 billion and \$0.6 billion in 2022, 2021, and 2020, respectively, are included in "Income from equity affiliates" or "Other income" on the Consolidated Statement of Income.

Equity Company Financial Summary (millions of dollars)	2022		2021		2020	
	Total	ExxonMobil Share	Total	ExxonMobil Share	Total	ExxonMobil Share
Total revenues	183,812	57,528	116,972	34,995	69,954	21,282
Income before income taxes	61,550	19,279	35,142	9,278	12,743	2,830
Income taxes	23,149	7,603	11,010	2,763	4,333	870
Income from equity affiliates	38,401	11,676	24,132	6,515	8,410	1,960
Current assets	77,457	24,994	45,267	15,542	33,419	11,969
Long-term assets	153,186	42,921	150,699	41,614	150,358	41,457
Total assets	230,643	67,915	195,966	57,156	183,777	53,426
Current liabilities	53,640	15,555	28,862	8,297	18,827	5,245
Long-term liabilities	62,009	18,929	63,138	19,084	66,053	19,927
Net assets	114,994	33,431	103,966	29,775	98,897	28,254

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A list of significant equity companies as of December 31, 2022, together with the Corporation's percentage ownership interest, is detailed below:

	Percentage Ownership Interest
Upstream	
Aera Energy LLC	48
Barzan Gas Company Limited	7
BEB Erdgas und Erdoel GmbH & Co. KG	50
Caspian Pipeline Consortium	8
Coral FLNG S.A.	25
Cross Timbers Energy LLC	50
GasTerra B.V.	25
Golden Pass LNG Terminal LLC	30
Golden Pass Pipeline LLC	30
Marine Well Containment Company LLC	10
Mozambique Rovuma Venture S.p.A.	36
Nederlandse Aardolie Maatschappij B.V.	50
Papua New Guinea Liquefied Natural Gas Global Company LDC	33
Permian Highway Pipeline LLC	20
Qatar Liquefied Gas Company Limited (2)	24
Qatar Liquefied Gas Company Limited (7)	25
Ras Laffan Liquefied Natural Gas Company Limited	25
Ras Laffan Liquefied Natural Gas Company Limited (II)	31
Ras Laffan Liquefied Natural Gas Company Limited (3)	30
South Hook LNG Terminal Company Limited	24
Tengizchevroil LLP	25
Terminale GNL Adriatico S.r.l.	71
Energy Products, Chemical Products, and/or Specialty Products	
Al-Jubail Petrochemical Company	50
Alberta Products Pipe Line Ltd.	45
Fujian Refining & Petrochemical Co. Ltd.	25
Gulf Coast Growth Ventures LLC	50
Infineum USA L.P.	50
Permian Express Partners LLC	12
Saudi Aramco Mobil Refinery Company Ltd.	50
Saudi Yanbu Petrochemical Co.	50

8. Investments, Advances and Long-Term Receivables

(millions of dollars)	Dec 31, 2022	Dec 31, 2021
Equity method company investments and advances		
Investments	34,522	31,225
Advances, net of allowances of \$28 million and \$34 million	8,049	8,326
Total equity method company investments and advances	42,571	39,551
Equity securities carried at fair value and other investments at adjusted cost basis	278	138
Long-term receivables and miscellaneous, net of reserves of \$1,623 million and \$5,974 million	6,944	5,506
Total	49,793	45,195

9. Property, Plant and Equipment and Asset Retirement Obligations

Property, Plant and Equipment (millions of dollars)	December 31, 2022		December 31, 2021	
	Cost	Net	Cost	Net
Upstream	350,748	144,146	375,813	156,951
Energy Products	58,393	26,765	58,504	27,354
Chemical Products	36,322	19,064	33,514	17,409
Specialty Products	8,895	4,303	9,217	4,447
Other	18,335	10,414	18,014	10,391
Total	472,693	204,692	495,062	216,552

In 2022, the Corporation identified situations where events or changes in circumstances indicated that the carrying value of certain long-lived assets may not be recoverable and conducted impairment assessments. Before-tax impairment charges of \$4.5 billion were recognized during the first quarter as a result of the Corporation's plans to discontinue operations on the Sakhalin-1 project and develop steps to exit the venture in response to Russia's military action in Ukraine (Refer to Note 2 for additional information.) Other before-tax impairment charges recognized during 2022 included \$1.5 billion in Upstream and \$0.4 billion in Energy Products.

In 2021, the Corporation recognized before-tax impairment charges of \$1.2 billion largely as a result of changes to Upstream development plans. In 2020, as part of the Corporation's annual review and approval of its business and strategic plan, a decision was made to no longer develop a significant portion of the dry gas portfolio in the United States, Canada and Argentina. The impairment of these assets resulted in before-tax charges of \$24.4 billion in Upstream. Other before-tax impairment charges during 2020 included \$0.9 billion in Upstream and \$0.6 billion in Energy Products.

Impairment charges are primarily recognized in the lines "Depreciation and depletion" and "Exploration expenses, including dry holes" on the Consolidated Statement of Income. Accumulated depreciation and depletion totaled \$268,001 million at the end of 2022 and \$278,510 million at the end of 2021.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Asset Retirement Obligations

The Corporation incurs retirement obligations for certain assets. The fair values of these obligations are recorded as liabilities on a discounted basis, which is typically at the time the assets are installed. In the estimation of fair value, the Corporation uses assumptions and judgments regarding such factors as the existence of a legal obligation for an asset retirement obligation, technical assessments of the assets, estimated amounts and timing of settlements, discount rates, and inflation rates. Asset retirement obligations incurred in the current period were Level 3 fair value measurements. The costs associated with these liabilities are capitalized as part of the related assets and depreciated as the reserves are produced. Over time, the liabilities are accreted for the change in their present value.

Asset retirement obligations for facilities in the Product Solutions business generally become firm at the time the facilities are permanently shut down and dismantled. These obligations may include the costs of asset disposal and additional soil remediation. However, these sites generally have indeterminate lives based on plans for continued operations and as such, the fair value of the conditional legal obligations cannot be measured, since it is impossible to estimate the future settlement dates of such obligations.

The following table summarizes the activity in the liability for asset retirement obligations:

<i>(millions of dollars)</i>	2022	2021	2020
Balance at January 1	10,630	11,247	11,280
Accretion expense and other provisions	744	548	584
Reduction due to property sales	(328)	(1,002)	(77)
Payments made	(518)	(444)	(669)
Liabilities incurred	119	42	26
Foreign currency translation	(330)	(147)	239
Revisions	174	386	(136)
Balance at December 31	10,491	10,630	11,247

The long-term Asset Retirement Obligations were \$9,650 million and \$9,985 million at December 31, 2022 and 2021, respectively, and are included in “Other long-term obligations” on the Consolidated Balance Sheet. Estimated cash payments in 2023 and 2024 are \$841 million and \$806 million, respectively.

10. Accounting for Suspended Exploratory Well Costs

The Corporation continues capitalization of exploratory well costs when the well has found a sufficient quantity of reserves to justify its completion as a producing well and the Corporation is making sufficient progress assessing the reserves and the economic and operating viability of the project. The term “project” as used in this report can refer to a variety of different activities and does not necessarily have the same meaning as in any government payment transparency reports.

The following two tables provide details of the changes in the balance of suspended exploratory well costs, including an aging summary of those costs.

Change in capitalized suspended exploratory well costs (millions of dollars)	2022	2021	2020
Balance beginning at January 1	4,120	4,382	4,613
Additions pending the determination of proved reserves	378	420	208
Charged to expense	(259)	(325)	(318)
Reclassifications to wells, facilities and equipment based on the determination of proved reserves	(142)	(328)	(174)
Divestments/Other	(585)	(29)	53
Ending balance at December 31	3,512	4,120	4,382
Ending balance attributed to equity companies included above	306	306	306

Period-end capitalized suspended exploratory well costs (millions of dollars)	2022	2021	2020
Capitalized for a period of one year or less	378	420	208
Capitalized for a period of between one and five years	969	1,642	1,828
Capitalized for a period of between five and ten years	1,410	1,657	1,932
Capitalized for a period of greater than ten years	755	401	414
Capitalized for a period greater than one year - subtotal	3,134	3,700	4,174
Total	3,512	4,120	4,382

Exploration activity often involves drilling multiple wells, over a number of years, to fully evaluate a project. The table below provides a breakdown of the number of projects with only exploratory well costs capitalized for a period of one year or less and those that have had exploratory well costs capitalized for a period greater than one year.

	2022	2021	2020
Number of projects that only have exploratory well costs capitalized for a period of one year or less	10	4	3
Number of projects that have exploratory well costs capitalized for a period greater than one year	26	30	34
Total	36	34	37

Of the 26 projects that have exploratory well costs capitalized for a period greater than one year as of December 31, 2022, 11 projects have drilling in the preceding year or exploratory activity planned in the next two years, while the remaining 15 projects are those with completed exploratory activity progressing toward development.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The table below provides additional detail for those 15 projects, which total \$2,324 million.

Country/Project	December 31, 2022 <i>(millions of dollars)</i>	Years Wells Drilled/ Acquired	Comment
Angola			
Block 32 Central NE Hub	66	2007 - 2021	Evaluating development plan for tieback to existing infrastructure.
Argentina			
La Invernada	72	2014	Evaluating development plan to tie into planned infrastructure.
Australia			
Gorgon Area Ullage	305	1994 - 2015	Evaluating development plans to tie into existing LNG facilities.
Canada			
Hibernia North	24	2019	Awaiting capacity in existing/planned infrastructure.
Guyana			
Uaru	117	2017 - 2021	Continuing discussions with the government regarding development plan.
Kazakhstan			
Kairan	53	2004 - 2007	Evaluating commercialization and field development alternatives, while continuing discussions with the government regarding the development plan.
Mozambique			
Rovuma LNG Future Non-Straddling Train	120	2017	Evaluating/progressing development plan to tie into planned LNG facilities.
Rovuma LNG Phase 1	150	2017	Progressing development plan to tie into planned LNG facilities.
Rovuma LNG Unitized Trains	35	2017	Evaluating/progressing development plan to tie into planned LNG facilities.
Nigeria			
Bonga North	34	2004 - 2009	Evaluating/progressing development plan for tieback to existing/planned infrastructure.
Papua New Guinea			
Muruk	165	2017 - 2019	Evaluating/progressing development plans.
Papua LNG	246	2017	Evaluating/progressing development plans.
P'nyang	116	2012 - 2018	Evaluating/progressing development plans.
Tanzania			
Block 2	525	2012 - 2015	Evaluating development alternatives, while continuing discussions with the government regarding development plan.
Vietnam			
Blue Whale	296	2011 - 2015	Evaluating/progressing development plans.
Total 2022 (15 projects)	2,324		

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

11. Leases

The Corporation and its consolidated affiliates generally purchase the property, plant and equipment used in operations, but there are situations where assets are leased, primarily for drilling equipment, tankers, office buildings, railcars, and other moveable equipment. Right of use assets and lease liabilities are established on the balance sheet for leases with an expected term greater than one year by discounting the amounts fixed in the lease agreement for the duration of the lease which is reasonably certain, considering the probability of exercising any early termination and extension options. The portion of the fixed payment related to service costs for drilling equipment, tankers and finance leases is excluded from the calculation of right of use assets and lease liabilities. Generally, assets are leased only for a portion of their useful lives, and are accounted for as operating leases. In limited situations assets are leased for nearly all of their useful lives, and are accounted for as finance leases.

Variable payments under these lease agreements are not significant. Residual value guarantees, restrictions, or covenants related to leases, and transactions with related parties are also not significant. In general, leases are capitalized using the incremental borrowing rate of the leasing affiliate. The Corporation's activities as a lessor are not significant.

Lease Cost (millions of dollars)	Operating Leases			Finance Leases		
	2022	2021	2020	2022	2021	2020
Operating lease cost	1,776	1,542	1,553			
Short-term and other (net of sublease rental income)	1,389	1,351	1,613			
Amortization of right of use assets				243	133	143
Interest on lease liabilities				210	158	169
Total ⁽¹⁾	3,165	2,893	3,166	453	291	312

⁽¹⁾ Includes \$908 million, \$681 million and \$827 million for drilling rigs and related equipment operating leases in 2022, 2021, and 2020, respectively.

Balance Sheet (millions of dollars)	Operating Leases		Finance Leases	
	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Right of use assets				
Included in Other assets, including intangibles - net	6,451	6,082		
Included in Property, plant and equipment - net			2,090	2,412
Total right of use assets	6,451	6,082	2,090	2,412
Lease liability due within one year				
Included in Accounts payable and accrued liabilities	1,527	1,367	5	4
Included in Notes and loans payable			69	111
Long-term lease liability				
Included in Other long-term obligations	4,067	3,823		
Included in Long-term debt			1,389	1,761
Included in Long-term obligations to equity companies			126	131
Total lease liability ⁽²⁾	5,594	5,190	1,589	2,007
Weighted-average remaining lease term (years)	9	10	22	20
Weighted-average discount rate (percent)	2.4 %	2.3 %	8.0 %	7.7 %

⁽²⁾ Includes \$1,646 million and \$935 million for drilling rigs and related equipment operating leases in 2022 and 2021, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Maturity Analysis of Lease Liabilities (millions of dollars)	Operating Leases	Finance Leases
	December 31, 2022	
2023	1,623	195
2024	1,231	193
2025	914	187
2026	401	184
2027	334	176
2028 and beyond	1,861	1,960
Total lease payments	6,364	2,895
Discount to present value	(770)	(1,306)
Total lease liability	5,594	1,589

In addition to the lease liabilities in the table immediately above, at December 31, 2022, undiscounted commitments for leases not yet commenced totaled \$4,246 million for operating leases and \$3,054 million for finance leases. Estimated cash payments for operating and finance leases not yet commenced are \$268 million and \$260 million for 2023 and 2024 respectively. The finance leases relate to LNG transportation vessels, a wastewater treatment facility, a CO2 transportation and service agreement, and a long-term hydrogen purchase agreement. The underlying assets for these finance leases were primarily designed by, and are being constructed by, the lessors.

Other Information (millions of dollars)	Operating Leases			Finance Leases		
	2022	2021	2020	2022	2021	2020
Cash paid for amounts included in the measurement of lease liabilities						
Cash flows from operating activities	1,119	1,135	1,159	20	20	31
Cash flows from investing activities	500	291	283			
Cash flows from financing activities				149	110	94
Noncash right of use assets recorded for lease liabilities						
In exchange for lease liabilities during the period	1,997	1,405	735	73	200	108

12. Earnings Per Share

Earnings per common share	2022	2021	2020
Net income (loss) attributable to ExxonMobil (<i>millions of dollars</i>)	55,740	23,040	(22,440)
Weighted-average number of common shares outstanding (<i>millions of shares</i>)	4,205	4,275	4,271
Earnings (loss) per common share (<i>dollars</i>) ⁽¹⁾	13.26	5.39	(5.25)
Dividends paid per common share (<i>dollars</i>)	3.55	3.49	3.48

⁽¹⁾ The earnings (loss) per common share and earnings (loss) per common share - assuming dilution are the same in each period shown.

13. Financial Instruments and Derivatives

The estimated fair value of financial instruments and derivatives at December 31, 2022 and December 31, 2021, and the related hierarchy level for the fair value measurement was as follows:

December 31, 2022									
(millions of dollars)	Fair Value				Total Gross Assets & Liabilities	Effect of Counterparty Netting	Effect of Collateral Netting	Difference in Carrying Value and Fair Value	Net Carrying Value
	Level 1	Level 2	Level 3						
Assets									
Derivative assets ⁽¹⁾	4,309	3,455	—	7,764	(5,778)	(969)	—	1,017	
Advances to/receivables from equity companies ⁽²⁾⁽⁶⁾	—	2,406	4,958	7,364	—	—	685	8,049	
Other long-term financial assets ⁽³⁾	1,208	—	1,413	2,621	—	—	346	2,967	
Liabilities									
Derivative liabilities ⁽⁴⁾	3,417	3,264	—	6,681	(5,778)	(79)	—	824	
Long-term debt ⁽⁵⁾	33,112	1,880	6	34,998	—	—	4,173	39,171	
Long-term obligations to equity companies ⁽⁶⁾	—	—	2,467	2,467	—	—	(129)	2,338	
Other long-term financial liabilities ⁽⁷⁾	—	—	679	679	—	—	38	717	
December 31, 2021									
(millions of dollars)	Fair Value				Total Gross Assets & Liabilities	Effect of Counterparty Netting	Effect of Collateral Netting	Difference in Carrying Value and Fair Value	Net Carrying Value
	Level 1	Level 2	Level 3						
Assets									
Derivative assets ⁽¹⁾	1,422	1,523	—	2,945	(1,930)	(28)	—	987	
Advances to/receivables from equity companies ⁽²⁾⁽⁶⁾	—	3,076	5,373	8,449	—	—	(123)	8,326	
Other long-term financial assets ⁽³⁾	1,134	—	1,058	2,192	—	—	181	2,373	
Liabilities									
Derivative liabilities ⁽⁴⁾	1,701	2,594	—	4,295	(1,930)	(306)	—	2,059	
Long-term debt ⁽⁵⁾	44,454	88	3	44,545	—	—	(2,878)	41,667	
Long-term obligations to equity companies ⁽⁶⁾	—	—	3,084	3,084	—	—	(227)	2,857	
Other long-term financial liabilities ⁽⁷⁾	—	—	902	902	—	—	58	960	

⁽¹⁾ Included in the Balance Sheet lines: Notes and accounts receivable - net and Other assets, including intangibles - net.

⁽²⁾ Included in the Balance Sheet line: Investments, advances and long-term receivables.

⁽³⁾ Included in the Balance Sheet lines: Investments, advances and long-term receivables and Other assets, including intangibles - net.

⁽⁴⁾ Included in the Balance Sheet lines: Accounts payable and accrued liabilities and Other long-term obligations.

⁽⁵⁾ Excluding finance lease obligations.

⁽⁶⁾ Advances to/receivables from equity companies and long-term obligations to equity companies are mainly designated as hierarchy level 3 inputs. The fair value is calculated by discounting the remaining obligations by a rate consistent with the credit quality and industry of the company.

⁽⁷⁾ Included in the Balance Sheet line: Other long-term obligations. Includes contingent consideration related to a prior year acquisition where fair value is based on expected drilling activities and discount rates.

At December 31, 2022 and December 31, 2021, respectively, the Corporation had \$1,494 million and \$641 million of collateral under master netting arrangements not offset against the derivatives on the Consolidated Balance Sheet, primarily related to initial margin requirements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Derivative Instruments. The Corporation's size, strong capital structure, geographic diversity, and the complementary nature of its business segments reduce the Corporation's enterprise-wide risk from changes in commodity prices, currency rates, and interest rates. In addition, the Corporation uses commodity-based contracts, including derivatives, to manage commodity price risk and to generate returns from trading. Commodity contracts held for trading purposes are presented in the Consolidated Statement of Income on a net basis in the line "Sales and other operating revenue". The Corporation's commodity derivatives are not accounted for under hedge accounting. At times, the Corporation also enters into currency and interest rate derivatives, none of which are material to the Corporation's financial position as of December 31, 2022 and 2021, or results of operations for 2022, 2021, and 2020.

Credit risk associated with the Corporation's derivative position is mitigated by several factors, including the use of derivative clearing exchanges and the quality of and financial limits placed on derivative counterparties. The Corporation maintains a system of controls that includes the authorization, reporting, and monitoring of derivative activity.

The net notional long/(short) position of derivative instruments at December 31, 2022 and December 31, 2021, was as follows:

(millions)	December 31, 2022	December 31, 2021
Crude oil (barrels)	4	82
Petroleum products (barrels)	(52)	(48)
Natural gas (MMBTUs)	(64)	(115)

Realized and unrealized gains/(losses) on derivative instruments that were recognized in the Consolidated Statement of Income are included in the following lines on a before-tax basis:

(millions of dollars)	2022	2021	2020
Sales and other operating revenue	(1,763)	(3,818)	404
Crude oil and product purchases	314	48	(407)
Total	(1,449)	(3,770)	(3)

14. Long-Term Debt

At December 31, 2022, long-term debt consisted of \$34,507 million due in U.S. dollars and \$6,052 million representing the U.S. dollar equivalent at year-end exchange rates of amounts payable in foreign currencies. These amounts exclude that portion of long-term debt, totaling \$181 million, which matures within one year and is included in current liabilities.

On December 22, 2022, the Company irrevocably deposited sufficient cash with the Trustee to fund (i) the redemption of its 2.726% notes due 2023 and (ii) the redemption of its 1.571% notes due 2023. After the deposit of the funds, the Corporation was released from its obligation and the debt was extinguished.

The amounts of long-term debt, excluding finance lease obligations, maturing in each of the four years after December 31, 2023, in millions of dollars, are: 2024 – \$4,665; 2025 – \$4,667; 2026 – \$3,644; and 2027 – \$1,090. At December 31, 2022, the Corporation's unused long-term lines of credit were \$1.2 billion.

The Corporation may use non-derivative financial instruments, such as its foreign currency-denominated debt, as hedges of its net investments in certain foreign subsidiaries. Under this method, the change in the carrying value of the financial instruments due to foreign exchange fluctuations is reported in accumulated other comprehensive income. As of December 31, 2022, the Corporation has designated its \$4.8 billion of Euro-denominated long-term debt and related accrued interest as a net investment hedge of its European business. The net investment hedge is deemed to be perfectly effective.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Summarized long-term debt at year-end 2022 and 2021 are shown in the table below:

<i>(millions of dollars, except where stated otherwise)</i>	Average Rate ⁽¹⁾	Dec 31, 2022	Dec 31, 2021
Exxon Mobil Corporation ⁽²⁾			
1.571% notes due 2023		—	2,750
2.726% notes due 2023		—	1,250
3.176% notes due 2024		1,000	1,000
2.019% notes due 2024		1,000	1,000
2.709% notes due 2025		1,750	1,750
2.992% notes due 2025		2,781	2,794
3.043% notes due 2026		2,500	2,500
2.275% notes due 2026		1,000	1,000
3.294% notes due 2027		1,000	1,000
2.440% notes due 2029		1,250	1,250
3.482% notes due 2030		2,000	2,000
2.610% notes due 2030		2,000	2,000
2.995% notes due 2039		750	750
4.227% notes due 2040		2,084	2,087
3.567% notes due 2045		1,000	1,000
4.114% notes due 2046		2,500	2,500
3.095% notes due 2049		1,500	1,500
4.327% notes due 2050		2,750	2,750
3.452% notes due 2051		2,750	2,750
Exxon Mobil Corporation - Euro-denominated			
0.142% notes due 2024		1,600	1,698
0.524% notes due 2028		1,066	1,133
0.835% notes due 2032		1,066	1,133
1.408% notes due 2039		1,066	1,133
XTO Energy Inc. ⁽³⁾			
6.100% senior notes due 2036		189	191
6.750% senior notes due 2037		289	291
6.375% senior notes due 2038		224	226
Industrial revenue bonds due 2022-2051	1.000%	2,245	2,244
Finance leases & other obligations	5.856%	3,299	1,862
Debt issuance costs		(100)	(114)
Total long-term debt		40,559	43,428

⁽¹⁾ Average effective or imputed interest rates at December 31, 2022.

⁽²⁾ Includes premiums of \$115 million in 2022 and \$131 million in 2021.

⁽³⁾ Includes premiums of \$76 million in 2022 and \$82 million in 2021.

15. Incentive Program

The 2003 Incentive Program provides for grants of stock options, stock appreciation rights (SARs), restricted stock, and other forms of awards. Awards may be granted to eligible employees of the Corporation and those affiliates at least 50 percent owned. Outstanding awards are subject to certain forfeiture provisions contained in the program or award instrument. Options and SARs may be granted at prices not less than 100 percent of market value on the date of grant and have a maximum life of 10 years. The maximum number of shares of stock that may be issued under the 2003 Incentive Program is 220 million. Awards that are forfeited, expire, or are settled in cash, do not count against this maximum limit. The 2003 Incentive Program does not have a specified term. New awards may be made until the available shares are depleted, unless the Board terminates the plan early. At the end of 2022, remaining shares available for award under the 2003 Incentive Program were 60 million.

Restricted Stock and Restricted Stock Units. Awards totaling 9,392 thousand, 8,133 thousand, and 8,681 thousand of restricted (nonvested) common stock units were granted in 2022, 2021, and 2020, respectively. Compensation expense for these awards is based on the price of the stock at the date of grant and is recognized in income over the requisite service period. Shares for these awards are issued to employees from treasury stock. The units that are settled in cash are recorded as liabilities, and their changes in fair value are recognized over the vesting period. During the applicable restricted periods, the shares and units may not be sold or transferred and are subject to forfeiture. The majority of the awards have graded vesting periods, with 50 percent of the shares and units in each award vesting after three years, and the remaining 50 percent vesting after seven years. As a result of an expansion of the program in 2022, some new participants will be eligible for awards that vest in full after three years. Awards granted to a small number of senior executives have vesting periods of five years for 50 percent of the award and of 10 years for the remaining 50 percent of the award, except that for awards granted prior to 2020 the vesting of the 10-year portion of the award is delayed until retirement if later than 10 years.

The following tables summarize information about restricted stock and restricted stock units for the year ended December 31, 2022.

Restricted stock and units outstanding	2022	
	Shares	Weighted-Average Grant-Date Fair Value per Share
	(thousands)	(dollars)
Issued and outstanding at January 1	38,922	70.38
Awards issued in 2022	8,222	63.49
Vested	(9,235)	76.31
Forfeited	(336)	63.67
Issued and outstanding at December 31	37,573	67.47

Value of restricted stock units	2022	2021	2020
Grant price (dollars)	110.46	62.76	41.15
Value at date of grant:	(millions of dollars)		
Units settled in stock	931	461	325
Units settled in cash	106	49	32
Total value	1,037	510	357

As of December 31, 2022, there was \$1,765 million of unrecognized compensation cost related to the nonvested restricted awards. This cost is expected to be recognized over a weighted-average period of 4.8 years. The compensation cost charged against income for the restricted stock and restricted stock units was \$648 million, \$612 million, and \$672 million for 2022, 2021, and 2020, respectively. The income tax benefit recognized in income related to this compensation expense was \$52 million, \$49 million, and \$51 million for the same periods, respectively. The fair value of shares and units vested in 2022, 2021, and 2020 was \$1,027 million, \$562 million, and \$367 million, respectively. Cash payments of \$89 million, \$48 million, and \$34 million for vested restricted stock units settled in cash were made in 2022, 2021, and 2020, respectively.

16. Litigation and Other Contingencies

Litigation. A variety of claims have been made against ExxonMobil and certain of its consolidated subsidiaries in a number of pending lawsuits. Management has regular litigation reviews, including updates from corporate and outside counsel, to assess the need for accounting recognition or disclosure of these contingencies. The Corporation accrues an undiscounted liability for those contingencies where the incurrence of a loss is probable and the amount can be reasonably estimated. If a range of amounts can be reasonably estimated and no amount within the range is a better estimate than any other amount, then the minimum of the range is accrued. The Corporation does not record liabilities when the likelihood that the liability has been incurred is probable but the amount cannot be reasonably estimated or when the liability is believed to be only reasonably possible or remote. For contingencies where an unfavorable outcome is reasonably possible and which are significant, the Corporation discloses the nature of the contingency and, where feasible, an estimate of the possible loss. For purposes of our contingency disclosures, “significant” includes material matters, as well as other matters, which management believes should be disclosed. ExxonMobil will continue to defend itself vigorously in these matters. Based on a consideration of all relevant facts and circumstances, the Corporation does not believe the ultimate outcome of any currently pending lawsuit against ExxonMobil will have a material adverse effect upon the Corporation’s operations, financial condition, or financial statements taken as a whole.

Other Contingencies. The Corporation and certain of its consolidated subsidiaries were contingently liable at December 31, 2022, for guarantees relating to notes, loans and performance under contracts. Where guarantees for environmental remediation and other similar matters do not include a stated cap, the amounts reflect management’s estimate of the maximum potential exposure. Where it is not possible to make a reasonable estimation of the maximum potential amount of future payments, future performance is expected to be either immaterial or have only a remote chance of occurrence.

(millions of dollars)	December 31, 2022		
	Equity Company Obligations ⁽¹⁾	Other Third-Party Obligations	Total
Guarantees			
Debt-related	1,206	152	1,358
Other	728	5,374	6,102
Total	1,934	5,526	7,460

⁽¹⁾ ExxonMobil share.

Additionally, the Corporation and its affiliates have numerous long-term sales and purchase commitments in their various business activities, all of which are expected to be fulfilled with no adverse consequences material to the Corporation’s operations or financial condition.

17. Pension and Other Postretirement Benefits

The benefit obligations and plan assets associated with the Corporation's principal benefit plans are measured on December 31.

(millions of dollars, except where stated otherwise)	Pension Benefits				Other Postretirement Benefits	
	U.S.		Non-U.S.			
	2022	2021	2022	2021	2022	2021
Weighted-average assumptions used to determine benefit obligations at December 31						
Discount rate (percent)	5.60	3.00	4.90	2.20	5.60	3.10
Long-term rate of compensation increase (percent)	4.50	4.50	5.20	4.20	4.50	4.50
Change in benefit obligation						
Benefit obligation at January 1	18,511	21,662	29,492	33,626	7,265	8,135
Service cost	712	919	570	774	138	188
Interest cost	518	558	614	526	216	221
Actuarial loss/(gain) ⁽¹⁾	(4,432)	(747)	(7,742)	(2,803)	(1,990)	(881)
Benefits paid ⁽²⁾⁽³⁾	(2,959)	(3,810)	(1,415)	(1,550)	(492)	(517)
Foreign exchange rate changes	—	—	(2,258)	(1,162)	(47)	3
Amendments, divestments and other	—	(71)	81	81	121	116
Benefit obligation at December 31	12,350	18,511	19,342	29,492	5,211	7,265
Accumulated benefit obligation at December 31	10,367	15,781	18,047	27,373	—	—

⁽¹⁾ Actuarial loss/(gain) primarily reflects higher discount rates.

⁽²⁾ Benefit payments for funded and unfunded plans.

⁽³⁾ For 2022 and 2021, other postretirement benefits paid are net of \$24 million and \$9 million of Medicare subsidy receipts, respectively.

For selection of the discount rate for U.S. plans, several sources of information are considered, including interest rate market indicators and the effective discount rate determined by use of a yield curve based on high-quality, noncallable bonds applied to the estimated cash outflows for benefit payments. For major non-U.S. plans, the discount rate is determined by using a spot yield curve of high-quality, local-currency-denominated bonds at an average maturity approximating that of the liabilities.

The measurement of the accumulated postretirement benefit obligation assumes a health care cost trend rate of 4.0 percent in 2024 and subsequent years.

(millions of dollars)	Pension Benefits				Other Postretirement Benefits	
	U.S.		Non-U.S.			
	2022	2021	2022	2021	2022	2021
Change in plan assets						
Fair value at January 1	13,266	15,300	24,880	26,216	440	446
Actual return on plan assets	(3,265)	479	(5,287)	571	(66)	20
Foreign exchange rate changes	—	—	(2,012)	(605)	—	—
Company contribution	3,596	794	655	293	27	28
Benefits paid ⁽¹⁾	(2,608)	(3,307)	(1,070)	(1,167)	(53)	(54)
Other	—	—	(409)	(428)	—	—
Fair value at December 31	10,989	13,266	16,757	24,880	348	440

⁽¹⁾ Benefit payments for funded plans.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The funding levels of all qualified pension plans are in compliance with standards set by applicable law or regulation. As shown in the table below, certain smaller U.S. pension plans and a number of non-U.S. pension plans are not funded because local applicable tax rules and regulatory practices do not encourage funding of these plans. All defined benefit pension obligations, regardless of the funding status of the underlying plans, are fully supported by the financial strength of the Corporation or the respective sponsoring affiliate.

(millions of dollars)	Pension Benefits			
	U.S.		Non-U.S.	
	2022	2021	2022	2021
Assets in excess of/(less than) benefit obligation				
Balance at December 31				
Funded plans	(23)	(3,570)	1,019	554
Unfunded plans	(1,338)	(1,675)	(3,604)	(5,166)
Total	(1,361)	(5,245)	(2,585)	(4,612)

The authoritative guidance for defined benefit pension and other postretirement plans requires an employer to recognize the overfunded or underfunded status of a defined benefit postretirement plan as an asset or liability in its statement of financial position and to recognize changes in that funded status in the year in which the changes occur through other comprehensive income.

(millions of dollars)	Pension Benefits				Other Postretirement Benefits	
	U.S.		Non-U.S.		2022	2021
	2022	2021	2022	2021		
Assets in excess of/(less than) benefit obligation						
Balance at December 31 ⁽¹⁾	(1,361)	(5,245)	(2,585)	(4,612)	(4,863)	(6,825)
Amounts recorded in the consolidated balance sheet consist of:						
Other assets	—	—	1,962	2,544	—	—
Current liabilities	(168)	(206)	(254)	(267)	(304)	(323)
Postretirement benefits reserves	(1,193)	(5,039)	(4,293)	(6,889)	(4,559)	(6,502)
Total recorded	(1,361)	(5,245)	(2,585)	(4,612)	(4,863)	(6,825)
Amounts recorded in accumulated other comprehensive income consist of:						
Net actuarial loss/(gain)	897	1,865	846	2,841	(1,726)	197
Prior service cost	(295)	(324)	278	262	(190)	(232)
Total recorded in accumulated other comprehensive income	602	1,541	1,124	3,103	(1,916)	(35)

⁽¹⁾ Fair value of assets less benefit obligation shown on the preceding page.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The long-term expected rate of return on funded assets shown below is established for each benefit plan by developing a forward-looking, long-term return assumption for each asset class, taking into account factors such as the expected real return for the specific asset class and inflation. A single, long-term rate of return is then calculated as the weighted average of the target asset allocation percentages and the long-term return assumption for each asset class.

(millions of dollars, except where stated otherwise)	Pension Benefits						Other Postretirement Benefits		
	2022	U.S.		2022	Non-U.S.		2022	2021	2020
Weighted-average assumptions used to determine net periodic benefit cost for years ended December 31									
Discount rate (percent)	3.00	2.80	3.50	2.20	1.60	2.30	3.10	2.80	3.50
Long-term rate of return on funded assets (percent)	4.60	5.30	5.30	3.50	4.10	4.10	3.80	4.60	4.60
Long-term rate of compensation increase (percent)	4.50	5.50	5.75	4.20	4.20	4.80	4.50	5.50	5.75
Components of net periodic benefit cost									
Service cost	712	919	965	570	774	707	138	188	181
Interest cost	518	558	708	614	526	657	216	221	277
Expected return on plan assets	(560)	(722)	(703)	(815)	(1,031)	(897)	(14)	(19)	(18)
Amortization of actuarial loss/(gain)	156	244	310	180	420	416	6	76	95
Amortization of prior service cost	(29)	(23)	5	43	57	68	(42)	(42)	(42)
Net pension enhancement and curtailment/settlement cost	205	489	280	4	32	49	—	—	—
Net periodic benefit cost	1,002	1,465	1,565	596	778	1,000	304	424	493
Changes in amounts recorded in accumulated other comprehensive income:									
Net actuarial loss/(gain)	(607)	(504)	(279)	(1,641)	(2,361)	446	(1,910)	(891)	(92)
Amortization of actuarial (loss)/gain	(361)	(733)	(590)	(183)	(430)	(442)	(6)	(76)	(95)
Prior service cost/(credit)	—	(72)	(271)	84	92	(82)	—	—	—
Amortization of prior service (cost)/credit	29	23	(5)	(40)	(55)	(68)	42	42	42
Foreign exchange rate changes	—	—	—	(199)	(255)	236	(7)	—	11
Total recorded in other comprehensive income	(939)	(1,286)	(1,145)	(1,979)	(3,009)	90	(1,881)	(925)	(134)
Total recorded in net periodic benefit cost and other comprehensive income, before tax	63	179	420	(1,383)	(2,231)	1,090	(1,577)	(501)	359

Costs for defined contribution plans were \$365 million, \$177 million and \$358 million in 2022, 2021, and 2020, respectively.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

A summary of the change in accumulated other comprehensive income is shown in the table below:

	Total Pension and Other Postretirement Benefits		
(millions of dollars)	2022	2021	2020
(Charge)/credit to other comprehensive income, before tax			
U.S. pension	939	1,286	1,145
Non-U.S. pension	1,979	3,009	(90)
Other postretirement benefits	1,881	925	134
Total (charge)/credit to other comprehensive income, before tax	4,799	5,220	1,189
(Charge)/credit to income tax (see Note 4)	(1,236)	(1,287)	(153)
(Charge)/credit to investment in equity companies	235	110	(110)
(Charge)/credit to other comprehensive income including noncontrolling interests, after tax	3,798	4,043	926
Charge/(credit) to equity of noncontrolling interests	(212)	(217)	30
(Charge)/credit to other comprehensive income attributable to ExxonMobil	3,586	3,826	956

The Corporation's investment strategy for benefit plan assets reflects a long-term view, a careful assessment of the risks inherent in plan assets and liabilities, and broad diversification to reduce the risk of the portfolio. The benefit plan assets are primarily invested in passive global equity and local currency fixed income index funds to diversify risk while minimizing costs. The equity funds hold ExxonMobil stock only to the extent necessary to replicate the relevant equity index. The fixed income funds are largely invested in investment grade corporate and government debt securities with interest rate sensitivity designed to approximate the interest rate sensitivity of plan liabilities.

Target asset allocations for benefit plans are reviewed periodically and set based on considerations such as risk, diversification, liquidity, and funding level. The target asset allocations for the major benefit plans range from 10 to 30 percent in equity securities and the remainder in fixed income securities. The equity for the U.S. and certain non-U.S. plans include allocations to private equity partnerships that primarily focus on early-stage venture capital of less than 5 percent.

The fair value measurement levels are accounting terms that refer to different methods of valuing assets. The terms do not represent the relative risk or credit quality of an investment.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The 2022 fair value of the benefit plan assets, including the level within the fair value hierarchy, is shown in the tables below:

(millions of dollars)	U.S. Pension					Non-U.S. Pension				
	Fair Value Measurement at December 31, 2022, Using:					Fair Value Measurement at December 31, 2022, Using:				
	Level 1	Level 2	Level 3	Net Asset Value	Total	Level 1	Level 2	Level 3	Net Asset Value	Total
Asset category:										
Equity securities										
U.S.	—	—	—	1,726	1,726	—	—	—	2,318	2,318
Non-U.S.	—	—	—	1,131	1,131	61 ⁽¹⁾	—	—	1,676	1,737
Private equity	—	—	—	506	506	—	—	—	472	472
Debt securities										
Corporate	—	4,582 ⁽²⁾	—	1	4,583	—	63 ⁽²⁾	—	4,199	4,262
Government	—	2,869 ⁽²⁾	—	2	2,871	202 ⁽³⁾	144 ⁽²⁾	—	7,189	7,535
Asset-backed	—	—	—	1	1	—	22 ⁽²⁾	—	185	207
Cash	—	—	—	168	168	88	40 ⁽⁴⁾	—	77	205
Total at fair value	—	7,451	—	3,535	10,986	351	269	—	16,116	16,736
Insurance contracts at contract value					3					21
Total plan assets					10,989					16,757

⁽¹⁾ For non-U.S. equity securities held in separate accounts, fair value is based on observable quoted prices on active exchanges.

⁽²⁾ For corporate, government and asset-backed debt securities, fair value is based on observable inputs of comparable market transactions.

⁽³⁾ For government debt securities that are traded on active exchanges, fair value is based on observable quoted prices.

⁽⁴⁾ For cash balances that are subject to withdrawal penalties or other adjustments, the fair value is treated as a Level 2 input.

(millions of dollars)	Other Postretirement				
	Fair Value Measurement at December 31, 2022, Using:				
	Level 1	Level 2	Level 3	Net Asset Value	Total
Asset category:					
Equity securities					
U.S.	70 ⁽¹⁾	—	—	—	70
Non-U.S.	37 ⁽¹⁾	—	—	—	37
Debt securities					
Corporate	—	59 ⁽²⁾	—	—	59
Government	—	175 ⁽²⁾	—	—	175
Asset-backed	—	4 ⁽²⁾	—	—	4
Cash	—	3	—	—	3
Total at fair value	107	241	—	—	348

⁽¹⁾ For equity securities held in separate accounts, fair value is based on observable quoted prices on active exchanges.

⁽²⁾ For corporate, government and asset-backed debt securities, fair value is based on observable inputs of comparable market transactions.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The 2021 fair value of the benefit plan assets, including the level within the fair value hierarchy, is shown in the tables below:

(millions of dollars)	U.S. Pension					Non-U.S. Pension				
	Fair Value Measurement at December 31, 2021, Using:					Fair Value Measurement at December 31, 2021, Using:				
	Level 1	Level 2	Level 3	Net Asset Value	Total	Level 1	Level 2	Level 3	Net Asset Value	Total
Asset category:										
Equity securities										
U.S.	—	—	—	1,956	1,956	—	—	—	3,416	3,416
Non-U.S.	—	—	—	1,290	1,290	76 ⁽¹⁾	—	—	2,424	2,500
Private equity	—	—	—	661	661	—	—	—	627	627
Debt securities										
Corporate	—	5,242 ⁽²⁾	—	1	5,243	—	119 ⁽²⁾	—	5,831	5,950
Government	—	3,945 ⁽²⁾	—	2	3,947	209 ⁽³⁾	97 ⁽²⁾	—	11,620	11,926
Asset-backed	—	—	—	1	1	—	25 ⁽²⁾	—	191	216
Cash	—	—	—	162	162	62	53 ⁽⁴⁾	—	108	223
Total at fair value	—	9,187	—	4,073	13,260	347	294	—	24,217	24,858
Insurance contracts at contract value					6					22
Total plan assets					13,266					24,880

⁽¹⁾ For non-U.S. equity securities held in separate accounts, fair value is based on observable quoted prices on active exchanges.

⁽²⁾ For corporate, government and asset-backed debt securities, fair value is based on observable inputs of comparable market transactions.

⁽³⁾ For government debt securities that are traded on active exchanges, fair value is based on observable quoted prices.

⁽⁴⁾ For cash balances that are subject to withdrawal penalties or other adjustments, the fair value is treated as a Level 2 input.

(millions of dollars)	Other Postretirement				
	Fair Value Measurement at December 31, 2021, Using:				
	Level 1	Level 2	Level 3	Net Asset Value	Total
Asset category:					
Equity securities					
U.S.	91 ⁽¹⁾	—	—	—	91
Non-U.S.	45 ⁽¹⁾	—	—	—	45
Debt securities					
Corporate	—	95 ⁽²⁾	—	—	95
Government	—	206 ⁽²⁾	—	—	206
Asset-backed	—	—	—	—	—
Cash	—	3	—	—	3
Total at fair value	136	304	—	—	440

⁽¹⁾ For equity securities held in separate accounts, fair value is based on observable quoted prices on active exchanges.

⁽²⁾ For corporate, government and asset-backed debt securities, fair value is based on observable inputs of comparable market transactions.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

A summary of pension plans with an accumulated benefit obligation and projected benefit obligation in excess of plan assets is shown in the table below:

(millions of dollars)	Pension Benefits			
	U.S.		Non-U.S.	
	2022	2021	2022	2021
For funded pension plans with an accumulated benefit obligation in excess of plan assets:				
Accumulated benefit obligation	—	14,511	1,098	3,108
Fair value of plan assets	—	13,266	400	1,711
For funded pension plans with a projected benefit obligation in excess of plan assets:				
Projected benefit obligation	11,012	16,836	1,956	4,840
Fair value of plan assets	10,989	13,266	1,012	2,849
For unfunded pension plans:				
Projected benefit obligation	1,338	1,675	3,604	5,166
Accumulated benefit obligation	1,045	1,270	3,261	4,685

All other postretirement benefit plans are unfunded or underfunded.

(millions of dollars)	Pension Benefits		Other Postretirement Benefits	
	U.S.	Non-U.S.	Gross	Medicare Subsidy Receipt
Contributions expected in 2023	—	570	—	—
Benefit payments expected in:				
2023	956	1,149	399	21
2024	963	1,140	395	22
2025	985	1,123	391	23
2026	1,009	1,109	385	24
2027	1,024	1,154	382	24
2028 - 2032	5,430	5,978	1,930	128

18. Disclosures about Segments and Related Information

The Upstream, Energy Products, Chemical Products, and Specialty Products functions best define the operating segments of the business that are reported separately. The factors used to identify these reportable segments are based on the nature of the operations that are undertaken by each segment. The Upstream segment is organized and operates to explore for and produce crude oil and natural gas. Energy Products, Chemical Products, and Specialty Products segments are organized and operate to manufacture and sell petroleum products and petrochemicals.

- Energy Products: Fuels, aromatics, and catalysts and licensing
- Chemical Products: Olefins, polyolefins, and intermediates
- Specialty Products: Finished lubricants, basestocks and waxes, synthetics, and elastomers and resins

These functions have been defined as the operating segments of the Corporation because they are the segments (1) that engage in business activities from which revenues are recognized and expenses are incurred; (2) whose operating results are regularly reviewed by the Corporation's chief operating decision maker to make decisions about resources to be allocated to the segment and to assess its performance; and (3) for which discrete financial information is available.

Earnings after income tax include transfers at estimated market prices.

In Corporate and Financing, interest revenue relates to interest earned on cash deposits and marketable securities. Interest expense includes non-debt-related interest expense of \$117 million in 2022, \$103 million in 2021, and \$148 million in 2020.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

(millions of dollars)	Upstream		Energy Products		Chemical Products		Specialty Products		Corporate and Financing	Corporate Total
	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.	U.S.	Non-U.S.		
As of December 31, 2022										
Earnings (loss) after income tax	11,728	24,751	8,340	6,626	2,328	1,215	1,190	1,225	(1,663)	55,740
Earnings of equity companies included above	411	10,133	126	322	91	771	—	(23)	(368)	11,463
Sales and other operating revenue	14,579	30,585	117,824	188,153	10,670	16,949	6,152	13,727	36	398,675
Intersegment revenue	25,658	46,076	29,001	36,894	9,081	5,201	2,587	825	241	—
Depreciation and depletion expense	5,791	14,013	741	1,246	542	446	95	193	973	24,040
Interest revenue	—	—	—	—	—	—	—	—	446	446
Interest expense	51	38	1	7	—	1	—	1	699	798
Income tax expense (benefit)	3,330	11,575	2,615	2,420	520	292	334	252	(1,162)	20,176
Additions to property, plant and equipment	5,940	6,441	1,141	964	1,026	1,692	37	200	897	18,338
Investments in equity companies	4,893	21,502	368	1,154	3,124	2,417	—	1,177	(113)	34,522
Total assets	66,695	139,764	31,729	41,836	17,342	15,875	2,839	8,316	44,671	369,067
As of December 31, 2021										
Earnings (loss) after income tax	3,663	12,112	668	(1,014)	3,697	3,292	1,452	1,807	(2,636)	23,040
Earnings of equity companies included above	288	5,535	122	100	(139)	1,141	—	(36)	(354)	6,657
Sales and other operating revenue	8,883	12,914	78,500	130,406	11,995	16,633	4,858	12,473	30	276,692
Intersegment revenue	16,692	33,405	16,735	25,097	5,993	4,082	2,193	749	227	—
Depreciation and depletion expense	6,831	9,918	700	1,036	505	450	97	195	875	20,607
Interest revenue	—	—	—	—	—	—	—	—	33	33
Interest expense	58	36	1	6	—	1	—	1	844	947
Income tax expense (benefit)	1,116	4,871	156	(165)	1,235	684	464	329	(1,054)	7,636
Additions to property, plant and equipment	3,308	5,308	979	874	538	712	28	136	658	12,541
Investments in equity companies	4,999	18,544	353	972	3,019	2,490	—	1,185	(337)	31,225
Total assets	67,294	141,978	26,932	37,698	16,695	14,555	2,878	8,030	22,863	338,923
As of December 31, 2020										
Earnings (loss) after income tax	(19,385)	(645)	(1,342)	(1,230)	1,196	1,061	571	630	(3,296)	(22,440)
Effect of asset impairments - noncash	(17,138)	(2,287)	(15)	(412)	(100)	(21)	—	(245)	(35)	(20,253)
Earnings of equity companies included above	(559)	2,101	134	(192)	(21)	750	—	(97)	(384)	1,732
Sales and other operating revenue	5,876	8,673	46,401	86,966	6,391	11,243	3,993	8,993	38	178,574
Intersegment revenue	8,508	19,642	9,847	13,417	4,313	2,191	1,620	361	221	—
Depreciation and depletion expense	28,627	12,723	693	1,508	607	461	101	397	892	46,009
Interest revenue	—	—	—	—	—	—	—	—	49	49
Interest expense	52	93	1	20	—	—	—	1	991	1,158
Income tax expense (benefit)	(5,958)	742	(493)	89	421	277	188	299	(1,197)	(5,632)
Additions to property, plant and equipment	5,726	4,418	2,937	1,446	1,158	546	109	331	671	17,342
Investments in equity companies	4,792	18,135	352	952	2,543	2,413	—	1,028	(443)	29,772
Total assets	71,287	144,730	23,192	33,566	15,529	13,653	2,872	7,849	20,072	332,750

Due to rounding, numbers presented may not add up precisely to the totals indicated.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Revenue from Contracts with Customers

Sales and other operating revenue include both revenue within the scope of ASC 606 and outside the scope of ASC 606. Revenue outside the scope of ASC 606 primarily relates to physically settled commodity contracts accounted for as derivatives. Contractual terms and type of customer are generally similar between contracts within the scope of ASC 606 and those outside it.

Sales and other operating revenue (millions of dollars)	2022	2021	2020
Revenue from contracts with customers	304,758	228,968	153,478
Revenue outside the scope of ASC 606	93,917	47,724	25,096
Total	398,675	276,692	178,574

Geographic

Sales and other operating revenue (millions of dollars)	2022	2021	2020
United States	149,225	104,236	62,663
Non-U.S.	249,450	172,456	115,911
Total	398,675	276,692	178,574

Significant non-U.S. revenue sources include: ⁽¹⁾

United Kingdom	33,988	14,759	11,055
Canada	32,970	22,166	13,093
Singapore	19,029	15,031	9,442
France	17,727	13,236	8,676
Italy	11,496	10,056	7,091
Australia	11,316	7,646	5,839
Belgium	11,279	9,153	6,231

⁽¹⁾ Revenue is determined by primary country of operations. Excludes certain sales and other operating revenues in Non-U.S. operations where attribution to a specific country is not practicable.

Long-lived assets (millions of dollars)	2022	December 31, 2021	2020
United States	90,051	90,412	94,732
Non-U.S.	114,641	126,140	132,821
Total	204,692	216,552	227,553

Significant non-U.S. long-lived assets include:

Canada	31,106	34,907	36,232
Singapore	11,972	11,969	12,129
Australia	11,372	12,988	14,792
Kazakhstan	8,172	8,463	8,882
Papua New Guinea	7,338	7,534	7,803
Guyana	6,766	4,892	3,547
United Arab Emirates	5,448	5,392	5,381
Nigeria	4,090	5,235	6,345
Brazil	3,649	4,337	3,281
Angola	2,793	3,207	4,405
Russia	—	4,055	4,616

19. Income and Other Taxes

Income tax expense (benefit) (millions of dollars)	2022			2021			2020		
	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total	U.S.	Non-U.S.	Total
Federal and non-U.S.									
Current	696	15,071	15,767	236	6,948	7,184	262	2,908	3,170
Deferred - net	4,122	(539)	3,583	870	(914)	(44)	(6,045)	(2,007)	(8,052)
U.S. tax on non-U.S. operations	65	—	65	26	—	26	13	—	13
Total federal and non-U.S.	4,883	14,532	19,415	1,132	6,034	7,166	(5,770)	901	(4,869)
State	761	—	761	470	—	470	(763)	—	(763)
Total income tax expense (benefit)	5,644	14,532	20,176	1,602	6,034	7,636	(6,533)	901	(5,632)
All other taxes and duties									
Other taxes and duties	4,087	23,832	27,919	3,731	26,508	30,239	3,108	23,014	26,122
Included in production and manufacturing expenses	2,204	862	3,066	1,589	674	2,263	1,148	663	1,811
Included in SG&A expenses	151	319	470	170	283	453	164	328	492
Total other taxes and duties	6,442	25,013	31,455	5,490	27,465	32,955	4,420	24,005	28,425
Total	12,086	39,545	51,631	7,092	33,499	40,591	(2,113)	24,906	22,793

The above provisions for deferred income taxes include net expenses of \$30 million in 2022, and net benefits of \$53 million in 2021, and \$25 million in 2020 related to changes in tax laws and rates, and a benefit of \$6.3 billion in 2020 related to asset impairments.

Additional European Taxes on the Energy Sector. On October 6, 2022, European Union (“EU”) Member States adopted an EU Council Regulation which, along with other measures, introduced a new tax described as an emergency intervention to address high energy prices. This regulation imposed a mandatory tax on certain companies active in the crude petroleum, coal, natural gas, and refinery sectors. The regulation required Member States to levy a minimum 33 percent tax on in-scope companies’ 2022 and/or 2023 “surplus profits”, defined in the regulation as taxable profits exceeding 120 percent of the annual average profits during the 2018-2021 period. EU Member States were required to implement the tax, or an equivalent national measure, by December 31, 2022. The enactment of these regulations resulted in an after-tax charge of approximately \$1.8 billion to the Corporation’s fourth-quarter 2022 results, mainly reflected in the line “Income tax expense (benefit)” on the Consolidated Statement of Income.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The reconciliation between income tax expense (credit) and a theoretical U.S. tax computed by applying a rate of 21 percent for 2022, 2021, and 2020 is as follows:

<i>(millions of dollars)</i>	2022	2021	2020
Income (loss) before income taxes			
United States	28,281	9,478	(27,704)
Non-U.S.	49,472	21,756	(1,179)
Total	77,753	31,234	(28,883)
Theoretical tax	16,328	6,559	(6,065)
Effect of equity method of accounting	(2,407)	(1,398)	(364)
Non-U.S. taxes in excess of/(less than) theoretical U.S. tax ⁽¹⁾⁽²⁾	6,423	2,809	1,606
State taxes, net of federal tax benefit ⁽¹⁾	601	371	(603)
Other	(769)	(705)	(206)
Total income tax expense (credit)	20,176	7,636	(5,632)
Effective tax rate calculation			
Income tax expense (credit)	20,176	7,636	(5,632)
ExxonMobil share of equity company income taxes	7,594	2,756	861
Total income tax expense (credit)	27,770	10,392	(4,771)
Net income (loss) including noncontrolling interests	57,577	23,598	(23,251)
Total income (loss) before taxes	85,347	33,990	(28,022)
Effective income tax rate	33%	31%	17%

⁽¹⁾ 2020 includes the impact of an increase in valuation allowance of \$647 million in non-U.S. and \$115 million in U.S. state jurisdictions.

⁽²⁾ 2022 includes the impact of the additional European taxes on the energy sector of \$1,825 million.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Deferred income taxes reflect the impact of temporary differences between the amount of assets and liabilities recognized for financial reporting purposes and such amounts recognized for tax purposes.

Deferred tax liabilities/(assets) are comprised of the following at December 31:

Tax effects of temporary differences for: <i>(millions of dollars)</i>	2022	2021
Property, plant and equipment	25,607	27,888
Other liabilities	7,401	6,353
Total deferred tax liabilities	33,008	34,241
Pension and other postretirement benefits	(1,754)	(3,687)
Asset retirement obligations	(3,045)	(2,865)
Tax loss carryforwards	(4,862)	(6,914)
Other assets	(6,948)	(7,694)
Total deferred tax assets	(16,609)	(21,160)
Asset valuation allowances	2,650	2,634
Net deferred tax liabilities	19,049	15,715

In 2022, asset valuation allowances of \$2,650 million increased by \$16 million and included net provisions of \$202 million and foreign currency effects of \$186 million.

Balance sheet classification <i>(millions of dollars)</i>	2022	2021
Other assets, including intangibles, net	(3,825)	(4,450)
Deferred income tax liabilities	22,874	20,165
Net deferred tax liabilities	19,049	15,715

The Corporation's undistributed earnings from subsidiary companies outside the United States include amounts that have been retained to fund prior and future capital project expenditures. Deferred income taxes have not been recorded for potential future tax obligations, such as foreign withholding tax and state tax, as these undistributed earnings are expected to be indefinitely reinvested for the foreseeable future. As of December 31, 2022, it is not practicable to estimate the unrecognized deferred tax liability. However, unrecognized deferred taxes on remittance of these funds are not expected to be material.

Unrecognized Tax Benefits. The Corporation is subject to income taxation in many jurisdictions around the world. The benefits of uncertain tax positions that the Corporation has taken or expects to take in its income tax returns are recognized in the financial statements if management concludes that it is more likely than not that the position will be sustained with the tax authorities. For a position that is likely to be sustained, the benefit recognized in the financial statements is measured at the largest amount that is greater than 50 percent likely of being realized. Unrecognized tax benefits reflect the difference between positions taken or expected to be taken on income tax returns and the amounts recognized in the financial statements. The following table summarizes the movement in unrecognized tax benefits:

Gross unrecognized tax benefits <i>(millions of dollars)</i>	2022	2021	2020
Balance at January 1	9,130	8,764	8,844
Additions based on current year's tax positions	539	358	253
Additions for prior years' tax positions	294	100	218
Reductions for prior years' tax positions	(6,243)	(79)	(201)
Reductions due to lapse of the statute of limitations	(16)	(2)	(237)
Settlements with tax authorities	(277)	(11)	(113)
Foreign exchange effects/other	(29)	—	—
Balance at December 31	3,398	9,130	8,764

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The gross unrecognized tax benefit balances are predominantly related to tax positions that would reduce the Corporation's effective tax rate if the positions are favorably resolved. Unfavorable resolution of these tax positions generally would not increase the effective tax rate. The 2022, 2021, and 2020 changes in unrecognized tax benefits did not have a material effect on the Corporation's net income.

Resolution of these tax positions through negotiations with the relevant tax authorities or through litigation will take many years to complete. It is difficult to predict the timing of resolution for these tax positions since the timing is not entirely within the control of the Corporation. In the United States, the Corporation filed a refund suit for tax years 2006-2009 with respect to positions at issue for those years. These positions were reflected in the 2021 unrecognized tax benefit table. The IRS asserted penalties associated with several of those positions. The Corporation did not recognize those penalties as an expense because it did not expect the penalties to be sustained in litigation. On August 3, 2022, the Corporation received an adverse ruling on the tax positions and a favorable ruling on the related penalties from the U.S. Court of Appeals for the Fifth Circuit. Neither the Corporation nor the government appealed the ruling. As a result of this litigation, the tax positions that were at issue are not reflected in the ending balance of the 2022 unrecognized tax benefits table. The Corporation has various U.S. federal income tax positions at issue with the Internal Revenue Service (IRS) for tax years beginning in 2010. Unfavorable resolution of these issues would not have a material adverse effect on the Corporation's operations or financial condition.

It is reasonably possible that the total amount of unrecognized tax benefits could increase by up to 20 percent or decrease by up to 10 percent in the next 12 months.

The following table summarizes the tax years that remain subject to examination by major tax jurisdiction:

Country of Operation	Open Tax Years	
Abu Dhabi	2021	— 2022
Angola	2018	— 2022
Australia	2010	— 2022
Belgium	2017	— 2022
Canada	2001	— 2022
Equatorial Guinea	2009	— 2022
Indonesia	2008	— 2022
Iraq	2017	— 2022
Malaysia	2018	— 2022
Nigeria	2006	— 2022
Papua New Guinea	2008	— 2022
United Kingdom	2015	— 2022
United States	2010	— 2022

The Corporation classifies interest on income tax-related balances as interest expense or interest income and classifies tax-related penalties as operating expense.

For 2022 and 2021 the Corporation's net interest expense on income tax reserves was \$16 million and \$0 million, respectively. For 2020, the Corporation's net interest expense was a credit of \$6 million. The related interest payable balances were \$63 million and \$61 million at December 31, 2022 and 2021, respectively.

20. Divestment Activities

The Corporation realized proceeds of approximately \$5 billion and recognized net after-tax earnings of approximately \$0.4 billion from its divestment activities in 2022. This included the sale of certain unproved assets in Romania and unconventional assets in Canada and the United States, as well as other smaller divestments.

In August 2022, the Corporation executed an agreement for the sale of Mobil California Exploration and Producing Asset Company (United States), consisting of ExxonMobil's interest in the Aera Energy joint venture, to Green Gate Resources E, LLC. The transaction is anticipated to close in first quarter 2023.

In November 2022, the Corporation executed an agreement for the sale of the Santa Ynez Unit and associated assets in California. The agreement is subject to certain conditions precedent and government approvals and does not yet meet held-for-sale criteria under ASC 360. Should the conditions precedent be met and the potential transaction close, the Corporation would expect to recognize a loss of up to \$2 billion.

In February 2022, the Corporation signed an agreement with Seplat Energy Offshore Limited for the sale of Mobil Producing Nigeria Unlimited. The agreement is subject to certain conditions precedent and government approvals. In early July, a Nigerian court issued an order to halt transition activities and enter into arbitration with the Nigerian National Petroleum Company. The closing date and any loss on sale will depend on resolution of these matters.

SUPPLEMENTAL INFORMATION ON OIL AND GAS EXPLORATION AND PRODUCTION ACTIVITIES (unaudited)

The results of operations for producing activities shown below do not include earnings from other activities that ExxonMobil includes in the Upstream function, such as oil and gas transportation operations, LNG liquefaction and transportation operations, coal and power operations, technical service agreements, gains and losses from derivative activity, other nonoperating activities and adjustments for noncontrolling interests. These excluded amounts for both consolidated and equity companies totaled \$4,802 million in 2022, \$(1,380) million in 2021 and \$274 million in 2020. Oil sands mining operations are included in the results of operations in accordance with Securities and Exchange Commission and Financial Accounting Standards Board rules.

Results of Operations <i>(millions of dollars)</i>	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total
2022							
Consolidated Subsidiaries							
Sales to third parties	8,801	4,401	2,388	463	2,710	6,222	24,985
Transfers	17,020	12,568	60	8,634	12,274	996	51,552
Revenue	25,821	16,969	2,448	9,097	14,984	7,218	76,537
Production costs excluding taxes	3,965	5,519	464	1,965	1,492	513	13,918
Exploration expenses	18	698	28	168	51	62	1,025
Depreciation and depletion	5,472	3,700	193	2,293	5,672	829	18,159
Taxes other than income	2,314	120	140	729	2,312	689	6,304
Related income tax	3,294	1,112	1,048	2,004	6,008	1,549	15,015
Results of producing activities for consolidated subsidiaries	10,758	5,820	575	1,938	(551)	3,576	22,116
Equity Companies							
Sales to third parties	820	—	2,791	10	20,750	—	24,371
Transfers	640	—	51	—	316	—	1,007
Revenue	1,460	—	2,842	10	21,066	—	25,378
Production costs excluding taxes	667	—	607	21	379	—	1,674
Exploration expenses	—	—	1	—	—	—	1
Depreciation and depletion	280	—	48	1	717	—	1,046
Taxes other than income	37	—	232	—	6,857	—	7,126
Related income tax	—	—	1,413	(2)	4,559	—	5,970
Results of producing activities for equity companies	476	—	541	(10)	8,554	—	9,561
Total results of operations	11,234	5,820	1,116	1,928	8,003	3,576	31,677

Results of Operations <i>(millions of dollars)</i>	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total
2021							
Consolidated Subsidiaries							
Sales to third parties	5,797	2,480	1,628	253	2,110	3,182	15,450
Transfers	10,938	8,492	412	6,087	8,829	812	35,570
Revenue	16,735	10,972	2,040	6,340	10,939	3,994	51,020
Production costs excluding taxes	3,436	4,867	754	1,759	1,471	481	12,768
Exploration expenses	19	464	26	359	146	40	1,054
Depreciation and depletion	6,185	2,690	408	2,799	1,965	1,002	15,049
Taxes other than income	1,367	113	11	490	1,258	423	3,662
Related income tax	1,276	55	235	311	3,858	610	6,345
Results of producing activities for consolidated subsidiaries	4,452	2,783	606	622	2,241	1,438	12,142
Equity Companies							
Sales to third parties	620	—	1,332	—	12,239	—	14,191
Transfers	479	—	33	—	151	—	663
Revenue	1,099	—	1,365	—	12,390	—	14,854
Production costs excluding taxes	538	—	1,065	11	413	—	2,027
Exploration expenses	—	—	2	—	—	—	2
Depreciation and depletion	509	—	194	—	611	—	1,314
Taxes other than income	33	—	48	—	3,749	—	3,830
Related income tax	—	—	13	3	2,652	—	2,668
Results of producing activities for equity companies	19	—	43	(14)	4,965	—	5,013
Total results of operations	4,471	2,783	649	608	7,206	1,438	17,155
2020							
Consolidated Subsidiaries							
Sales to third parties	2,933	1,034	536	262	1,632	1,983	8,380
Transfers	4,943	3,938	362	4,603	5,584	509	19,939
Revenue	7,876	4,972	898	4,865	7,216	2,492	28,319
Production costs excluding taxes	3,877	3,928	786	1,911	1,471	483	12,456
Exploration expenses	51	573	33	371	112	145	1,285
Depreciation and depletion	27,489	5,118	828	2,788	2,171	733	39,127
Taxes other than income	615	106	32	390	692	152	1,987
Related income tax	(5,650)	(944)	(343)	(258)	2,130	241	(4,824)
Results of producing activities for consolidated subsidiaries	(18,506)	(3,809)	(438)	(337)	640	738	(21,712)
Equity Companies							
Sales to third parties	410	—	513	—	6,289	—	7,212
Transfers	308	—	12	—	60	—	380
Revenue	718	—	525	—	6,349	—	7,592
Production costs excluding taxes	500	—	674	6	421	—	1,601
Exploration expenses	—	—	2	—	—	—	2
Depreciation and depletion	605	—	224	—	543	—	1,372
Taxes other than income	34	—	22	—	2,274	—	2,330
Related income tax	—	—	(246)	(1)	1,126	—	879
Results of producing activities for equity companies	(421)	—	(151)	(5)	1,985	—	1,408
Total results of operations	(18,927)	(3,809)	(589)	(342)	2,625	738	(20,304)

Oil and Gas Exploration and Production Costs

The amounts shown for net capitalized costs of consolidated subsidiaries are \$10,785 million less at year-end 2022 and \$12,005 million less at year-end 2021 than the amounts reported as investments in property, plant and equipment for the Upstream in Note 9. This is due to the exclusion from capitalized costs of certain transportation and research assets and assets relating to LNG operations. Assets related to oil sands and oil shale mining operations are included in the capitalized costs in accordance with Financial Accounting Standards Board rules.

Capitalized Costs (millions of dollars)	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total
As of December 31, 2022							
Consolidated Subsidiaries							
Property (acreage) costs							
– Proved	15,547	3,427	9	1,510	3,023	695	24,211
– Unproved	13,797	3,011	37	119	5	2,659	19,628
Total property costs	29,344	6,438	46	1,629	3,028	3,354	43,839
Producing assets	96,209	49,923	12,156	53,164	45,405	14,296	271,153
Incomplete construction	4,169	7,774	172	1,404	3,043	2,276	18,838
Total capitalized costs	129,722	64,135	12,374	56,197	51,476	19,926	333,830
Accumulated depreciation and depletion	72,686	25,852	11,752	48,606	32,025	9,548	200,469
Net capitalized costs for consolidated subsidiaries	57,036	38,283	622	7,591	19,451	10,378	133,361
Equity Companies							
Property (acreage) costs							
– Proved	99	—	3	309	—	—	411
– Unproved	2	—	—	3,111	—	—	3,113
Total property costs	101	—	3	3,420	—	—	3,524
Producing assets	6,882	—	5,243	281	10,177	—	22,583
Incomplete construction	160	—	35	550	11,709	—	12,454
Total capitalized costs	7,143	—	5,281	4,251	21,886	—	38,561
Accumulated depreciation and depletion	4,512	—	4,934	—	7,171	—	16,617
Net capitalized costs for equity companies	2,631	—	347	4,251	14,715	—	21,944
As of December 31, 2021							
Consolidated Subsidiaries							
Property (acreage) costs							
– Proved	18,353	3,844	10	1,422	2,994	730	27,353
– Unproved	21,146	6,231	37	119	5	2,675	30,213
Total property costs	39,499	10,075	47	1,541	2,999	3,405	57,566
Producing assets	101,211	52,092	14,420	56,168	44,228	14,944	283,063
Incomplete construction	4,125	7,047	889	1,428	2,888	2,044	18,421
Total capitalized costs	144,835	69,214	15,356	59,137	50,115	20,393	359,050
Accumulated depreciation and depletion	86,830	28,428	13,790	49,312	26,519	9,225	214,104
Net capitalized costs for consolidated subsidiaries	58,005	40,786	1,566	9,825	23,596	11,168	144,946
Equity Companies							
Property (acreage) costs							
– Proved	98	—	4	309	—	—	411
– Unproved	4	—	—	3,111	—	—	3,115
Total property costs	102	—	4	3,420	—	—	3,526
Producing assets	6,946	—	5,487	—	8,676	—	21,109
Incomplete construction	103	—	23	809	11,716	—	12,651
Total capitalized costs	7,151	—	5,514	4,229	20,392	—	37,286
Accumulated depreciation and depletion	4,304	—	5,162	—	6,590	—	16,056
Net capitalized costs for equity companies	2,847	—	352	4,229	13,802	—	21,230

Oil and Gas Exploration and Production Costs (continued)

The amounts reported as costs incurred include both capitalized costs and costs charged to expense during the year. Costs incurred also include new asset retirement obligations established in the current year, as well as increases or decreases to the asset retirement obligation resulting from changes in cost estimates or abandonment date. Total consolidated costs incurred in 2022 were \$14,513 million, up \$4,636 million from 2021, due primarily to higher development costs. In 2021, costs were \$9,877 million, down \$1,377 million from 2020, due primarily to lower development costs, partially offset by higher acquisition costs of unproved properties. Total equity company costs incurred in 2022 were \$1,769 million, up \$318 million from 2021, due to higher development costs.

Costs Incurred in Property Acquisitions, Exploration and Development Activities (millions of dollars)		United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total
During 2022								
Consolidated Subsidiaries								
Property acquisition costs	– Proved	10	11	—	151	32	—	204
	– Unproved	19	—	—	—	—	7	26
Exploration costs		27	736	71	145	38	62	1,079
Development costs		5,821	4,759	161	533	1,490	440	13,204
Total costs incurred for consolidated subsidiaries		5,877	5,506	232	829	1,560	509	14,513
Equity Companies								
Property acquisition costs	– Proved	—	—	—	—	—	—	—
	– Unproved	—	—	—	—	—	—	—
Exploration costs		—	—	1	—	—	—	1
Development costs		95	—	13	22	1,638	—	1,768
Total costs incurred for equity companies		95	—	14	22	1,638	—	1,769
During 2021								
Consolidated Subsidiaries								
Property acquisition costs	– Proved	37	—	—	90	15	—	142
	– Unproved	78	575	—	—	—	35	688
Exploration costs		19	903	46	185	47	40	1,240
Development costs		3,352	2,619	207	389	805	435	7,807
Total costs incurred for consolidated subsidiaries		3,486	4,097	253	664	867	510	9,877
Equity Companies								
Property acquisition costs	– Proved	—	—	—	—	—	—	—
	– Unproved	—	—	—	—	—	—	—
Exploration costs		—	—	1	—	—	—	1
Development costs		8	—	20	88	1,334	—	1,450
Total costs incurred for equity companies		8	—	21	88	1,334	—	1,451
During 2020								
Consolidated Subsidiaries								
Property acquisition costs	– Proved	1	30	—	344	7	—	382
	– Unproved	80	3	—	47	—	—	130
Exploration costs		60	702	40	232	110	83	1,227
Development costs		5,675	2,059	316	(239)	974	730	9,515
Total costs incurred for consolidated subsidiaries		5,816	2,794	356	384	1,091	813	11,254
Equity Companies								
Property acquisition costs	– Proved	—	—	—	—	—	—	—
	– Unproved	—	—	—	—	—	—	—
Exploration costs		—	—	2	—	—	—	2
Development costs		135	—	20	71	1,784	—	2,010
Total costs incurred for equity companies		135	—	22	71	1,784	—	2,012

Oil and Gas Reserves

The following information describes changes during the years and balances of proved oil and gas reserves at year-end 2020, 2021, and 2022.

The definitions used are in accordance with the Securities and Exchange Commission's Rule 4-10 (a) of Regulation S-X.

Proved oil and natural gas reserves are those quantities of oil and natural gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible – from a given date forward, from known reservoirs, and under existing economic conditions, operating methods and government regulations – prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain. In some cases, substantial new investments in additional wells and related facilities will be required to recover these proved reserves.

In accordance with the Securities and Exchange Commission's (SEC) rules, the Corporation's year-end reserves volumes as well as the reserves change categories shown in the following tables are required to be calculated on the basis of average prices during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period. These reserves quantities are also used in calculating unit-of-production depreciation rates and in calculating the standardized measure of discounted net cash flows.

Revisions can include upward or downward changes in previously estimated volumes of proved reserves for existing fields due to the evaluation or re-evaluation of (1) already available geologic, reservoir or production data, (2) new geologic, reservoir or production data or (3) changes in the average of first-of-month oil and natural gas prices and/or costs that are used in the estimation of reserves. Revisions can also result from significant changes in either development strategy or production equipment/facility capacity.

Proved reserves include 100 percent of each majority-owned affiliate's participation in proved reserves and ExxonMobil's ownership percentage of the proved reserves of equity companies, but exclude royalties and quantities due others. Natural gas reserves exclude the gaseous equivalent of liquids expected to be removed from the natural gas on leases, at field facilities and at gas processing plants. These liquids are included in net proved reserves of crude oil and natural gas liquids.

In the proved reserves tables, consolidated reserves and equity company reserves are reported separately. However, the Corporation does not view equity company reserves any differently than those from consolidated companies.

Reserves reported under production sharing and other nonconcessionary agreements are based on the economic interest as defined by the specific fiscal terms in the agreement. The production and reserves reported for these types of arrangements typically vary inversely with oil and natural gas price changes. As oil and natural gas prices increase, the cash flow and value received by the company increase; however, the production volumes and reserves required to achieve this value will typically be lower because of the higher prices. When prices decrease, the opposite effect generally occurs. The percentage of total proved reserves (consolidated subsidiaries plus equity companies) at year-end 2022 that were associated with production sharing contract arrangements was 12 percent on an oil-equivalent basis (natural gas is converted to an oil-equivalent basis at six billion cubic feet per one million barrels).

Net proved developed reserves are those volumes that are expected to be recovered through existing wells with existing equipment and operating methods or in which the cost of the required equipment is relatively minor compared to the cost of a new well. Net proved undeveloped reserves are those volumes that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

Crude oil, natural gas liquids, and natural gas production quantities shown are the net volumes withdrawn from ExxonMobil's oil and natural gas reserves. The natural gas quantities differ from the quantities of natural gas delivered for sale by the producing function as reported in the Upstream Operational Results due to volumes consumed or flared and inventory changes.

The changes between 2022 year-end proved reserves and 2021 year-end proved reserves include worldwide production of 1.4 billion oil-equivalent barrels (GOEB), asset sales of 0.4 GOEB primarily in the United States, and other downward revisions of 1.2 GOEB including the impact of the Russia expropriation (0.2 GOEB). Additions to proved reserves include 0.7 GOEB from purchases in Asia and 1.4 GOEB from extensions and discoveries primarily in the United States and Guyana.

The changes between 2021 year-end proved reserves and 2020 year-end proved reserves reflect upward revisions of 2.4 billion barrels of bitumen at Kearl and 0.5 billion barrels of bitumen at Cold Lake, primarily as a result of improved prices. In addition, extensions and discoveries of approximately 1.3 GOEB occurred primarily in the United States (0.9 GOEB), Brazil (0.2 GOEB) and Guyana (0.1 GOEB). Worldwide production in 2021 was 1.4 GOEB.

The downward revisions in 2020, primarily as a result of low prices during 2020, include 3.1 billion barrels of bitumen at Kearl, 0.6 billion barrels of bitumen at Cold Lake, and 0.5 GOEB in the United States. In addition, the Corporation's near-term reduction in capital expenditures resulted in a net reduction to estimates of proved reserves of approximately 1.5 GOEB, mainly related to unconventional drilling in the United States.

Crude Oil, Natural Gas Liquids, Bitumen and Synthetic Oil Proved Reserves

	Crude Oil							Natural Gas Liquids	Bitumen	Synthetic Oil	
(millions of barrels)	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total	Worldwide	Canada/ Other Americas	Canada/ Other Americas	Total
Net proved developed and undeveloped reserves of consolidated subsidiaries											
January 1, 2020	3,088	557	39	447	3,335	94	7,560	1,275	3,858	415	13,108
Revisions	(1,139)	(14)	(9)	19	(20)	(10)	(1,173)	(209)	(3,653)	(79)	(5,114)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	—	—	—	—	—	—	—
Sales	(1)	(2)	—	—	—	—	(3)	(3)	—	—	(6)
Extensions/discoveries	187	1	—	—	—	—	188	65	1	133	387
Production	(176)	(45)	(8)	(110)	(165)	(10)	(514)	(74)	(125)	(25)	(738)
December 31, 2020	1,959	497	22	356	3,150	74	6,058	1,054	81	444	7,637
Attributable to noncontrolling interests		7						1	25	135	
Proportional interest in proved reserves of equity companies											
January 1, 2020	251	—	14	6	897	—	1,168	322	—	—	1,490
Revisions	(102)	—	(4)	—	4	—	(102)	(22)	—	—	(124)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	—	—	—	—	—	—	—
Sales	—	—	—	—	—	—	—	—	—	—	—
Extensions/discoveries	—	—	—	—	—	—	—	—	—	—	—
Production	(18)	—	(1)	—	(76)	—	(95)	(23)	—	—	(118)
December 31, 2020	131	—	9	6	825	—	971	277	—	—	1,248
Total liquids proved reserves at December 31, 2020	2,090	497	31	362	3,975	74	7,029	1,331	81	444	8,885
Net proved developed and undeveloped reserves of consolidated subsidiaries											
January 1, 2021	1,959	497	22	356	3,150	74	6,058	1,054	81	444	7,637
Revisions	47	(2)	15	67	36	10	173	4	2,944	17	3,138
Improved recovery	—	—	—	—	—	—	—	—	2	—	2
Purchases	5	—	—	—	—	—	5	1	—	—	6
Sales	(27)	(8)	(28)	—	—	—	(63)	(20)	—	—	(83)
Extensions/discoveries	499	329	—	—	—	—	828	183	—	—	1,011
Production	(176)	(47)	(6)	(88)	(149)	(10)	(476)	(86)	(133)	(23)	(718)
December 31, 2021	2,307	769	3	335	3,037	74	6,525	1,136	2,894	438	10,993
Attributable to noncontrolling interests		9						1	674	133	
Proportional interest in proved reserves of equity companies											
January 1, 2021	131	—	9	6	825	—	971	277	—	—	1,248
Revisions	38	—	2	(1)	(8)	—	31	15	—	—	46
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	—	—	—	—	—	—	—
Sales	—	—	—	—	—	—	—	—	—	—	—
Extensions/discoveries	2	—	—	—	—	—	2	—	—	—	2
Production	(16)	—	(1)	—	(76)	—	(93)	(22)	—	—	(115)
December 31, 2021	155	—	10	5	741	—	911	270	—	—	1,181
Total liquids proved reserves at December 31, 2021	2,462	769	13	340	3,778	74	7,436	1,406	2,894	438	12,174

Crude Oil, Natural Gas Liquids, Bitumen and Synthetic Oil Proved Reserves (continued)

	Crude Oil							Natural Gas Liquids	Bitumen	Synthetic Oil	
(millions of barrels)	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total	Worldwide	Canada/ Other Americas	Canada/ Other Americas	Total
Net proved developed and undeveloped reserves of consolidated subsidiaries											
January 1, 2022	2,307	769	3	335	3,037	74	6,525	1,136	2,894	438	10,993
Revisions ⁽¹⁾	(375)	52	3	38	(95)	2	(375)	(85)	(422)	(62)	(944)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Purchases	1	—	—	—	—	—	1	—	—	—	1
Sales	(3)	(12)	—	(17)	—	—	(32)	(20)	—	—	(52)
Extensions/discoveries	465	208	—	—	—	—	673	235	67	—	975
Production	(191)	(72)	(1)	(85)	(148)	(10)	(507)	(90)	(119)	(23)	(739)
December 31, 2022	2,204	945	5	271	2,794	66	6,285	1,176	2,420	353	10,234
Attributable to noncontrolling interests		14							554	107	
Proportional interest in proved reserves of equity companies											
January 1, 2022	155	—	10	5	741	—	911	270	—	—	1,181
Revisions	(21)	—	(7)	—	(17)	—	(45)	(10)	—	—	(55)
Improved recovery	—	—	—	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	110	—	110	117	—	—	227
Sales	—	—	—	—	—	—	—	—	—	—	—
Extensions/discoveries	—	—	—	—	—	—	—	—	—	—	—
Production	(15)	—	(1)	—	(78)	—	(94)	(22)	—	—	(116)
December 31, 2022	119	—	2	5	756	—	882	355	—	—	1,237
Total liquids proved reserves at December 31, 2022	2,323	945	7	276	3,550	66	7,167	1,531	2,420	353	11,471

⁽¹⁾ Includes (118) million barrels in Russia which were expropriated. See Note 2: Russia.

Crude Oil, Natural Gas Liquids, Bitumen and Synthetic Oil Proved Reserves (continued)

(millions of barrels)	Crude Oil and Natural Gas Liquids							Bitumen	Synthetic Oil	Total
	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total	Canada/ Other Americas	Canada/ Other Americas	
As of December 31, 2020										
Proved developed reserves										
Consolidated subsidiaries	1,473	293	13	345	2,299	67	4,490	76	311	4,877
Equity companies	111	—	8	—	646	—	765	—	—	765
Proved undeveloped reserves										
Consolidated subsidiaries	1,342	209	16	42	975	38	2,622	5	133	2,760
Equity companies	24	—	1	6	452	—	483	—	—	483
Total liquids proved reserves at December 31, 2020	2,950	502	38	393	4,372	105	8,360	81	444	8,885
As of December 31, 2021										
Proved developed reserves										
Consolidated subsidiaries	1,663	268	3	330	2,154	63	4,481	2,635	326	7,442
Equity companies	133	—	10	—	474	—	617	—	—	617
Proved undeveloped reserves										
Consolidated subsidiaries	1,621	508	—	31	988	32	3,180	259	112	3,551
Equity companies	28	—	—	5	531	—	564	—	—	564
Total liquids proved reserves at December 31, 2021	3,445	776	13	366	4,147	95	8,842	2,894	438	12,174
As of December 31, 2022										
Proved developed reserves										
Consolidated subsidiaries	1,688	378	5	259	2,067	50	4,447	2,288	248	6,983
Equity companies	126	—	2	5	360	—	493	—	—	493
Proved undeveloped reserves										
Consolidated subsidiaries	1,568	568	—	35	813	30	3,014	132	105	3,251
Equity companies	—	—	—	—	744	—	744	—	—	744
Total liquids proved reserves at December 31, 2022	3,382	946	7	299	3,984	80	8,698 ⁽¹⁾	2,420	353	11,471

⁽¹⁾ See previous pages for natural gas liquids proved reserves attributable to consolidated subsidiaries and equity companies. For additional information on natural gas liquids proved reserves see Item 2. Properties in ExxonMobil's 2022 Form 10-K.

Natural Gas and Oil-Equivalent Proved Reserves

	Natural Gas (billions of cubic feet)							Oil-Equivalent Total All Products ^(a)
	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total	(millions of oil- equivalent barrels)
Net proved developed and undeveloped reserves of consolidated subsidiaries								
January 1, 2020	19,026	1,466	621	377	4,433	7,001	32,924	18,596
Revisions	(4,904)	(753)	(4)	(23)	245	(405)	(5,844)	(6,088)
Improved recovery	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	—	—	—	—
Sales	(35)	(30)	—	—	—	—	(65)	(17)
Extensions/discoveries	433	1	1	—	—	—	435	459
Production	(1,081)	(123)	(177)	(34)	(369)	(462)	(2,246)	(1,113)
December 31, 2020	13,439	561	441	320	4,309	6,134	25,204	11,837
Attributable to noncontrolling interests		84						
Proportional interest in proved reserves of equity companies								
January 1, 2020	213	—	581	908	12,454	—	14,156	3,849
Revisions	(99)	—	(95)	9	(106)	—	(291)	(172)
Improved recovery	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	—	—	—	—
Sales	—	—	—	—	—	—	—	—
Extensions/discoveries	—	—	—	—	—	—	—	—
Production	(12)	—	(126)	—	(971)	—	(1,109)	(303)
December 31, 2020	102	—	360	917	11,377	—	12,756	3,374
Total proved reserves at December 31, 2020	13,541	561	801	1,237	15,686	6,134	37,960	15,211
Net proved developed and undeveloped reserves of consolidated subsidiaries								
January 1, 2021	13,439	561	441	320	4,309	6,134	25,204	11,837
Revisions	1,432	305	210	39	(276)	712	2,422	3,542
Improved recovery	—	—	—	—	—	—	—	2
Purchases	3	—	—	—	—	—	3	6
Sales	(164)	(18)	(120)	—	—	—	(302)	(134)
Extensions/discoveries	1,381	163	—	—	—	—	1,544	1,269
Production	(1,103)	(92)	(148)	(42)	(340)	(483)	(2,208)	(1,086)
December 31, 2021	14,988	919	383	317	3,693	6,363	26,663	15,436
Attributable to noncontrolling interests		124						
Proportional interest in proved reserves of equity companies								
January 1, 2021	102	—	360	917	11,377	—	12,756	3,374
Revisions	44	—	206	(111)	(236)	—	(97)	30
Improved recovery	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	—	—	—	—
Sales	—	—	—	—	—	—	—	—
Extensions/discoveries	5	—	—	—	—	—	5	3
Production	(11)	—	(158)	—	(983)	—	(1,152)	(307)
December 31, 2021	140	—	408	806	10,158	—	11,512	3,100
Total proved reserves at December 31, 2021	15,128	919	791	1,123	13,851	6,363	38,175	18,536

⁽¹⁾ Natural gas is converted to an oil-equivalent basis at six billion cubic feet per one million barrels.

Natural Gas and Oil-Equivalent Proved Reserves (continued)

	Natural Gas (billions of cubic feet)							Oil-Equivalent Total All Products ⁽¹⁾ (millions of oil-equivalent barrels)
	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total	
Net proved developed and undeveloped reserves of consolidated subsidiaries								
January 1, 2022	14,988	919	383	317	3,693	6,363	26,663	15,436
Revisions ⁽²⁾	(990)	(38)	149	49	(307)	187	(950)	(1,102)
Improved recovery	—	—	—	—	—	—	—	—
Purchases	2	—	—	—	—	—	2	1
Sales	(1,551)	(272)	—	(1)	—	—	(1,824)	(356)
Extensions/discoveries	2,232	175	—	—	—	—	2,407	1,376
Production	(1,036)	(76)	(119)	(53)	(325)	(542)	(2,151)	(1,097)
December 31, 2022	13,645	708	413	312	3,061	6,008	24,147	14,258
Attributable to noncontrolling interests		77						
Proportional interest in proved reserves of equity companies								
January 1, 2022	140	—	408	806	10,158	—	11,512	3,100
Revisions	(3)	—	104	(132)	29	—	(2)	(55)
Improved recovery	—	—	—	—	—	—	—	—
Purchases	—	—	—	—	3,101	—	3,101	744
Sales	—	—	—	—	—	—	—	—
Extensions/discoveries	—	—	—	—	—	—	—	—
Production	(10)	—	(132)	(11)	(979)	—	(1,132)	(305)
December 31, 2022	127	—	380	663	12,309	—	13,479	3,484
Total proved reserves at December 31, 2022	13,772	708	793	975	15,370	6,008	37,626	17,742

⁽¹⁾ Natural gas is converted to an oil-equivalent basis at six billion cubic feet per one million barrels.

⁽²⁾ Includes (199) billion cubic feet of natural gas and (152) million total oil-equivalent barrels in Russia which were expropriated. See Note 2: Russia.

Natural Gas and Oil-Equivalent Proved Reserves (continued)

Natural Gas and Oil-Equivalent Proved Reserves (continued)	Natural Gas (billions of cubic feet)							Oil-Equivalent Total All Products ^(a)
	United States	Canada/ Other Americas	Europe	Africa	Asia	Australia/ Oceania	Total	(millions of oil- equivalent barrels)
As of December 31, 2020								
Proved developed reserves								
Consolidated subsidiaries	10,375	472	399	318	3,323	3,344	18,231	7,915
Equity companies	83	—	293	—	8,992	—	9,368	2,326
Proved undeveloped reserves								
Consolidated subsidiaries	3,064	89	42	2	986	2,790	6,973	3,922
Equity companies	19	—	67	917	2,385	—	3,388	1,048
Total proved reserves at December 31, 2020	13,541	561	801	1,237	15,686	6,134	37,960	15,211
As of December 31, 2021								
Proved developed reserves								
Consolidated subsidiaries	11,287	574	377	315	2,527	3,513	18,593	10,540
Equity companies	117	—	339	—	6,017	—	6,473	1,696
Proved undeveloped reserves								
Consolidated subsidiaries	3,701	345	6	2	1,166	2,850	8,070	4,896
Equity companies	23	—	69	806	4,141	—	5,039	1,404
Total proved reserves at December 31, 2021	15,128	919	791	1,123	13,851	6,363	38,175	18,536
As of December 31, 2022								
Proved developed reserves								
Consolidated subsidiaries	9,577	371	408	307	2,037	3,162	15,862	9,627
Equity companies	127	—	326	663	5,020	—	6,136	1,516
Proved undeveloped reserves								
Consolidated subsidiaries	4,068	337	5	5	1,024	2,846	8,285	4,631
Equity companies	—	—	54	—	7,289	—	7,343	1,968
Total proved reserves at December 31, 2022	13,772	708	793	975	15,370	6,008	37,626	17,742

⁽¹⁾ Natural gas is converted to an oil-equivalent basis at six billion cubic feet per one million barrels.

Standardized Measure of Discounted Future Cash Flows

As required by the Financial Accounting Standards Board, the standardized measure of discounted future net cash flows is computed by applying first-day-of-the-month average prices, year-end costs and legislated tax rates, and a discount factor of 10 percent to net proved reserves. The standardized measure includes costs for future dismantlement, abandonment, and rehabilitation obligations. The Corporation believes the standardized measure does not provide a reliable estimate of the Corporation's expected future cash flows to be obtained from the development and production of its oil and gas properties or of the value of its proved oil and gas reserves. The standardized measure is prepared on the basis of certain prescribed assumptions including first-day-of-the-month average prices, which represent discrete points in time and therefore may cause significant variability in cash flows from year to year as prices change.

Standardized Measure of Discounted Future Cash Flows (millions of dollars)	United States	Canada/Other Americas ⁽¹⁾	Europe	Africa	Asia	Australia/Oceania	Total
As of December 31, 2020							
Consolidated Subsidiaries							
Future cash inflows from sales of oil and gas	93,520	38,193	2,734	15,411	138,080	19,794	307,732
Future production costs	53,635	19,971	1,815	6,527	42,378	3,188	127,514
Future development costs	27,668	10,991	4,244	6,223	13,432	7,580	70,138
Future income tax expenses	(2,509)	851	(1,121)	916	62,223	1,381	61,741
Future net cash flows	14,726	6,380	(2,204)	1,745	20,047	7,645	48,339
Effect of discounting net cash flows at 10%	8,564	1,116	(1,565)	(511)	10,557	3,624	21,785
Discounted future net cash flows	6,162	5,264	(639)	2,256	9,490	4,021	26,554
Equity Companies							
Future cash inflows from sales of oil and gas	5,304	—	1,511	740	63,105	—	70,660
Future production costs	3,467	—	694	247	29,170	—	33,578
Future development costs	2,243	—	1,054	163	9,929	—	13,389
Future income tax expenses	—	—	(115)	42	8,088	—	8,015
Future net cash flows	(406)	—	(122)	288	15,918	—	15,678
Effect of discounting net cash flows at 10%	(378)	—	(86)	258	7,443	—	7,237
Discounted future net cash flows	(28)	—	(36)	30	8,475	—	8,441
Total consolidated and equity interests in standardized measure of discounted future net cash flows	6,134	5,264	(675)	2,286	17,965	4,021	34,995

⁽¹⁾ Includes discounted future net cash flows attributable to noncontrolling interests in ExxonMobil consolidated subsidiaries of \$(150) million in 2020.

Standardized Measure of Discounted Future Cash Flows (continued) (millions of dollars)	United States	Canada/Other Americas ⁽¹⁾	Europe	Africa	Asia	Australia/Oceania	Total
As of December 31, 2021							
Consolidated Subsidiaries							
Future cash inflows from sales of oil and gas	217,023	209,711	4,322	24,812	211,255	69,015	736,138
Future production costs	63,464	111,468	1,142	7,700	55,241	14,880	253,895
Future development costs	29,941	31,736	2,113	5,921	14,519	7,286	91,516
Future income tax expenses	24,770	12,004	451	4,319	107,577	13,038	162,159
Future net cash flows	98,848	54,503	616	6,872	33,918	33,811	228,568
Effect of discounting net cash flows at 10%	50,524	25,793	(502)	739	17,383	18,751	112,688
Discounted future net cash flows	48,324	28,710	1,118	6,133	16,535	15,060	115,880
Equity Companies							
Future cash inflows from sales of oil and gas	10,607	—	5,889	4,553	146,845	—	167,894
Future production costs	5,005	—	785	261	49,810	—	55,861
Future development costs	2,340	—	1,137	62	8,317	—	11,856
Future income tax expenses	—	—	1,793	1,168	29,463	—	32,424
Future net cash flows	3,262	—	2,174	3,062	59,255	—	67,753
Effect of discounting net cash flows at 10%	1,553	—	683	1,868	25,710	—	29,814
Discounted future net cash flows	1,709	—	1,491	1,194	33,545	—	37,939
Total consolidated and equity interests in standardized measure of discounted future net cash flows	50,033	28,710	2,609	7,327	50,080	15,060	153,819
As of December 31, 2022							
Consolidated Subsidiaries							
Future cash inflows from sales of oil and gas	316,486	284,643	11,806	30,040	271,732	114,959	1,029,666
Future production costs	78,939	113,264	2,627	7,489	63,705	21,972	287,996
Future development costs	31,960	34,968	2,016	6,143	9,241	7,089	91,417
Future income tax expenses	45,278	31,603	3,164	8,300	156,595	24,955	269,895
Future net cash flows	160,309	104,808	3,999	8,108	42,191	60,943	380,358
Effect of discounting net cash flows at 10%	83,711	49,861	187	322	21,772	34,896	190,749
Discounted future net cash flows	76,598	54,947	3,812	7,786	20,419	26,047	189,609
Equity Companies							
Future cash inflows from sales of oil and gas	12,312	—	13,706	7,194	261,409	—	294,621
Future production costs	5,379	—	1,981	266	96,788	—	104,414
Future development costs	1,773	—	895	60	7,275	—	10,003
Future income tax expenses	—	—	5,262	1,965	51,838	—	59,065
Future net cash flows	5,160	—	5,568	4,903	105,508	—	121,139
Effect of discounting net cash flows at 10%	2,236	—	2,234	2,694	44,728	—	51,892
Discounted future net cash flows	2,924	—	3,334	2,209	60,780	—	69,247
Total consolidated and equity interests in standardized measure of discounted future net cash flows	79,522	54,947	7,146	9,995	81,199	26,047	258,856

⁽¹⁾ Includes discounted future net cash flows attributable to noncontrolling interests in ExxonMobil consolidated subsidiaries of \$3,666 million in 2021 and \$6,596 million in 2022.

Change in Standardized Measure of Discounted Future Net Cash Flows Relating to Proved Oil and Gas Reserves

Consolidated and Equity Interests (millions of dollars)	2020		
	Consolidated Subsidiaries	Share of Equity Method Investees	Total Consolidated and Equity Interests
Discounted future net cash flows as of December 31, 2019	67,500	22,416	89,916
Value of reserves added during the year due to extensions, discoveries, improved recovery and net purchases/sales less related costs	169	—	169
Changes in value of previous-year reserves due to:			
Sales and transfers of oil and gas produced during the year, net of production (lifting) costs	(15,048)	(3,818)	(18,866)
Development costs incurred during the year	9,969	1,760	11,729
Net change in prices, lifting and development costs	(80,444)	(21,739)	(102,183)
Revisions of previous reserves estimates	2,614	680	3,294
Accretion of discount	10,786	3,011	13,797
Net change in income taxes	31,008	6,131	37,139
Total change in the standardized measure during the year	(40,946)	(13,975)	(54,921)
Discounted future net cash flows as of December 31, 2020	26,554	8,441	34,995

Consolidated and Equity Interests (millions of dollars)	2021		
	Consolidated Subsidiaries	Share of Equity Method Investees	Total Consolidated and Equity Interests
Discounted future net cash flows as of December 31, 2020	26,554	8,441	34,995
Value of reserves added during the year due to extensions, discoveries, improved recovery and net purchases/sales less related costs	11,922	22	11,944
Changes in value of previous-year reserves due to:			
Sales and transfers of oil and gas produced during the year, net of production (lifting) costs	(35,813)	(9,948)	(45,761)
Development costs incurred during the year	7,033	1,563	8,596
Net change in prices, lifting and development costs	118,946	47,434	166,380
Revisions of previous reserves estimates	27,126	2,507	29,633
Accretion of discount	3,762	1,201	4,963
Net change in income taxes	(43,650)	(13,281)	(56,931)
Total change in the standardized measure during the year	89,326	29,498	118,824
Discounted future net cash flows as of December 31, 2021	115,880	37,939	153,819

Consolidated and Equity Interests (millions of dollars)	2022		
	Consolidated Subsidiaries	Share of Equity Method Investees	Total Consolidated and Equity Interests
Discounted future net cash flows as of December 31, 2021	115,880	37,939	153,819
Value of reserves added during the year due to extensions, discoveries, improved recovery and net purchases/sales less related costs	18,592	3,008	21,600
Changes in value of previous-year reserves due to:			
Sales and transfers of oil and gas produced during the year, net of production (lifting) costs	(57,344)	(17,037)	(74,381)
Development costs incurred during the year	11,834	1,849	13,683
Net change in prices, lifting and development costs	139,844	51,094	190,938
Revisions of previous reserves estimates	(1,985)	2,140	155
Accretion of discount	14,655	4,938	19,593
Net change in income taxes	(51,867)	(14,684)	(66,551)
Total change in the standardized measure during the year	73,729	31,308	105,037
Discounted future net cash flows as of December 31, 2022	189,609	69,247	258,856

INDEX TO EXHIBITS

Exhibit	Description
<u>3(i)</u>	Restated Certificate of Incorporation, as restated November 30, 1999, and as further amended effective June 20, 2001 (incorporated by reference to Exhibit 3(i) to the Registrant's Annual Report on Form 10-K for 2015).
<u>3(ii)</u>	By-Laws, as amended effective October 25, 2022 (incorporated by reference to Exhibit 3(ii) to the Registrant's Report on Form 8-K of October 31, 2022).
<u>4(vi)</u>	Description of ExxonMobil Capital Stock (incorporated by reference to Exhibit 4(vi) to the Registrant's Annual Report on Form 10-K for 2019).
<u>10(iii)(a.1)</u>	2003 Incentive Program, as approved by shareholders May 28, 2003 (incorporated by reference to Exhibit 10(iii)(a.1) to the Registrant's Annual Report on Form 10-K for 2017).*
<u>10(iii)(a.2)</u>	Extended Provisions for Restricted Stock Agreements (incorporated by reference to Exhibit 10(iii)(a.2) to the Registrant's Annual Report on Form 10-K for 2016).*
<u>10(iii)(a.3)</u>	Extended Provisions for Restricted Stock Unit Agreements – Settlement in Shares.*
<u>10(iii)(b.1)</u>	Short Term Incentive Program, as amended (incorporated by reference to Exhibit 10(iii)(b.1) to the Registrant's Annual Report on Form 10-K for 2018).*
<u>10(iii)(b.2)</u>	Earnings Bonus Unit instrument (incorporated by reference to Exhibit 10(iii)(b.2) to the Registrant's Annual Report on Form 10-K for 2019).*
<u>10(iii)(b.3)</u>	Amendment of 2018 and 2019 Earnings Bonus Unit instruments, effective November 23, 2021 (incorporated by reference to Exhibit 99.1 to the Registrant's Report on Form 8-K of November 30, 2021).*
<u>10(iii)(c.1)</u>	ExxonMobil Supplemental Savings Plan.*
<u>10(iii)(c.2)</u>	ExxonMobil Supplemental Pension Plan.*
<u>10(iii)(c.3)</u>	ExxonMobil Additional Payments Plan.*
<u>10(iii)(d)</u>	ExxonMobil Executive Life Insurance and Death Benefit Plan (incorporated by reference to Exhibit 10(iii)(d) to the Registrant's Annual Report on Form 10-K for 2016).*
<u>10(iii)(f.1)</u>	2004 Non-Employee Director Restricted Stock Plan (incorporated by reference to Exhibit 10(iii)(f.1) to the Registrant's Annual Report on Form 10-K for 2018).*
<u>10(iii)(f.2)</u>	Standing resolution for non-employee director restricted grants dated September 26, 2007 (incorporated by reference to Exhibit 10(iii)(f.2) to the Registrant's Annual Report on Form 10-K for 2016).*
<u>10(iii)(f.3)</u>	Form of restricted stock grant letter for non-employee directors.*
<u>10(iii)(f.4)</u>	Standing resolution for non-employee director cash fees dated March 1, 2020 (incorporated by reference to Exhibit 10(iii)(f.4) to the Registrant's Report on Form 10-Q for the quarter ended March 31, 2020).*
<u>14</u>	Code of Ethics and Business Conduct (incorporated by reference to Exhibit 14 to the Registrant's Annual Report on Form 10-K for 2017).
<u>21</u>	Subsidiaries of the registrant.
<u>23</u>	Consent of PricewaterhouseCoopers LLP, Independent Registered Public Accounting Firm.
<u>31.1</u>	Certification (pursuant to Securities Exchange Act Rule 13a-14(a)) by Chief Executive Officer.
<u>31.2</u>	Certification (pursuant to Securities Exchange Act Rule 13a-14(a)) by Chief Financial Officer.
<u>31.3</u>	Certification (pursuant to Securities Exchange Act Rule 13a-14(a)) by Principal Accounting Officer.
<u>32.1</u>	Section 1350 Certification (pursuant to Sarbanes-Oxley Section 906) by Chief Executive Officer.
<u>32.2</u>	Section 1350 Certification (pursuant to Sarbanes-Oxley Section 906) by Chief Financial Officer.
<u>32.3</u>	Section 1350 Certification (pursuant to Sarbanes-Oxley Section 906) by Principal Accounting Officer.
<u>101</u>	Interactive data files (formatted as Inline XBRL).
<u>104</u>	Cover page interactive data file (formatted as Inline XBRL and contained in Exhibit 101).

* Compensatory plan or arrangement required to be identified pursuant to Item 15(a)(3) of this Annual Report on Form 10-K.

The registrant has not filed with this report copies of the instruments defining the rights of holders of long-term debt of the registrant and its subsidiaries for which consolidated or unconsolidated financial statements are required to be filed. The registrant agrees to furnish a copy of any such instrument to the Securities and Exchange Commission upon request.

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.

EXXON MOBIL CORPORATION

Dated February 22, 2023

By: /s/ DARREN W. WOODS
Darren W. Woods, Chairman of the Board

POWER OF ATTORNEY

Each person whose signature appears below constitutes and appoints John D. Buchanan, Brian J. Conjelko, and Antony E. Peters and each of them, his or her true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this Annual Report on Form 10-K, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents or any of them, or their or his or her substitute or substitutes, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities indicated and on February 22, 2023.

Principal Executive Officer

/s/ DARREN W. WOODS
Darren W. Woods, Chairman of the Board

Principal Financial Officer

/s/ KATHRYN A. MIKELLS
Kathryn A. Mikells, Senior Vice President and Chief Financial Officer

Principal Accounting Officer

/s/ LEN M. FOX
Len M. Fox, Vice President and Controller

Directors

<u>/s/ MICHAEL J. ANGELAKIS</u> Michael J. Angelakis	<u>/s/ KAISA H. HIETALA</u> Kaisa H. Hietala
<u>/s/ SUSAN K. AVERY</u> Susan K. Avery	<u>/s/ JOSEPH L. HOOLEY</u> Joseph L. Hooley
<u>/s/ ANGELA F. BRALY</u> Angela F. Braly	<u>/s/ STEVEN A. KANDARIAN</u> Steven A. Kandarian
<u>/s/ URSULA M. BURNS</u> Ursula M. Burns	<u>/s/ ALEXANDER A. KARSNER</u> Alexander A. Karsner
<u>/s/ GREGORY J. GOFF</u> Gregory J. Goff	<u>/s/ LAWRENCE W. KELLNER</u> Lawrence W. Kellner
<u>/s/ JOHN D. HARRIS II</u> John D. Harris II	<u>/s/ JEFFREY W. UBBEN</u> Jeffrey W. Ubben