

2024 Advancing Climate Solutions

Executive Summary

ExxonMobil



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Advancing Climate Solutions Executive Summary

Getting the planet on a path to net zero requires unprecedented innovation and collaboration at immense scale. The ongoing societal effort is critical but must avoid economic hardships and market disruptions that result from energy and product shortages.

Solving this challenge is not an “either/or” proposition. It’s an “and” equation. One that requires an increase in energy supply **and** reduction in greenhouse gas emissions – improved energy security **and** thoughtful progress in the energy transition.

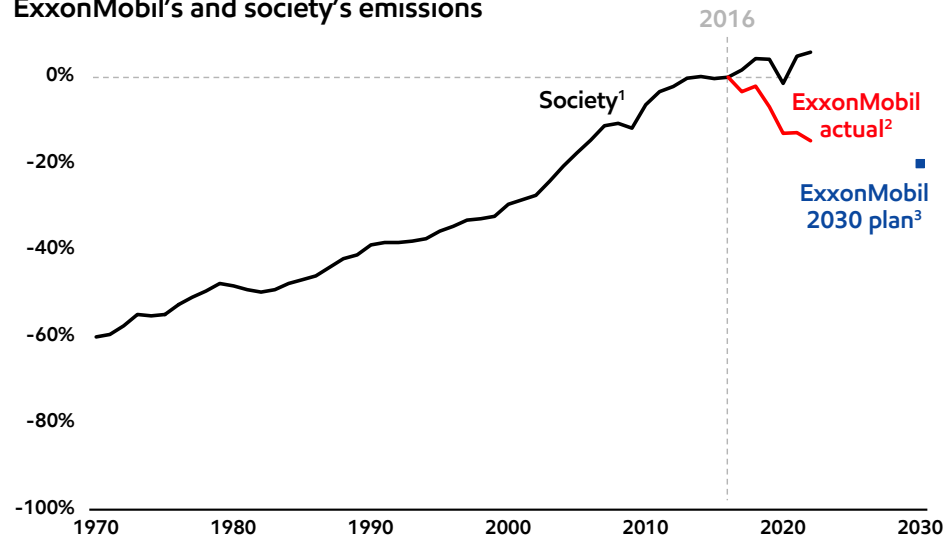
Given the skills and capabilities required, there’s no question that the energy industry plays a critical role – on both sides of this equation.

ExxonMobil is doing our part.

Since 2016, we’ve significantly reduced our Scope 1 and 2 operated emissions.

And we've got plans to do more.

ExxonMobil’s and society’s emissions



2050 net-zero ambition

With advancements in technology and clear and consistent government policies that support needed investments and the development of market-driven mechanisms, we aim to achieve net-zero Scope 1 and 2 greenhouse gas emissions in our operated assets by 2050.

2050 net-zero ambition (cont'd)

Our net-zero ambition is backed by a comprehensive approach centered on detailed emission-reduction roadmaps. We completed these roadmaps in 2022 and continue to update them to reflect technology and policy, and to account for the many potential pathways, and the pace of the energy transition. We are using this approach in our Permian Basin unconventional operations, where we are on track to achieve our industry-leading plans to reach net-zero Scope 1 and 2 emissions by 2030.

Beyond reducing emissions in our own operations, we see the opportunity to use our core capabilities to help other essential industries and customers lower their emissions. This is an immense opportunity with an addressable

market potentially measured in the trillions of dollars by 2050.⁴ That's why we established ExxonMobil's Low Carbon Solutions business.

We're working to profitably grow a leading position in these new emission-reduction markets, with a focus on the global economy's hard-to-decarbonize sectors – like heavy industry, power generation, and commercial transportation. These are critical sectors where cost-effective solutions are lacking and where we can make a unique, significant, and lasting contribution.

Competitive advantages

The same competitive advantages that have underpinned the success of our traditional businesses for more than 140 years are the foundation of this world-scale Low Carbon Solutions business.

People

Technology

Scale

Integration

Functional
excellence



Corpus Christi Chemical Complex

The challenge is enormous.

To tackle it, the world needs industrial-scale solutions.

We need them deployed globally and at a much lower cost than today.

That will require continued advances in technology, and clear and consistent government policies that catalyze investments in the near term. Additionally, the world will need to establish a new industry – a carbon-reduction industry – and a market that pays for the cost of emission reductions.

The skills and capabilities required to address these complicated challenges play to ExxonMobil's strengths and align with our **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 and engaged organization with unrivaled opportunities for personal and professional growth doing impactful work to meet society's needs.



Making progress

Over our history and across the globe, we have built industries where none existed before.

We see this today with our developments in Papua New Guinea and Guyana.

At our core, we're a technology company that uses our science and engineering capabilities to bring value-added solutions to partners and customers. We do this in a variety of ways using unique advantages in scaling technology and delivering complex, large-scale projects safely, reliably, and at industry-advantaged cost. We're developing molecules that cost-effectively meet the ever-evolving needs of society. We're unlocking critical oil and natural gas resources trapped in geologic formations around the world. And we're capturing and safely storing emissions for hard-to-decarbonize industrial processes.

Of course, our past successes and current strengths stem from the commitment, experience, and capabilities of our people. Their skills, tenacity, and resiliency are the bedrock on which our company is built.

If you were to make a list of the biggest challenges facing humankind right now, addressing poverty and climate change would be at the top.

At the same time, if you were to make a list of the companies that have a credible chance of improving access to affordable energy and other products that are critical to improved living standards and reducing emissions, ExxonMobil would also be at the top.

The strategy we've developed, the organization we've built, and the businesses we're focused on position us to grow and create value for many decades to come, regardless of the pace of the transition.

At our core, we're a technology company that uses our science and engineering capabilities to bring value-added solutions to partners and customers.

About this report

This year's edition of ExxonMobil's Advancing Climate Solutions Report describes our **resolve** to drive meaningful change, the **results** we're already delivering, and the **resiliency** of our plans under a wide range of future scenarios.

This Executive Summary highlights the significant progress we continue to make toward:

- Achieving our 2030 emission-reduction plans and our 2050 net-zero ambition.
- Reducing methane emissions.
- Building our Low Carbon Solutions business.

We encourage you to visit our website to explore greater detail on these topics and others related to our actions to address the risks of climate change across our businesses.

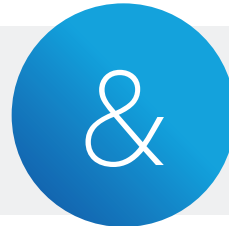


Guyana Prosperity FPSO

Making real progress toward solving the "and" equation

ExxonMobil is delivering both sides of the "and" equation – meeting society's needs for energy and essential products **and** reducing emissions.

Increasing energy and product supply



Reducing greenhouse gas emissions⁵

- We achieved record production from our projects in the Permian Basin and Guyana in the second quarter of 2023, up more than 20% from a year earlier.⁶
- We added 250,000 barrels per day of refining capacity in early 2023 in Beaumont, Texas. The extra supply helps reduce rising price pressures, easing the impact on consumers and businesses. It was the largest refinery expansion in the U.S. since 2012.⁷
- We started up a chemical expansion project at Baytown, Texas, that has capacity to deliver 750,000 tons per year of products that are used by manufacturers to make stronger and lighter auto parts, construction materials, packaging, and more.⁸
- We've cut operated methane emissions in half since 2016, eliminated all of our high-bleed pneumatic devices in U.S. operated unconventional production, and established our Center for Operations and Methane Emissions Tracking (COMET). When fully deployed, COMET is expected to provide around-the-clock remote monitoring capabilities in the region.
- We eliminated routine flaring in our Permian Basin operated assets, in line with the World Bank's Zero Routine Flaring Initiative,⁹ which is a key part of our 2030 goal of achieving net-zero Scope 1 and 2 greenhouse gas emissions from our unconventional operated assets in the Permian.
- We electrified our drilling fleet in the Permian Basin and deployed our first electric fracturing units to further reduce emissions intensity.¹⁰
- We acquired Denbury Inc., which expands our Low Carbon Solutions business opportunities by leveraging the largest CO₂ pipeline network in the United States.¹¹
- We signed landmark CO₂ offtake agreements with a major fertilizer producer, a steel manufacturer, and an industrial gas company to capture, transport, and store up to 5 million metric tons of CO₂ per year. That's equivalent to replacing approximately 2 million gasoline-powered cars with electric vehicles,¹² which is roughly equal to the total number of EVs on U.S. roads today.^{13,14,15}
- We began drilling for lithium in southwestern Arkansas – a process that holds great promise to address the growing needs of the EV battery markets.

2030 greenhouse gas emission-reduction plans^{16,17}



Since 2016, we've reduced our operated greenhouse gas emissions intensity by more than 10%, and our 2030 plans are expected to drive further reductions.

Corporate-wide greenhouse gas intensity

2030 plan:

↓20–30%

Corporate-wide methane intensity

2030 plan:

↓70–80%

Upstream greenhouse gas intensity

2030 plan:

↓40–50%

Corporate-wide flaring intensity

2030 plan:

↓60–70%

Our plans to reduce emissions intensity through 2030 include:

- Achieving net-zero Scope 1 and 2 greenhouse gas emissions in our Permian Basin unconventional operated assets.
- Deploying carbon capture and storage, hydrogen, and lower-emission fuels in our operations.
- Further reducing methane emissions at operated assets in alignment with the Global Methane Pledge and with Aiming for Zero Methane Emissions, developed by the Oil and Gas Climate Initiative.
- Further reducing flaring in upstream operations to meet the World Bank Zero Routine Flaring Initiative.
- Integrating lower greenhouse gas energy sources into our facilities through long-term power purchase agreements and electrification.
- Improving energy efficiency in our businesses by evolving operational and maintenance processes.
- Substituting low-carbon hydrogen for natural gas to reduce emissions from furnaces.
- Deploying innovative solutions to further reduce greenhouse gas emissions with future advancements in technology and supportive policies.



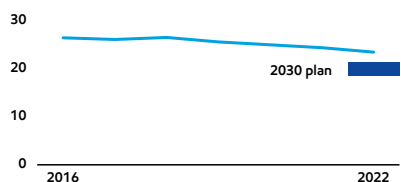
Did you know?

ExxonMobil is a leading purchaser of renewable power.¹⁸

Progress through year-end 2022

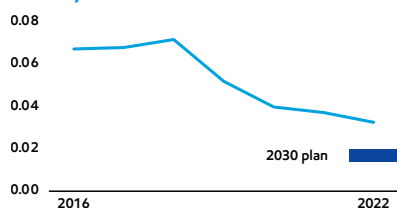
Corporate-wide operated GHG emissions intensity (T CO₂e/100 T)

2022 year-end actual:



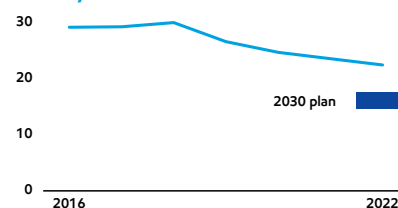
Corporate-wide operated methane emissions intensity (T CH₄/100 T)

2022 year-end actual:



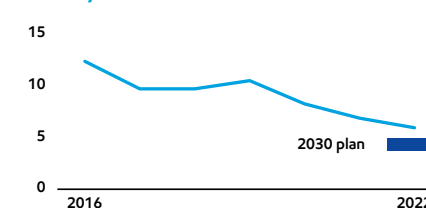
Upstream operated GHG emissions intensity (T CO₂e/100 T)

2022 year-end actual:



Corporate-wide operated hydrocarbon flaring intensity (m³/T)

2022 year-end actual:

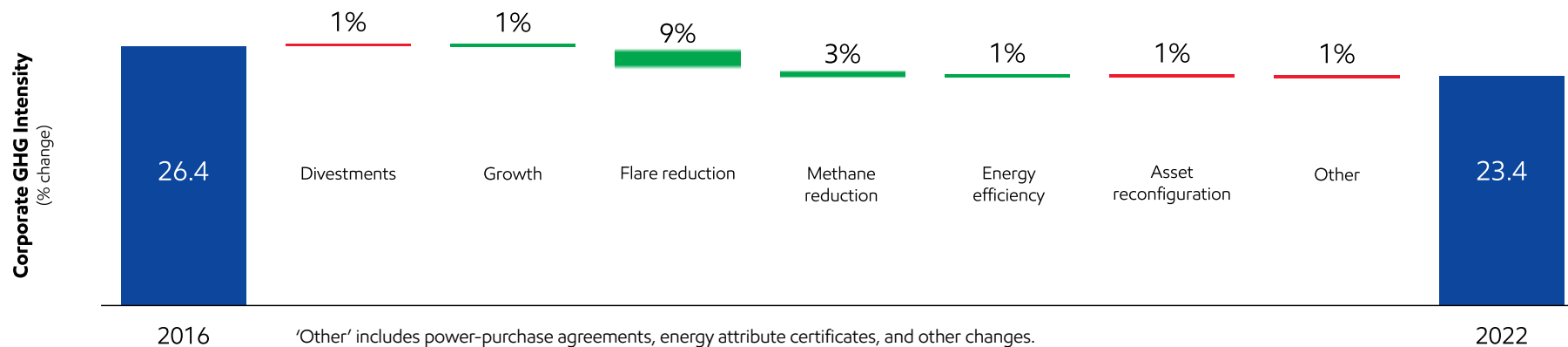


Versus 2016 levels. Applies to Scope 1 and 2 GHG emissions from operated assets.

>10% reduction in corporate-wide greenhouse gas (GHG) emissions intensity¹⁹

Operated Basis

(T CO₂e/100 T)



- Methane and flaring intensity reductions make up the bulk of our improvement.
- Our actions to reduce emissions intensity significantly offset our growth.
- Divestments did not meaningfully contribute to our intensity reductions.

Approach to reducing emissions in business planning

We incorporate actions needed to advance our 2030 emission-reduction objectives into our medium-term business plans, which we update annually. The reference case for planning beyond 2030, including impairment assessments and future planned development activities, is based on our [Global Outlook](#).

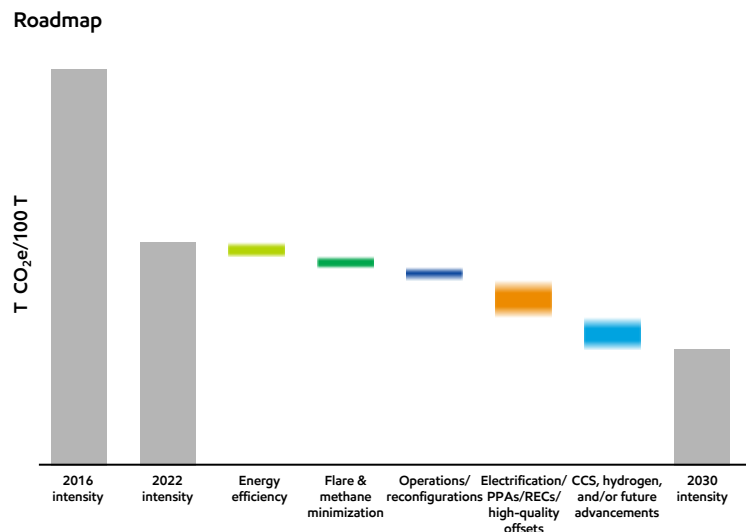
The Outlook considers the existing global policy environment, announced policy changes, technology advances, consumer preferences, and the historical precedents for each of these areas. It does not attempt to project the degree of future policy, technology advancement, or deployment necessary for the world or ExxonMobil to meet net zero by 2050.

As additional policies are implemented and technology advances beyond our estimates, we incorporate those changes into the Outlook and update our business plans accordingly as part of our annual planning cycle.

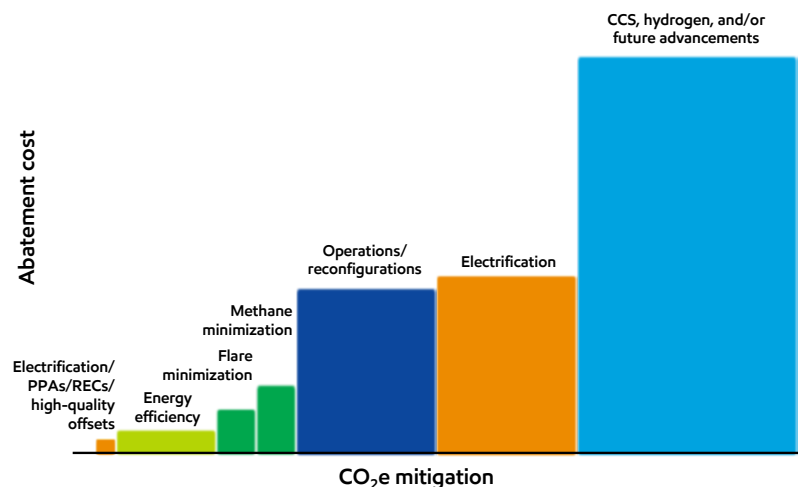
Positioning for a lower-emission future

We have evolved our operating model, enabling efficiencies that better leverage the scale of an increasingly integrated company. At the same time, we have centralized many of the skills and capabilities required by our business, allowing us to improve allocation of critical resources; drive continuous improvement, including detection and measurement of emissions; and grow value. This serves us well in a variety of future scenarios, irrespective of the pace of the energy transition.

Potential GHG abatement options for ExxonMobil operated assets supporting 2030 GHG emission-reduction plans²⁰



Abatement curve



Higher-cost options reflect the need for additional policy and continued advocacy.

Reducing methane emissions [view web module](#)

Our plans to reduce methane intensity across our operated assets remain on track. These include reductions versus 2016 levels of 70%-80% in methane intensity and 60%-70% in flaring intensity by 2030.

To get there, we're developing and deploying enhanced technologies from satellites to on-the-ground sensors for rapid detection and mitigation – starting with a focus on our highest methane emission sources. At the same time, we're continuing to develop and advocate for strong measurement and reporting frameworks to provide consistent, comparable, and most importantly, useful data to inform our methane mitigation efforts worldwide. In 2023, we took additional steps to further collaboration among government and industry partners, including deciding to join the United Nations Oil and Gas Methane Partnership 2.0.

Our Permian operations make up about 16% of our total methane emissions. By rapidly advancing our plans in the basin, we're reducing emissions and developing solutions that we can refine and deploy in other parts of the world. As of year-end 2022, we have eliminated routine flaring in our Permian operations. With full deployment of our near-continuous monitoring program in the Permian by 2025, we expect our Center for Operations and Methane Emissions Tracking (COMET) to provide real-time monitoring of 700 sites across 1.8 million acres.

Our progress in the Permian Basin guides our projects elsewhere. The pneumatic devices in our industry are, as a category, the largest source of routine methane emissions in our processes. That's why in 2020, we completed the elimination of high-bleed pneumatic devices across our U.S. unconventional production, and we're working to eliminate the rest by 2025. Through actions like these, we're eliminating potential sources of methane emissions while advancing our ability to detect and quantify others.

We know we can't go it alone. Collaboration will be vital as we implement solutions to support society's net-zero future. By working with a wide range of universities, academic consortiums, environmental groups, and more, we're advancing leading-edge research and piloting new technologies to help the industry and our company measure, reduce, and report methane emissions.

As of year-end 2022, we have eliminated routine flaring in our Permian operations.



We're developing and deploying enhanced technologies from satellites to on-the-ground sensors for rapid detection and mitigation.



Sustaining our commitment to R&D [view web module](#)

We determine which research projects to advance based on factors including advantage versus alternatives, ability to scale, alignment with core capabilities and key partners, and probability of commercial success.

We employ thousands of scientists and engineers, including more than 1,500 Ph.D.s. Their work drives our research in new materials, novel low-energy processes, and improved means of CO₂ storage.

Our scientists have written more than 1,000 peer-reviewed publications and received more than 10,000 patents over the past decade. In addition, we collaborate with more than 80 universities around the world, four energy centers, and several U.S. national laboratories. These collaborations have increased knowledge in key areas important to the energy transition, including fugitive methane emissions detection and modeling; optimization techniques to understand CO₂ storage; electrification of processes; lower-emission fuels; and energy systems models.

>1,500

Ph.D.s employed

>1,000

peer-reviewed publications
written by our scientists

>10,000

patents over the past decade

>80

university collaborations around
the world



Investing in lower-emission solutions [view web module](#)

We're pursuing more than \$20 billion in lower-emission investments from 2022 through 2027, in addition to the approximately \$5 billion Denbury acquisition. About 50% of our lower-emission investments are targeted at reducing emissions from operated assets, with the balance going toward reducing the emissions of other companies.

We're focused on customers in the heavy industry, power generation, and commercial transportation sectors. These sectors provide great economic value and generate significant emissions that aren't easy to cut. Together, these sectors account for about 80% of energy-related CO₂ emissions today.

Carbon capture and storage, hydrogen, biofuels, and lithium align with our capabilities and have the potential to make a big difference in these hard-to-decarbonize sectors.



Carbon capture and storage

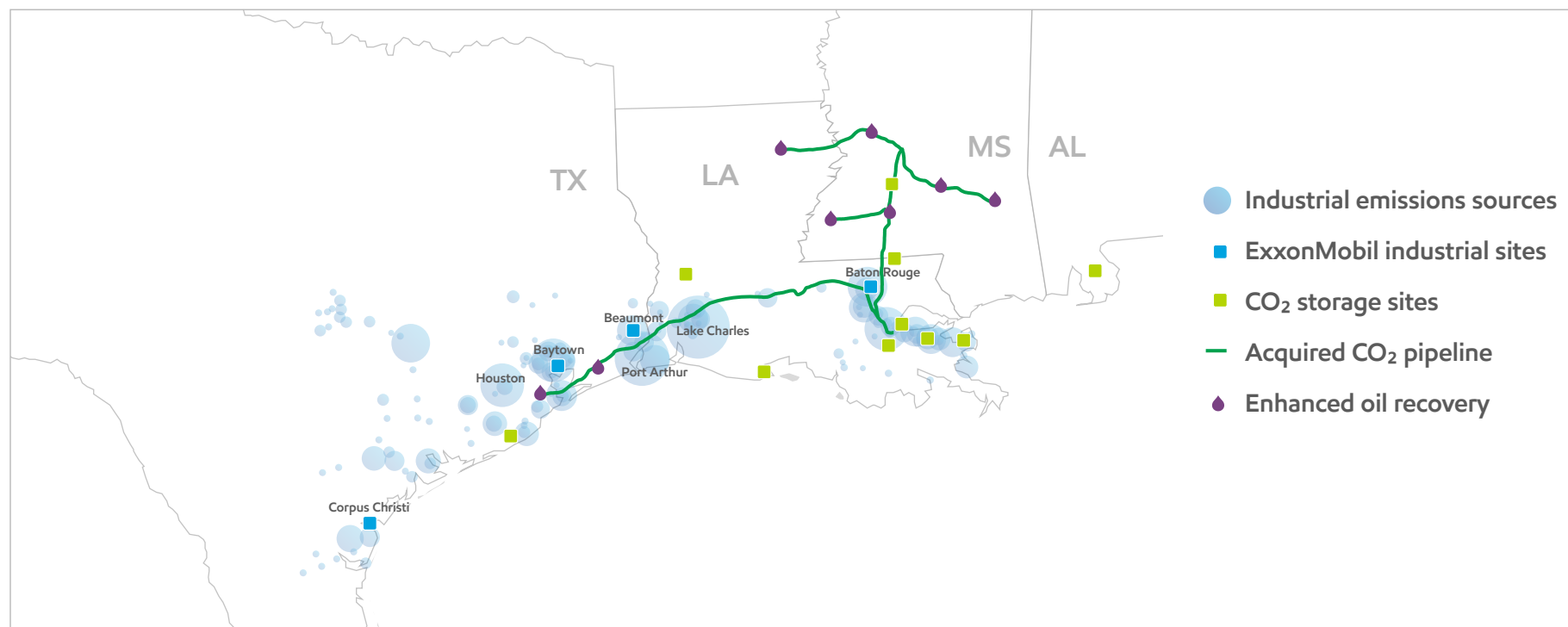
The technology exists today to capture and store CO₂ from emission sources. Global agencies including the International Energy Agency, the U.N. Intergovernmental Panel on Climate Change, and the U.S. Department of Energy have concluded that permanent storage of CO₂ in appropriately selected geological formations is a safe and secure option.²¹

ExxonMobil has cumulatively captured more human-made CO₂ than any other company on the planet, and we're expanding our long-term storage capacity in anticipation of market developments. We have three of the largest third-party contracts to capture, transport, and store CO₂ – advancing projects that will help decarbonize a fertilizer company, an industrial gases company, and a steel company.

The recent acquisition of Denbury expands our capabilities in this area. It provides ExxonMobil with the largest owned and operated network of CO₂ pipelines in the United States, including 900 miles of pipelines near the largest industrial complexes on the Gulf Coast. Combining Denbury's assets and our experience accelerates and expands our ability to help customers reduce their emissions.

Ultimately, we see an opportunity to create a carbon capture and storage business with the capacity to reduce emissions across the Gulf Coast by more than 100 million metric tons per year.²² This transaction will help us do that at a lower cost and faster pace.

Denbury acquisition creates strong U.S. Gulf Coast CO₂ infrastructure position



Note: All information shown is approximate (e.g., storage / pipeline location) and has potential to change as projects are developed and implemented.

Hydrogen

We also have a long history with hydrogen, a zero-carbon energy source that can be used to reduce emissions in hard-to-decarbonize sectors including steel manufacturing, refining, and heavy-duty trucking, among others.

In Baytown, Texas, we are developing the world's largest low-carbon hydrogen production facility. We are designing it to produce 1 billion cubic feet of hydrogen per day, using a process called "auto-thermal reforming" to separate the hydrogen and carbon atoms. We plan to use carbon capture and storage to sequester the CO₂ emissions. More than 98% of the associated CO₂ emissions produced by the facility – 7 million metric tons per year – are expected to be captured and stored.

Biofuels

We can also make a real difference with biofuels. Demand for energy-dense, lower-emission fuels is expected to grow rapidly, especially in the aviation, marine, and heavy-duty trucking industries.

This growth creates opportunities to process biofuels and make drop-in replacements for today's fossil fuels. Our Product Solutions business is working to supply approximately 40,000 barrels per day of lower-emission fuel by 2025, with a further goal of 200,000 barrels per day by 2030.

Lithium

Lithium production is an exciting new business opportunity for us. We're working to apply our upstream and downstream expertise to recover and separate lithium from deep brine reservoirs. Using available technologies, we're working to produce this critical mineral more efficiently and with fewer environmental impacts than traditional hard rock mining – helping to grow a U.S.-based supply for the global battery and electric vehicle markets.²³



Baytown future hydrogen plant



Strathcona biofuels



Arkansas lithium

Advocating for sound policy [view web module](#)

As we discuss in our [Global Outlook](#), the energy transition is underway, but it is not yet happening at the scale or on the timetable required to achieve society's net-zero ambitions. Three key drivers are needed, and all involve broad collaboration among governments, companies, universities, and others.

First, continued public policy support. Incentives like those in the U.S. Inflation Reduction Act provide a necessary catalyst for companies to begin scaling low-carbon solutions. Permitting reform is needed to accelerate the deployment of these solutions, a step recognized in the European Union's Net-Zero Industry Act. Constructive policy should be stable and transparent so that market participants have sufficient time to adapt to changes. It should also recognize the need to match supply with demand to minimize price spikes that destabilize economies and penalize end-users.

Second, advances in technology. Only three of the more than 50 technologies needed to reach net-zero emissions by 2050 are "on track," according to the International Energy Agency.²⁴ An approach to technology where governments support further R&D and avoid picking winners and losers through legislation will lead to quicker solutions that are the most cost-efficient.

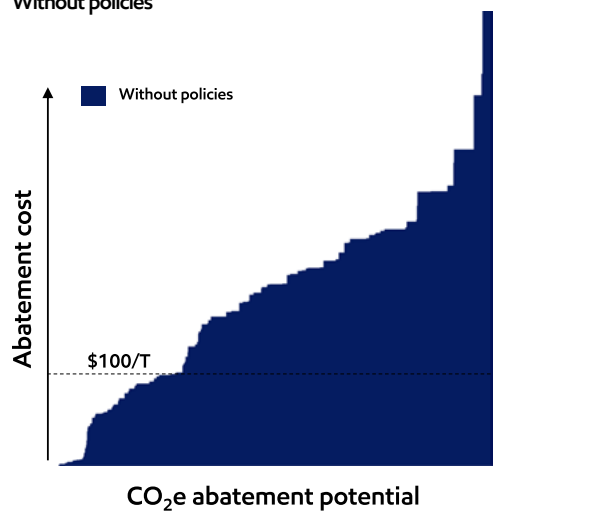
No single transition pathway can be reasonably predicted, given the wide range of uncertainties. Key unknowns include yet-to-be-developed government policies, market conditions, and advances in technology that may influence the cost, pace, and potential availability of certain pathways. A full complement of technology options should be considered to provide the most economically efficient pathways.

And third, the development of carbon markets. Governments cannot afford to continue paying for emissions reductions indefinitely. Ultimately, to achieve global emission-reduction goals, the world will need to move to widespread adoption of markets that reflect the cost of driving emissions down.

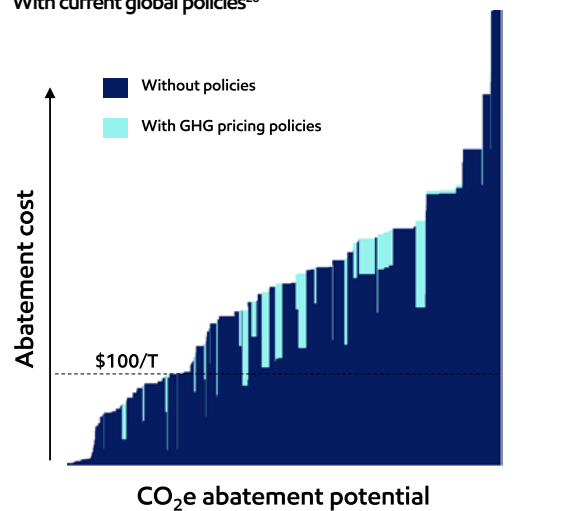
Canada's Clean Fuels Regulations, which went into effect in 2023, offer an example of how governments can establish market-based policies that encourage investment and enable society to accelerate emissions reductions. The regulations set progressive standards for fuels that reduce carbon intensity over time, thereby increasing the incentives for lower-intensity fuels and enabling investments like the Strathcona renewable diesel plant to be operated by our affiliate Imperial Oil.

Potential greenhouse gas abatement options based on ExxonMobil emissions reduction roadmaps supporting our net-zero ambitions²⁵

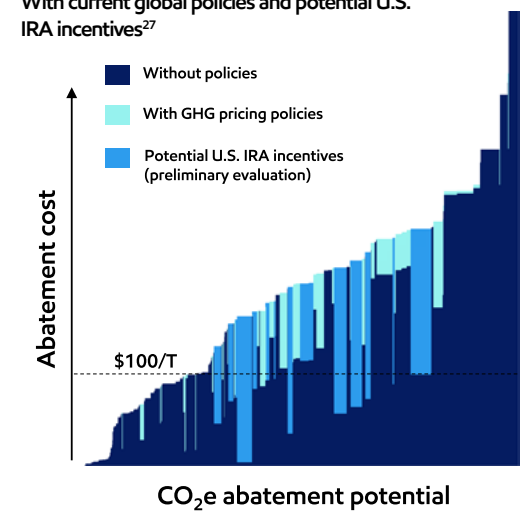
Without policies



With current global policies²⁶



With current global policies and potential U.S. IRA incentives²⁷





Maintaining strong corporate governance [view web module](#)

Our Board of Directors oversees and provides guidance on our strategy and planning, which includes opportunities and risks related to climate change and the energy transition. Directors engage with experts from inside and outside the company and apply their individual experience and perspective in evaluating the company's capital-allocation priorities, with a focus on growing shareholder value and playing a leading role in a thoughtful energy transition.

The Board, collectively and through its Environment, Safety and Public Policy (ESPP) Committee, regularly engages with senior management on climate matters and our environmental approach and performance. This includes briefings with internal and external subject-matter experts, which can cover elements of scientific and technical research, public policy positions, greenhouse gas emission-reduction reporting and performance, and new technology developments.

In September 2022, we held a Board meeting in the Permian Basin, where our local employees led the directors on tours of our unconventional operations. The tours provided them with critical insights on our progress toward meeting our net-zero goal for this key part of our business.

Ensuring resiliency [view web module](#)

We have continued to assess 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 IEA Net Zero Emissions by 2050 (NZE) scenario.

These resiliency assessments demonstrate that our business is well positioned 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 society's net-zero ambition.

Updates to the IEA NZE scenario since 2021 have not changed the outcome of our assessment, which highlights resiliency through investment flexibility across options that are both needed and consistent with our core capabilities, including oil and natural gas with lower emission intensity, chemicals, carbon capture and storage, lower-emission fuels, and hydrogen.²⁸

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.



Banyu Urip Indonesia

Footnotes

- 1940-2022 global society CO₂ emissions estimates based on data from IEA CO₂ Emissions in 2022 Report; includes energy-related combustion and industrial process CO₂ emissions.
- ExxonMobil Scope 1 and 2 greenhouse gas emission estimates from operated assets compared to 2016 levels. ExxonMobil's reported emissions, reductions, and avoidance performance data are based on a combination of measured and estimated emissions data using reasonable efforts and collection methods. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipeica. There is uncertainty associated with the emissions, reductions, and avoidance performance data due to variation in the processes and operations, the availability of sufficient data, quality of those data, and methodology used for measurement and estimation. Performance data may include rounding. Changes to the performance data may be reported as part of the company's annual publications as new or updated data and/or emission methodologies become available. We are working to continuously improve our performance and methods to detect, measure, and address greenhouse gas emissions. ExxonMobil works with industry, including API and Ipeica, to improve emission factors and methodologies, including measurements and estimates. Scope 1 and 2 emissions and intensity totals are calculated using market based method for Scope 2.
- ExxonMobil 2030 GHG emission-reduction plans are intensity-based and for Scope 1 and 2 greenhouse gas emissions from operated assets compared to 2016 levels. These plans include actions that are also expected to achieve absolute reduction in corporate-wide greenhouse gas emissions by approximately 20%, compared to 2016 levels. See https://corporate.exxonmobil.com/news/news-releases/2021/1201_exxonmobil-announces-plans-to-2027-doubling-earnings-and-cash-flow-potential-reducing-emissions.
- Total addressable market based on ExxonMobil analysis of the IPCC's Sixth Assessment Report Scenarios Database hosted by IIASA for carbon capture and storage, wind, solar, hydrogen, nuclear, biofuels, geothermal, and hydropower. Secondary energy demand and prices in 2050 in the Likely Below 2°C Scenarios (Category C3) were used, where available, to calculate an estimate of potential market revenue. Carbon capture and storage estimate includes both CCS and direct air capture and used price of carbon for pricing estimate. Biofuels estimate used liquids pricing for pricing estimate. 2020 dollars.
- Based on Scope 1 and 2 emissions of ExxonMobil operated assets through 2022 (versus 2016). ExxonMobil's reported emissions, reductions, and avoidance performance data are based on a combination of measured and estimated emissions data using reasonable efforts and collection methods. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipeica. There is uncertainty associated with the emissions, reductions, and avoidance performance data due to variation in the processes and operations, the availability of sufficient data, quality of those data, and methodology used for measurement and estimation. Performance data may include rounding. Changes to the performance data may be reported as part of the company's annual publications as new or updated data and/or emission methodologies become available. We are working to continuously improve our performance and methods to detect, measure, and address greenhouse gas emissions. ExxonMobil works with industry, including API and Ipeica, to improve emission factors and methodologies, including measurements and estimates. Scope 1 and 2 emissions and intensity totals are calculated using market based method for Scope 2.
- ExxonMobil 2Q 2023 Earnings Release (July 2023): https://d1io3yog0oux5.cloudfront.net/_161f0ad0ee737b82a3ec771e72c07da2/exxonmobil/db/2288/22123/earnings_release/XOM+2Q23+Earnings+Press+Release+Website.pdf.
- ExxonMobil Press Release (March 2023): https://corporate.exxonmobil.com/news/news-releases/2023/0316_exxonmobil-boosts-fuel-supply-with-2-billion-dollar-beaumont-refinery-expansion.
- ExxonMobil Press Release (September 2023): https://corporate.exxonmobil.com/news/news-releases/2023/0919_exxonmobil-expands-chemical-production-at-baytown.
- References to routine flaring herein are consistent with the World Bank's Zero Routine Flaring by 2030 Initiative/Global Gas Flaring Reduction Partnership's principle of routine flaring, and excludes safety and non-routine flaring.
- ExxonMobil 2Q 2023 Earnings Prepared Remarks: https://d1io3yog0oux5.cloudfront.net/_161f0ad0ee737b82a3ec771e72c07da2/exxonmobil/db/2404/24130/pdf/2Q23+Earnings+-+Preliminary+Prepared+Remarks.pdf.
- ExxonMobil Press Release (July 2023): https://corporate.exxonmobil.com/news/news-releases/2023/0713_exxonmobil-announces-acquisition-of-denbury.
- ExxonMobil analysis based on assumptions for U.S. in 2022, including average distance traveled, fuel efficiency, average power grid carbon intensity, electric vehicle charging efficiency, and other factors. Gas-powered cars include light-duty vehicles (cars, light trucks and SUVs).
- ExxonMobil Press Release (October 2022): https://corporate.exxonmobil.com/news/news-releases/2022/1012_landmark-emissions-reduction-project-in-louisiana-announced.
- ExxonMobil Press Release (June 2023): https://corporate.exxonmobil.com/news/news-releases/2023/0601_lcs-nucor-agreement.
- ExxonMobil website: <https://lowcarbon.exxonmobil.com/lower-carbon-technology/carbon-capture-and-storage#Newagreement>.
- ExxonMobil 2030 GHG emission-reduction plans are intensity-based and for Scope 1 and 2 greenhouse gas emissions from operated assets compared to 2016 levels. These plans include actions that are also expected to achieve absolute reduction in corporate-wide greenhouse gas emissions by approximately 20%, compared to 2016 levels. See https://corporate.exxonmobil.com/news/news-releases/2021/1201_exxonmobil-announces-plans-to-2027-doubling-earnings-and-cash-flow-potential-reducing-emissions.
- Based on Scope 1 and 2 emissions of ExxonMobil operated assets through 2022 (versus 2016). ExxonMobil's reported emissions, reductions, and avoidance performance data are based on a combination of measured and estimated emissions data using reasonable efforts and collection methods. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipeica. There is uncertainty associated with the emissions, reductions, and avoidance performance data due to variation in the processes and operations, the availability of sufficient data, quality of those data, and methodology used for measurement and estimation. Performance data may include rounding. Changes to the performance data may be reported as part of the company's annual publications as new or updated data and/or emission methodologies become available. We are working to continuously improve our performance and methods to detect, measure, and address greenhouse gas emissions. ExxonMobil works with industry, including API and Ipeica, to improve emission factors and methodologies, including measurements and estimates. Scope 1 and 2 emissions and intensity totals are calculated using market based method for Scope 2.
- Based on ExxonMobil analysis of the BloombergNEF Global Corporate Renewable Power Purchase Agreement Capacity Commitments as of September 2023.
- ExxonMobil's reported emissions, reductions, and avoidance performance data are based on a combination of measured and estimated emissions data using reasonable efforts and collection methods. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipeica. There is uncertainty associated with the emissions, reductions, and avoidance performance data due to variation in the processes and operations, the availability of sufficient data, quality of those data, and methodology used for measurement and estimation. Performance data may include rounding. Changes to the performance data may be reported as part of the company's annual publications as new or updated data and/or emission methodologies become available. We are working to continuously improve our performance and methods to detect, measure, and address greenhouse gas emissions. ExxonMobil works with industry, including API and Ipeica, to improve emission factors and methodologies, including measurements and estimates.
- These charts illustrate potential greenhouse gas abatement options for Scope 1 and 2 greenhouse gas emissions. These options are not all-inclusive and are subject to change as a result of a number of factors, including abatement reduction magnitude, implementation timing, abatement cost, portfolio changes, policy developments, technology advancements, and as annual company plans are updated. Includes energy attribute certificates, such as renewable energy certificates (RECs) and guarantees of origin (GOOs). Analysis as of November 2023.
- NETL Technical Report and User Guide (pg. 11), IPCC Carbon Dioxide Capture and Storage (pg. 14), [Special Issue commemorating the 10th year anniversary of the publication of the Intergovernmental Panel on Climate Change Special Report on CO₂ Capture and Storage](#).
- Market potential for emission reduction opportunity based on ExxonMobil analysis of CO₂ pipeline routes, current and potential capacity, potential emitters in the U.S. Gulf Coast market, and potential infrastructure upgrades. Subject to additional investment by ExxonMobil, customer commitments, supportive policy, and permitting for carbon capture and storage projects.
- Expected smaller footprint of lithium mining and expected lower carbon and water impacts: EM analysis of external sources and third party life-cycle analyses. 1) Vulcan Energy, 2022 <https://v-er.eu/app/uploads/2023/11/LCA.pdf>, Minviro publication. Grant, A., Deak, D., & Pell, R. (2020). 2) The CO₂ Impact of the 2020s Battery Quality Lithium Hydroxide Supply Chain-Jade Cove Partners. <https://www.jadecove.com/research/lihco2impact>. Kelly, J. C., Wang, M., Dai, Q., & Winjubi, O. (2021). 3) Energy, greenhouse gas, and water life cycle analysis of lithium carbonate and lithium hydroxide monohydrate from brine and ore resources and their use in lithium ion battery cathodes and lithium ion batteries. Resources, Conservation and Recycling, 174, 105762.
- International Energy Agency (2023), Tracking Clean Energy Progress 2023, IEA, Paris <https://www.iea.org/reports/tracking-clean-energy-progress-2023>, License: CC BY 4.0.
- Charts illustrate potential GHG abatement options for Scope 1 and 2 greenhouse gas emissions, based on current roadmaps for major operated assets and ExxonMobil analysis. These options are not all-inclusive, may not reflect investment decisions made by the company, and are subject to change as a result of a number of factors, including abatement reduction magnitude, implementation timing, abatement cost, portfolio changes, policy developments, technology advancement, alignment with our partners and other stakeholders, and as annual company plans are updated.
- ExxonMobil's GHG emissions pricing for 2023-2030 is based on currently stated existing or anticipated policies; pricing for 2030-2050 reflects presumed regional policies for both advanced and emerging economies.
- Based on preliminary ExxonMobil analysis of U.S. IRA provisions. All assumptions and interpretations of U.S. IRA incentives are subject to change. IRS has yet to publish guidance and regulations to implement the U.S. IRA 45V.
- International Energy Agency (2021), Net Zero by 2050, IEA, Paris; IEA NZE scenario per World Energy Outlook 2022, IEA, Paris; IEA Net Zero Roadmap: A Global Pathway to Keep the 1.5°C Goal in Reach 2023 Update, IEA, Paris.

Forward-Looking 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 AND OTHER IMPORTANT LEGAL DISCLAIMERS

Images or statements of future ambitions, plans, goals, events, projects, projections, opportunities, or conditions in the publications, including plans to reduce, abate, avoid or enable avoidance of emissions or reduce emissions intensity, sensitivity analyses, expectations, estimates, the development of future technologies, business plans, and sustainability efforts are dependent on future market factors, such as customer demand, continued technological progress, policy support and timely rule-making or continuation of government incentives and funding, and represent forward-looking statements. Similarly, emission-reduction roadmaps to drive toward net zero and similar roadmaps for emerging technologies and markets, and water management roadmaps to reduce freshwater intake and/or manage disposal, are forward-looking statements. These statements are not guarantees of future corporate, market or industry performance or outcomes for society and are subject to numerous risks and uncertainties, many of which are beyond our control or are even unknown.

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 and other methane initiatives, to meet greenhouse gas emission reduction plans or goals, divestment and start-up plans, and associated project plans; technology advances including in the timing and outcome of projects to capture and store CO₂ supply lower-emission fuels, produce hydrogen, produce lithium, obtain data on detection, measurement and quantification of emissions including reporting of that data or updates to previous estimates, and use plastic waste as feedstock for advanced recycling; progress in sustainability focus areas; and reserve or resource changes could vary depending on changes in supply and demand and other market factors affecting future prices of oil, gas, petrochemical or new market products and services; future cash flows; our ability to execute operational objectives on a timely and successful basis; policy and consumer support for emission-reduction and other advanced products and technology; changes in international treaties, laws, regulations and incentives, including those greenhouse gas emissions, plastics, carbon storage and carbon costs; evolving reporting standards for these topics and evolving measurement standards for reported data; 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 electrification of operations, advanced recycling, CCS, hydrogen production, or direct lithium extraction on a commercially competitive basis; availability of feedstocks for lower-emission fuels, hydrogen, 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, armed conflicts, or terrorism; and other factors discussed in this release and in item 1A. “Risk Factors” in ExxonMobil’s Annual Report on Form 10-K for 2022 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. The Advancing Climate Solutions Report includes 2022 greenhouse gas emissions performance data and Scope 3 Category 11 estimates for full-year 2022 as of March 1, 2023. The greenhouse gas intensity and greenhouse gas emission estimates include Scope 2 market-based emissions. The Sustainability Report, the Advancing Climate Solutions Report, and corresponding Executive Summaries were issued on Jan. 8, 2024. The content and data referenced in these publications focus primarily on our operations from Jan. 1, 2022 – Dec. 31, 2022, unless otherwise indicated. Tables on our “Metrics and data” page were updated on April 26, 2024, to reflect full-year 2023 data. Information regarding some known events or activities in 2023 are also included. No party should place undue reliance on these forward-looking statements, which speak only as of the dates of these publications. All forward-looking statements are based on management’s knowledge and reasonable expectations at the time of publication. We do not undertake to provide any further updates or changes to any data or forward-looking statements in these publications. 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.

See “ABOUT THE ADVANCING CLIMATE SOLUTIONS AND SUSTAINABILITY REPORTS” at the end of this document for additional information on these reports and the use of non-GAAP and other financial measures.

ABOUT THE ADVANCING CLIMATE SOLUTIONS AND SUSTAINABILITY REPORTS

The Advancing Climate Solutions Report contains terms used by the TCFD, as well as information about how the disclosures in this report are consistent with the recommendations of the TCFD. In doing so, ExxonMobil is not obligating itself to use any terms in the way defined by the TCFD or any other party, nor is it obligating itself to comply with any specific recommendation of the TCFD or to provide any specific disclosure. For example, with respect to the term “material,” individual companies are best suited to determine what information is material, under the long-standing U.S. Supreme Court definition, and whether to include this information in U.S. Securities and Exchange Act filings. In addition, the ISSB is evaluating standards that provide their interpretation of TCFD which may or may not be consistent with the current TCFD recommendations.

These publications have been prepared at shareholders’ request or for their convenience and intentionally focused on unknown future events that we have been asked to consider. Forward-looking and other statements regarding environmental and other sustainability efforts and aspirations are not intended to communicate any material investment information under the laws of the United States or represent that these are required disclosures. These publications are not intended to imply that ExxonMobil has access to any significant non-public insights on future events that the reader could not independently research. In addition, historical, current, and forward-looking environmental and other 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 laws and rulemaking. Forward-looking and other statements regarding environmental and other sustainability efforts and aspirations are for informational purposes only and are not intended as an advertisement for ExxonMobil’s equity, debt, businesses, products, or services and the reader is specifically notified that any investor-requested disclosure or future required disclosure is not and should not be construed as an inducement for the reader to purchase any product or services. The statements and analysis in these publications represent a good faith effort by the Company to address these investor requests despite significant unknown variables and, at times, inconsistent market data, government policy signals, and calculation, methodologies, or reporting standards.

Actions needed to advance ExxonMobil’s 2030 greenhouse gas emission-reductions plans are incorporated into its medium-term business plans, which are updated annually. The reference case for planning beyond 2030 is based on the Company’s Global Outlook research and publication. The Global Outlook is reflective of the existing global policy environment and an assumption of increasing policy stringency and technology improvement to 2050. However, the Global Outlook does not attempt to project the degree of required future policy and technology advancement and deployment for the world, or ExxonMobil, to meet net zero by 2050. As future policies and technology advancements emerge, they will be incorporated into the Global Outlook, and the Company’s business plans will be updated as appropriate. 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, permitting, technological advancement for cost-effective abatement, insights from the company planning process, and alignment with our partners and other stakeholders. Capital investment guidance in lower-emission investments is based on our corporate plan; however, actual investment levels will be subject to the availability of the opportunity set, public policy support, other factors, and focused on returns.

Energy demand modeling aims to replicate system dynamics of the global energy system, requiring simplifications. The reference to any scenario or any pathway for an energy transition, 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, with steeper reductions required each year since the scenario’s initial release. Third-party scenarios discussed in these reports 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. These reports contain information from third parties. ExxonMobil makes no representation or warranty as to the third-party information. Where necessary, ExxonMobil received permission to cite third-party sources, but the information and data remain under the control and direction of the third parties. ExxonMobil has also provided links in this report to third-party websites for ease of reference. ExxonMobil’s use of the third-party content is not an endorsement or adoption of such information.

ExxonMobil reported emissions, including reductions and avoidance performance data, are based on a combination of measured and estimated data. We assess our performance to support continuous improvement throughout the organization using our Environmental Performance Indicator (EPI) process. The reporting guidelines and indicators in the Ipieca, the American Petroleum Institute (API), the International Association of Oil and Gas Producers Sustainability Reporting Guidance for the Oil and Gas Industry (4th edition, 2020, revised February 2023) and key chapters of the GHG Protocol inform the EPI process and the selection of the data reported. 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, abatements and enabled 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.

Any reference to ExxonMobil’s support of, work with, or collaboration with a third-party organization within these publications do not constitute or imply an endorsement by ExxonMobil of any or all of the positions or activities of such organization. ExxonMobil participates, along with other companies, institutes, universities and other organizations, in various initiatives, campaigns, projects, groups, trade organizations, and other collaborations among industry and through organizations like the United Nations that express various ambitions, aspirations and goals related to climate change, emissions, sustainability, and the energy transition. ExxonMobil’s participation or membership in such collaborations is not a promise or guarantee that ExxonMobil’s individual ambitions, future performance or policies will align with the collective ambitions of the organizations or the individual ambitions of other participants, all of which are subject to a variety of uncertainties and other factors, many of which may be beyond ExxonMobil’s control, including government regulation, availability and cost-effectiveness of technologies, and market forces and other risks and uncertainties. Such third parties’ statements of collaborative or individual ambitions and goals frequently diverge from ExxonMobil’s own ambitions, plans, goals, and commitments. ExxonMobil will continue to make independent decisions regarding the operation of its business, including its climate-related and sustainability-related ambitions, plans, goals, commitments, and investments. ExxonMobil’s future ambitions, goals and commitments reflect ExxonMobil’s current plans, and ExxonMobil may unilaterally change them for various reasons, including adoption of new reporting standards or practices, market conditions, changes in its portfolio; and financial, operational, regulatory, reputational, legal and other factors.

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 under the header “Resources.” References to “oil” and “gas” include crude, natural gas liquids, bitumen, synthetic oil, and natural gas. The term “project” as used in these publications can refer to a variety of different activities and does not necessarily have the same meaning as in any government payment transparency reports.

Exxon Mobil Corporation has numerous affiliates, many with names that include ExxonMobil, Exxon, Mobil, Esso, and XTO. For convenience and simplicity, those terms and terms such as “Corporation,” “company,” “our,” “we,” and “its” are sometimes used as abbreviated references to one or more specific affiliates or affiliate groups. Abbreviated references describing global or regional operational organizations, and global or regional business lines are also sometimes used for convenience and simplicity. Nothing contained herein is intended to override the corporate separateness of affiliated companies. Exxon Mobil Corporation’s goals do not guarantee any action or future performance by its affiliates or Exxon Mobil Corporation’s responsibility for those affiliates’ actions and future performance, each affiliate of which manages its own affairs. For convenience and simplicity, words like venture, joint venture, partnership, co-venturer and partner are used to indicate business relationships involving common activities and interests, and those words may not indicate precise legal relationships. These publications cover Exxon Mobil Corporation’s owned and operated businesses and do not address the performance or operations of our suppliers, contractors or partners unless otherwise noted. In the case of certain joint ventures for which ExxonMobil is the operator, we often exercise influence but not control. Thus, the governance, processes, management and strategy of these joint ventures may differ from those in these reports. At the time of publication, ExxonMobil has completed the acquisition of Denbury Inc. and is in the process of acquiring Pioneer Natural Resources. These reports do not speak of these companies’ historic governance, risk management, strategy approaches or emissions performance unless specifically referenced.

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SUPPLEMENTAL INFORMATION FOR NON-GAAP AND OTHER MEASURES

The Resiliency section of the Advancing Climate Solutions Report 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 the Advancing Climate Solutions Report and Sustainability Report, including on emissions, is not financial data and is not GAAP data.