

Advancing Climate Solutions

Progress Report

Executive summary

2023

ExxonMobil



ExxonMobil's Advancing Climate Solutions Progress Report outlines the company's approach to help reduce greenhouse gas emissions in support of a net-zero future.

As the world continues to face the challenge of securing adequate energy supply while ensuring the energy transition proceeds at pace – divergent views have emerged. There are some who believe that society's efforts should be solely directed toward the energy transition without considering the very real consequences of not ensuring energy security. ExxonMobil and others see the situation for what it is: There are two challenges of great importance, both necessitating the full cooperation and effort of companies, governments, and NGOs worldwide in order to address these critical issues.

In this edition of our Advancing Climate Solutions Progress Report, we share the ways in which ExxonMobil remains determined to tackle head-on the challenge of strengthening energy supply security and reducing emissions to support a net-zero future while growing value for our shareholders and

stakeholders. We discuss the ways we will continue delivering solutions that lower the greenhouse gas emissions intensity of our portfolio and help meet society's growing need for affordable and reliable energy and products.

What's new?

- Increased the amount we intend to invest from 2022 through 2027 on lower-emission initiatives to approximately \$17 billion, up by nearly 15%.
- Achieved highest refinery throughput since 2007 and prepared to bring 250,000 barrels per day of expanded refining capacity on line in early 2023 – all in an effort to meet society's needs by providing additional supply.
- Deployed new technology to expand measurement and mitigation of methane emissions, and reduced methane emissions intensity from operated assets by more than 40% as of year-end 2021 versus 2016 levels in line with greenhouse gas emission-reduction plans.
- Remained on track to eliminate routine flaring in our Permian Basin operated assets by the end of 2022 in support of the World Bank Zero Routine Flaring Initiative.
- Grew and strengthened our Low Carbon Solutions business by focusing on competitively advantaged opportunities in carbon capture and storage, hydrogen, and biofuels. This included tripling the organization's size and signing the largest commercial agreement of its kind to capture and store CO₂.



- Reduced our Scope 1 and 2 emissions intensity by 9%, as we continue progress toward our 2030 greenhouse gas emission-reduction plans. These intensity reductions led to our absolute emissions falling by about 13%. These results are on an operated basis as of year-end 2021 versus 2016 levels.
- Improved the expected carbon intensity of our portfolio on a life-cycle basis.
- Increased plastics production capacity by nearly 10% to meet growing global needs, support low-carbon technologies, and avoid emissions, while helping address the issue of plastic waste by starting up one of the largest advanced recycling facilities in North America.
- Advocated for supportive policies that would expand opportunities in lower-emission solutions, including methane regulations and enhanced incentives for carbon capture and storage and hydrogen under the U.S. Inflation Reduction Act.



Strategic priorities

We are focused on five strategic priorities to create sustainable solutions that improve quality of life and meet society's evolving needs.

Our strategy calls for us 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.

Create sustainable solutions that improve quality of life and meet society's evolving needs

Strategic priorities

Leading performance	Industry leader in operating and financial performance
Essential partner	Value through win-win solutions for our customers, partners, and broader stakeholders
Advantaged portfolio	Portfolio of assets and products outperform competition and grow value in a lower-emission future
Innovative solutions	New products, technologies, and approaches to accelerate large-scale deployment of solutions essential to modern life and lower emissions
Meaningful development	Diverse engaged organization with unrivaled opportunities for personal and professional growth

2050 net-zero ambition and 2030 emission-reduction plans

As part of this strategy, 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 emission-reduction roadmaps for our major operated assets. The roadmaps build on our 2030 emission-reduction plans, which are within Paris Agreement pathways³ and, notably, include reaching net-zero emissions in our unconventional Permian Basin operated assets by 2030.

Reducing emissions intensity

Our 2030 GHG emission-reduction plans

20-30%

Reduction in corporate-wide greenhouse gas intensity.

40-50%

Reduction in upstream greenhouse gas intensity.

70-80%

Reduction in corporate-wide methane intensity.

60-70%

Reduction in corporate-wide flaring intensity.

Versus 2016 levels. Applies to Scope 1 and 2 GHG emissions from operated assets.

Our 2030 emission-reduction plans are intensity based. They focus on driving industry-leading performance while still meeting the needs of society.

These plans include actions that are also expected to achieve:

- Absolute reduction in corporate-wide greenhouse gas emissions by approximately 20% (or approximately 23 million metric tons).
- Absolute reduction in upstream greenhouse gas emissions of approximately 30% (or approximately 15 million metric tons).

- Absolute flaring reduction of approximately 60%.
- Absolute reduction in methane emissions by 70%.
- World Bank Zero Routine Flaring by 2030.

These emission-reduction plans cover Scope 1 and 2 emissions from assets we operate, compared to 2016 levels. For non-operated assets, we work with our equity partners to advance greenhouse gas reductions to achieve comparable results.

Lower-emission investments

Through 2027, we plan to invest approximately \$17 billion on initiatives to lower greenhouse gas emissions, an increase of nearly 15% from the amount we announced last year. These investments are designed to make possible reduced emissions in our operations and are also directed toward reducing others' emissions through commercializing and scaling carbon capture and storage, hydrogen, and biofuels.

Advocating for policy support

Policy support, along with technology advancements, can and will further accelerate development and deployment of lower-emission technologies necessary to arrive at a net-zero future. We have consistently advocated for sound government policies like enhanced incentives for carbon capture and storage and hydrogen. We also support market-based, technology-neutral policies that recognize the value of addressing full life-cycle emissions versus focusing solely on Scope 3 emissions, thereby incentivizing companies to take actions that reduce emissions, while still meeting the world's demand for essential energy and products.

To meet a net-zero goal, companies must fully understand net emissions and have a consistent means of comparing themselves against others in their industry.

Outlook for Energy (Outlook)

The 2022 Outlook for Energy is ExxonMobil's latest projection of energy supply and demand through 2050 using models based on current trends in economic development, technology, global policies, geopolitics, and consumer behavior.

All energy sources are projected to remain important through 2050, with oil and natural gas accounting for 55% of the world's energy mix in 2050.

Many products, from plastics to fabrics to construction materials, are petroleum-based, resulting in increased industrial demand for oil as both a raw material and energy source. Global demand growth for raw materials into chemical products (such as plastics used in medical supplies, lighter-weight vehicles, food packaging, and more) is expected to double from 2021 to 2050.

ExxonMobil remains resilient through the energy transition

We have continued to test the resiliency of our business and investment portfolio against a range of future scenarios that are aligned with the goals of the Paris Agreement, including the International Energy Agency's (IEA) Net Zero Emissions by 2050 (NZE) scenario. These resiliency tests demonstrate that our business is positioned for growth even in an aggressive decarbonization pathway, driven by the growth potential for chemicals, lower-emission fuels, carbon capture and storage, and hydrogen opportunities, which are critical to achieve net zero.

For more than 140 years, we have been a leader in innovation, supplying the energy and products people need to live healthy, prosperous lives in the modern world. We are continuing this legacy of innovation by doing our part to provide energy security and evolving our operations in ongoing support of a net-zero future – all while creating long-term shareholder value.

[Click here to read the full report.](#)

Key takeaways from 2050 projections

Energy and human development are tightly linked



Energy demand increases 15% to support rising human development in the developing world.



Innovative solutions and supportive policies are needed to reach a Lower 2°C pathway.



The industrial sector represents 50% of energy consumption to produce society's goods and infrastructure.



Biofuels, hydrogen-based fuels, and carbon capture and storage offer lower-emission solutions for hard-to-decarbonize sectors.



Energy demand for transportation rises 30% as the growing middle class increases travel and buys more goods.



Oil and natural gas continue to play an important role. Sustained investment is needed to meet demand.

Source: ExxonMobil 2022 Outlook for Energy

2023 Advancing Climate Solutions Progress Report published on December 15, 2022.

CAUTIONARY STATEMENT WARNING

CAUTIONARY STATEMENT RELEVANT TO FORWARD LOOKING INFORMATION FOR THE PURPOSE OF THE “SAFE HARBOR” PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995

Statements of future ambitions, goals, events or conditions in this publication, including projections, plans to reduce emissions and emissions intensity, sensitivity analyses, expectations, estimates, the development of future technologies, and business plans, are forward-looking statements. Similarly, emission-reduction roadmaps to drive toward net zero are dependent on future market factors, such as continued technological progress and policy support, and represent forward-looking statements. Actual future results, including the achievement of ambitions to reach Scope 1 and 2 net zero from operated assets by 2050, to reach Scope 1 and 2 net zero in Upstream Permian Basin unconventional operated assets by 2030, to eliminate routine flaring in-line with World Bank Zero Routine Flaring, to reach near zero methane emissions from operated assets, to meet greenhouse gas emission reduction plans or goals, divestment and start-up plans, and associated project plans; technology efforts such as timing and outcome of projects to capture and store CO₂, produce biofuels, integrate hydrogen projects, and use plastic waste as feedstock for advanced recycling; future cash flows; and reserve or resource changes could vary depending on the ability to execute operational objectives on a timely and successful basis; policy and consumer support for emission-reduction products and technology; changes in laws and regulations including international treaties and laws and regulations regarding greenhouse gas emissions, plastics, and carbon costs; government incentives; trade patterns and the development and enforcement of local, national and regional mandates; unforeseen technical or operational difficulties; the outcome of research efforts and future technology developments, including the ability to scale projects and technologies such as advanced recycling on a commercially competitive basis; changes in supply and demand and other market factors affecting future prices of oil, gas, and petrochemical products; availability of feedstocks for biofuels or advanced recycling; changes in the relative energy mix across activities and geographies; the actions of competitors; changes in regional and global economic growth rates and consumer preferences; actions taken by governments and consumers resulting from a pandemic; changes in population growth, economic development or migration patterns; military build-ups or conflicts; and other factors discussed in this release and in Item 1A. “Risk Factors” in ExxonMobil’s Annual Report on Form 10-K for 2021 and subsequent Quarterly Reports on Forms 10-Q, as well as under the heading “Factors Affecting Future Results” on the Investors page of ExxonMobil’s website at www.exxonmobil.com. We do not undertake to provide any updates or changes to any data or forward-looking statements in this document. Neither future distribution of this material nor the continued availability of this material in archive form on our website should be deemed to constitute an update or re-affirmation of these figures or statements as of any future date. Any future update will be provided only through a public disclosure indicating that fact.

This document is a shareholder-requested publication and is purposefully focused on unknown future events. It is not intended to communicate any material investment information. The statements and analysis in this document represent a good faith effort by the Company to address these requests despite significant unknown variables and, at times, inconsistent market and government policy signals. Energy demand modeling aims to replicate system dynamics of the global energy system, requiring simplifications. The reference to any scenario, including any potential net zero scenario, 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 IEA describes its NZE 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 or inclusion herein 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, but may be secondarily tested for robustness or resiliency against different assumptions, including against various scenarios. Any reference to ExxonMobil’s support of a third-party organization within this document does not constitute or imply an endorsement by ExxonMobil of any or all of the positions or activities of such organization. References to projects or opportunities may not reflect investment decisions made by the corporation or its affiliates. Individual projects or opportunities may advance based on a number of factors, including availability of supportive policy, technology for cost-effective abatement, company planning process, and alignment with our partners and other stakeholders. Capital investment guidance in lower-emissions investments is based on plan; however, actual investment levels will be subject to the availability of the opportunity set and focused on returns.

ExxonMobil reported emissions, including reductions and avoidance performance data, are based on a combination of measured and estimated data. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipieca. Emissions reported are estimates only, and performance data depends on variations in processes and operations, the availability of sufficient data, the quality of those data and methodology used for measurement and estimation. Emissions data is subject to change as methods, data quality, and technology improvements occur, and changes to performance data may be updated. Emissions, reductions and avoidance estimates for non-ExxonMobil operated facilities are included in the equity data and similarly may be updated as changes in the performance data are reported. ExxonMobil’s plans to reduce emissions are good-faith efforts based on current relevant data and methodology, which could be changed or refined. ExxonMobil works to continuously improve its approach to identifying, measuring and addressing emissions. ExxonMobil actively engages with industry, including API and Ipieca, to improve emission factors and methodologies, including measurements and estimates.

References to “resources,” “resource base,” “recoverable resources” and similar terms refer to the total remaining estimated quantities of oil and natural gas that are expected to be ultimately recoverable. The resource base includes quantities of oil and natural gas classified as proved reserves, as well as quantities that are not yet classified as proved reserves, but that are expected to be ultimately recoverable. The term “resource base” is not intended to correspond to SEC definitions such as “probable” or “possible” reserves. For additional information, see the “Frequently Used Terms” on the Investors page of the Company’s website at www.exxonmobil.com. References to “oil” and “gas” include crude, natural gas liquids, bitumen, synthetic oil, and natural gas. The term “project” as used in this publication can refer to a variety of different activities and does not necessarily have the same meaning as in any government payment transparency reports.

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SUPPLEMENTAL INFORMATION FOR NON-GAAP AND OTHER MEASURES

Page 31 of this publication mentions modeled operating cash flow in comparing different businesses over time in a future scenario. Historic operating cash flow is defined as net income, plus depreciation, depletion and amortization for consolidated and equity companies, plus noncash adjustments related to asset retirement obligations plus proceeds from asset sales. The Company’s long-term portfolio modeling estimates operating cash flow as revenue or margins less cash expenses, taxes and abandonment expenditures plus proceeds from asset sales before portfolio capital expenditures. The Company believes this measure can be helpful in assessing the resiliency of the business to generate cash from different potential future markets. The performance data presented in this publication, including on emissions, is not financial data and is not GAAP data.