ExxonMobil

Advancing Climate Solutions

Progress Report 2025

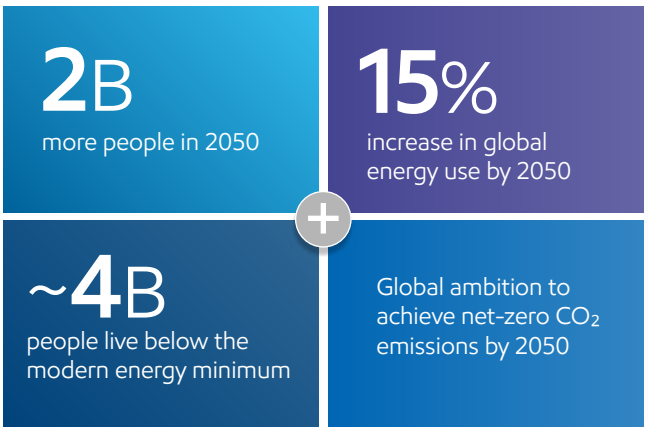
April 2025

Contents

Solving the "and" equation - **Meeting demand *and* reducing emissions**

Climate change is real and stands as one of the major challenges facing the world today. **But it's not the only one.**

Here's another – the need to reliably provide affordable energy and critical products necessary to improve living standards around the world.



2024 Global Outlook

Some call this the "dual challenge." But where some see challenges, we see solutions. The world doesn't have to choose between higher living standards and lower emissions. We can do both. It is an "and" equation, and we're bringing solutions to help solve it.

Energy poverty remains far too common. The policies that drive innovation are not advancing fast enough for the world to achieve its net-zero aspirations by 2050.

Both the United Nations and the International Energy Agency acknowledge the world is ***not*** on the path to meet the goals of the Paris Agreement.[1,2]

"If you were to list the biggest challenges facing humankind, energy poverty and climate change are at the top. And if you list the companies with a realistic chance to help improve access to energy and help 'bend the curve' on emissions, ExxonMobil would also be at the top."

Darren Woods, ExxonMobil Chairman and CEO

Pledges are not enough. The world needs a plan.

In this Advancing Climate Solutions report, we discuss how ExxonMobil has the right tools, technologies, and people to help the world bend the curve on emissions. We highlight our work to:

- Reduce our own emissions and others'.
- Achieve our 2030 emission-intensity reduction plans.[3]
- Apply our leading-edge capabilities to profitably grow our low-carbon business.

We also propose rational and constructive policies, focused on product-level carbon-intensity standards and a well-designed carbon emissions accounting framework, that we believe will, if implemented, help the world speed up a thoughtful energy transition and still meet society's needs for energy and products.

Key takeaways

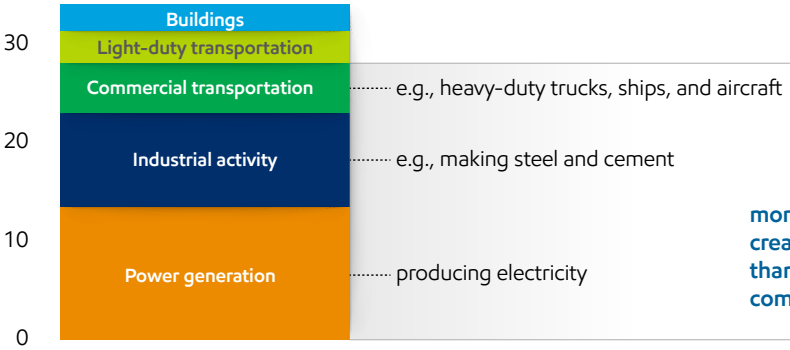
1. We're pursuing up to $30 billion in lower-emission investments 2025-2030.[4]
2. We're on track to meet our 2030 emission-reduction plans.
3. We've built a robust business that is positioned to grow in any future.
4. We're proposing policy solutions that we believe will bring emissions down more effectively and efficiently.

World-scale problems -
Call for world-scale solutions

As the world works to meet demand for energy and products, it generates about 34 billion metric tons of energy-related CO_2 emissions per year.[5]

Three sectors make up ~80% of that – commercial transportation, industrial activity, and power generation.

Energy-related emissions (CO_2 billion metric tons)



2024 Global Outlook

8x

more CO_2 emissions are created by these sectors than all passenger vehicles combined.

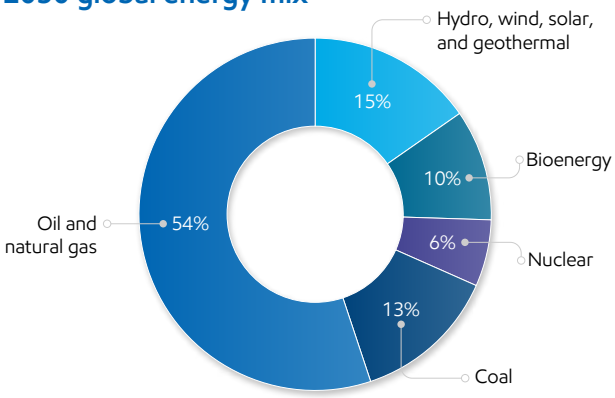
For the world to make a real dent in emissions, it will take a lot more than just switching to renewables.

Getting to net zero requires very large-scale solutions.

Finding solutions that work will take new technology, rational and constructive policy, and competitive markets that drive innovation and pay for emission reductions. It will take sustained investments to:

- Meet society's growing needs for reliable and affordable energy and products.
- Create economic growth, especially in developing countries.
- Develop new technologies that affordably reduce global emissions.

2050 global energy mix



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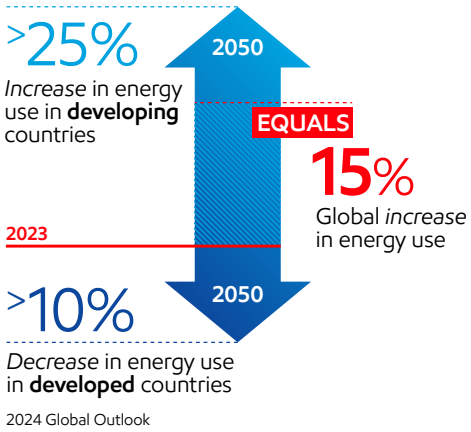
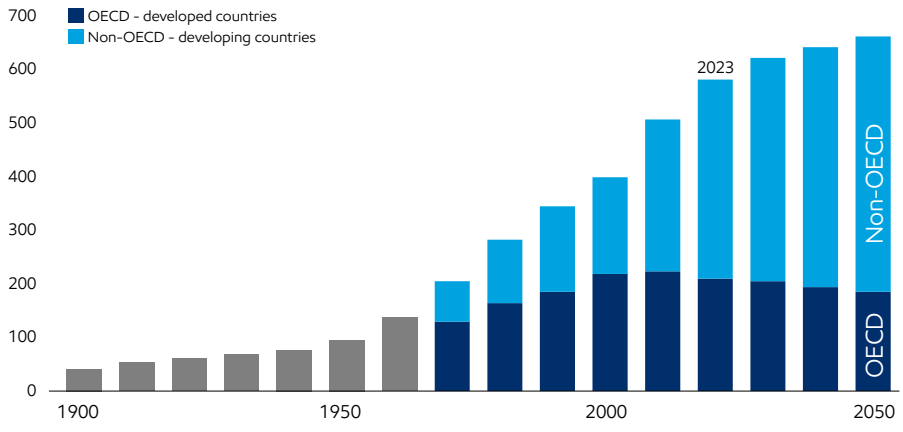


2024 Global Outlook

Global energy demand (Quadrillion British thermal units)



Only 3 of 50+ technologies needed for the world to achieve net zero by 2050 are "on track" – and in many countries, grid investments aren't keeping pace.[6,7]

- International Energy Agency

The opportunity - **Transforming molecules to help solve the "and" equation**

ExxonMobil has thrived for more than 140 years transforming the molecules that form the foundation of our physical world into solutions that meet society's critical needs.

Examples of how we apply technology to transform molecules:

Capturing, transporting, and storing CO_2.	The U.N. describes carbon capture and storage as a "critical" mitigation option. We have the only large-scale end-to-end CCS system.[8,9]
Producing hydrogen from natural gas with CCS.	Working to develop the world's largest hydrogen production facility to produce virtually carbon-free hydrogen (with ~98% of CO_2 captured and stored).[10]
Liquifying gas to economically transport it around the world to power homes and industries.	Liquefied natural gas can eliminate up to 60% of GHG emissions when it replaces coal to generate electricity.[11]
Upgrading low-value molecules into valuable products that reduce carbon emissions.*	High-value carbon materials like Proxxima™ thermoset resins and certified-circular polymers can turn gasoline components and discarded plastic into value.

* "Reduce carbon emissions" applies to Proxxima™. See footnote 21. Certified-circular polymers are virgin quality plastics that are accompanied by an ISCC PLUS "Sustainability Declaration" that matches the mass of virgin quality plastics that we sell to a corresponding amount of plastic waste that we transformed back into usable raw materials through advanced recycling. Certified-circular polymers do not represent specific amounts of GHG emissions or recycled content.

ExxonMobil's competitive advantages and strategic priorities

People | Technology | Scale | Integration | Execution excellence

This unique combination of strengths forms the foundation of our company and drives our strategic priorities:

Leading performance

Industry leader in shareholder returns, earnings and cash-flow growth, safety, reliability, GHG emissions intensity, and cost and capital efficiency.

Essential partner

Create value through win-win solutions for our customers, partners and broader stakeholders, including the communities where we operate.

Advantaged portfolio

Portfolio of assets and products that outperform competition and grow value in a lower-emissions future; flexible portfolio of industry-leading, high-return investments that strengthens our competitive position in an evolving world.

Innovative solutions

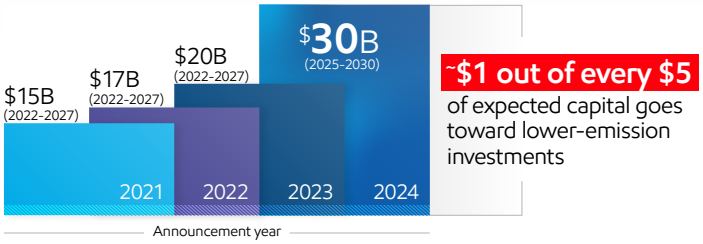
Develop new products, approaches and technologies to improve competitiveness and accelerate large-scale deployment of solutions essential to modern life and a lower emissions future.

Meaningful development

A diverse and engaged organization that provides every individual unrivalled opportunities for personal and professional growth with impactful work meeting society's evolving needs.

Increasing investments to lower emissions - **Our own and others'**

Increasing lower-emission investments[12]



Our investments in carbon capture and storage, hydrogen, biofuels, and lithium have the potential to reduce third-party emissions by more than 50 million metric tons per year by 2030.[13]

Per the U.S. EPA, that's equal to the CO_2 emissions from nearly 10 million U.S. homes' electricity use for one year.[14] To put this in context, **that's nearly double** the **number of** single-family homes in New York City, Houston, and Los Angeles **combined**.

"When it comes to developing lower-emission solutions beyond wind, solar, and electric vehicles, nobody is doing more."

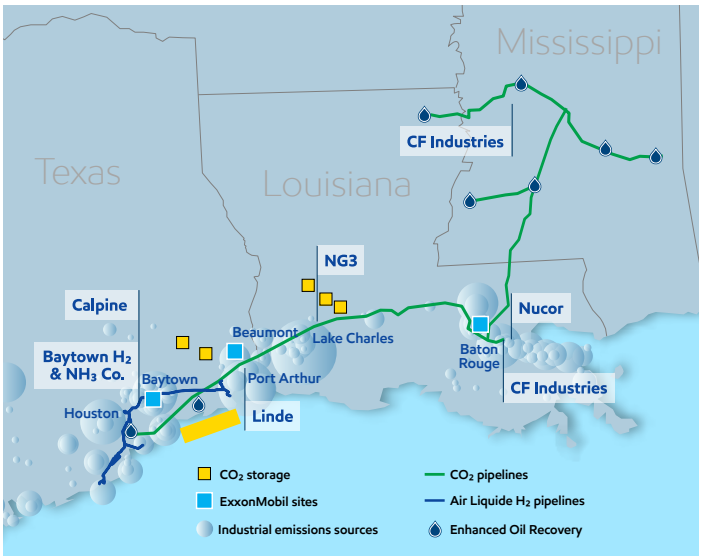
Darren Woods, ExxonMobil Chairman and CEO
CERAWeek 2024

Getting the world to net zero requires all technologies to be in the mix.

Here's what we're working on today to help lower emissions in hard-to-decarbonize sectors:

- **Carbon capture and storage:** We have the largest CO_2 pipeline network in the United States, and we have agreements with major industrial customers to transport and store up to 8.7 million metric tons of direct CO_2 emissions per year.[15] On our way to 30 million metric tons per year under contract by 2030.[16]
- **Hydrogen:** We're working to develop the world's largest plant to produce virtually carbon-free hydrogen (with ~98% of CO_2 captured and stored),[17] with planned capacity that meets nearly 10% of the U.S. Department of Energy Hydrogen Program Plan's projected 10 million metric tons of hydrogen per year by 2030.[18]

Advantaged U.S. Gulf Coast position[19]

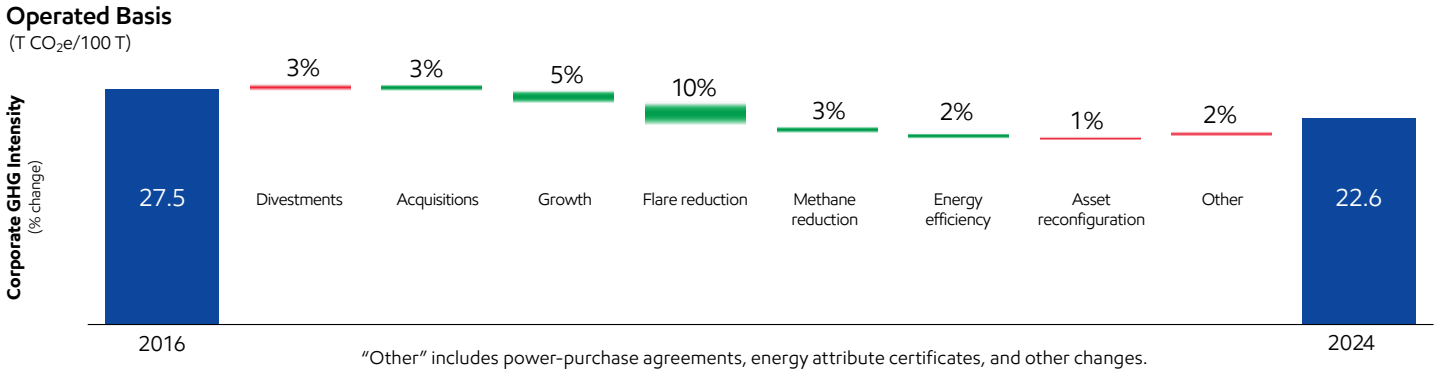


- **Liquefied natural gas:** (LNG): We expect to surpass 40 million metric tons of LNG sales per year by 2030 with large-scale projects in the United States, Papua New Guinea, Mozambique, and Qatar.
- **Biofuels:** We're building renewable diesel facilities at our majority-owned affiliate Imperial Oil's Strathcona refinery, expected to start up in 2025 using locally sourced bio-feedstock.
- **Lithium:** We aim to become a substantial lithium supplier by producing low-cost lithium using a process that has far less environmental impact than traditional hard rock mining.[20]
- **Carbon materials:** We see opportunities to transform low-value, carbon-rich materials from refining and petrochemical processes to create high-value products for growing markets – including battery components for applications in EVs and beyond.
- **Proxxima™ resin systems:** We're transforming low-value gasoline molecules into a high-value resin that is lighter weight, corrosion-resistant, and more durable than steel. This material also has less than half the GHG emissions of many traditional thermoset resins.[21]
- **Direct air capture:** Negative-emission solutions like direct air capture could play a big role in meeting the world's net-zero goals. We've launched a pilot project using our own unique design that has the potential to significantly lower costs.

Our plans and progress - **2030 GHG emission-reduction plans and 2050 net-zero ambition**

Since 2016, we've reduced our operated GHG emissions intensity by more than 15%, driven by methane and flaring reductions, and improved energy efficiency.

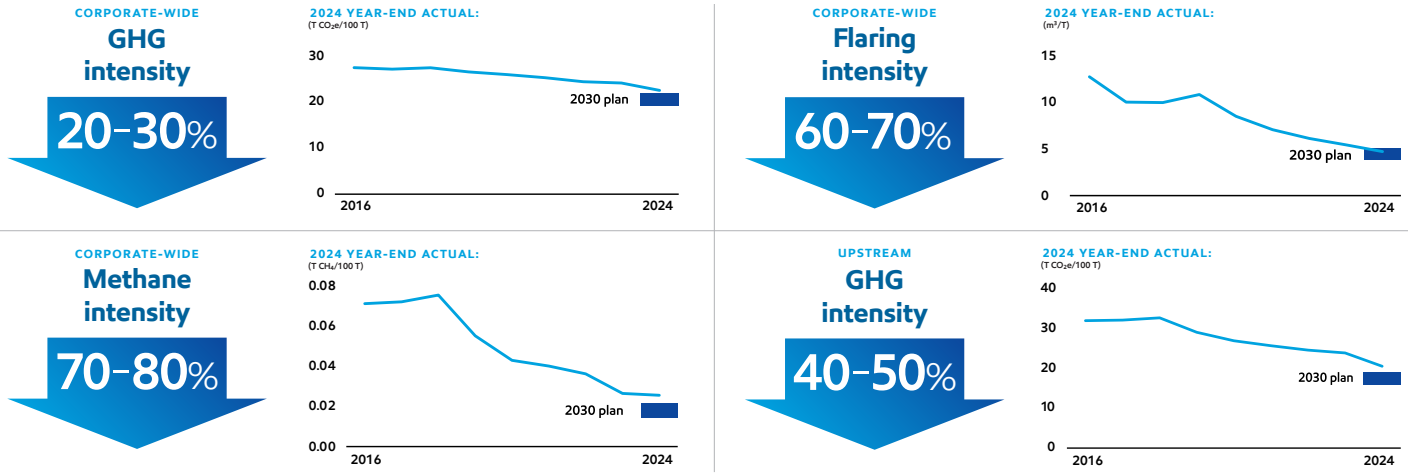
>15% reduction in corporate-wide GHG emissions intensity[22]



"Other" includes power-purchase agreements, energy attribute certificates, and other changes.

Our 2030 plans drive further reductions vs. 2016 – and we're on track to meet them[23]

Applies to Scope 1 and 2 GHG emissions from operated assets



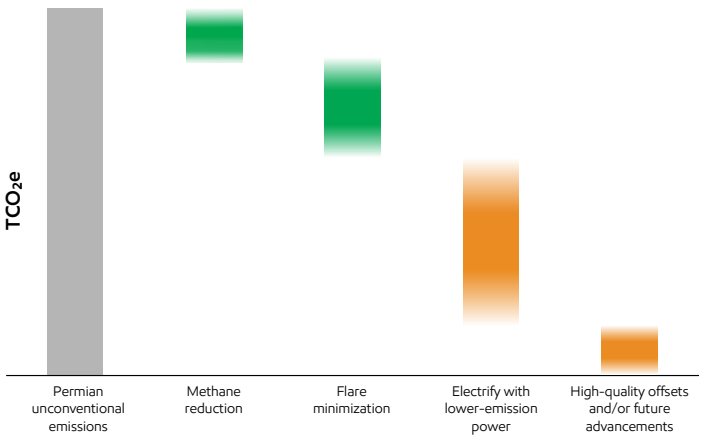
Our 2050 net-zero ambition

In January 2022, we announced a 2050 net-zero GHG ambition for our operated assets, which requires new advancements in technology and practical government policies.[24]

Since then, it's become even clearer that supportive technology and stronger policies are critical to reach net zero by 2050. Currently, society's progress continues to lag in these areas.[25] Without the right policies and the innovations they drive, net zero 2050 will remain out of reach - for society and ExxonMobil.

For our part, we're planning to pursue up to $30 billion in lower-emission investments between 2025 and 2030.[26] We're also on track with our 2030 emissions-intensity reduction plans, which we actively steward as part of our business plans.[27]

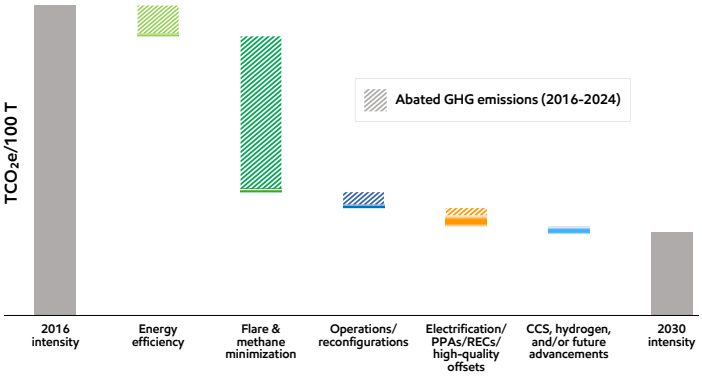
Potential GHG abatement options for ExxonMobil operated assets supporting 2030 Permian unconventional net-zero plan[28]

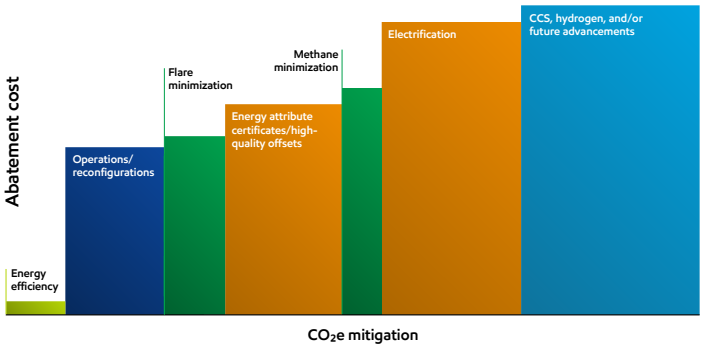


Our plans and progress -
Building a business for the long term

Informed by our Global Outlook, we update our business plans to advance our 2030 emission-intensity reduction objectives every year. The roadmap and abatement curve below help illustrate the potential pathways for achieving these goals.

Abatement options for operated assets to advance 2030 Scope 1 & 2 GHG emission-intensity reduction plans[29]





Our plans to reduce emissions through 2030 include:

- Achieving net-zero Scope 1 and 2 GHG emissions in our heritage Permian Basin unconventional operated assets.
- Advancing technologies, including satellite, aerial, and ground-sensor networks to detect and further reduce methane emissions.
- Eliminating routine flaring in our upstream operations in line with the World Bank Zero Routine Flaring Initiative.[30]
- Deploying carbon capture and storage, hydrogen, and lower-emission fuels in our operations.
- Electrification of equipment and integration of lower GHG energy sources.
- Improving energy efficiency in our businesses by evolving operational, maintenance, and design processes.

Well-positioned for a lower-emissions future

No single transition pathway can be reasonably predicted. There is still a wide range of uncertainties.

As a result, we assess the strength of our business and investment portfolio against a range of future scenarios, including the IEA Net Zero Emissions by 2050 (NZE) scenario. The NZE assumes net zero by 2050 and lays out what would have to occur for that to happen. Notably, even the IEA acknowledges that society is not on the NZE pathway.

Our modeling, using the extreme assumptions in the NZE, continues to demonstrate that our business is well positioned to generate growth and value even in such a remote scenario.

In this scenario and others, we see great potential for products in our portfolio critical to achieve society's net-zero ambition, including chemicals, carbon capture and storage, hydrogen, lower-emission fuels, Proxxima™ systems, and carbon materials.

We have updated our NZE modeling, which has been validated by a third party. Changes to the NZE scenario have not changed the outcome of our assessments.

If our business is robust to such an extreme scenario, we have great confidence it is very well positioned in more realistic pathways.

Our plans and progress - **Spotlight on methane emissions**

Methane is the principal component of natural gas.

What makes natural gas a valuable source of energy?

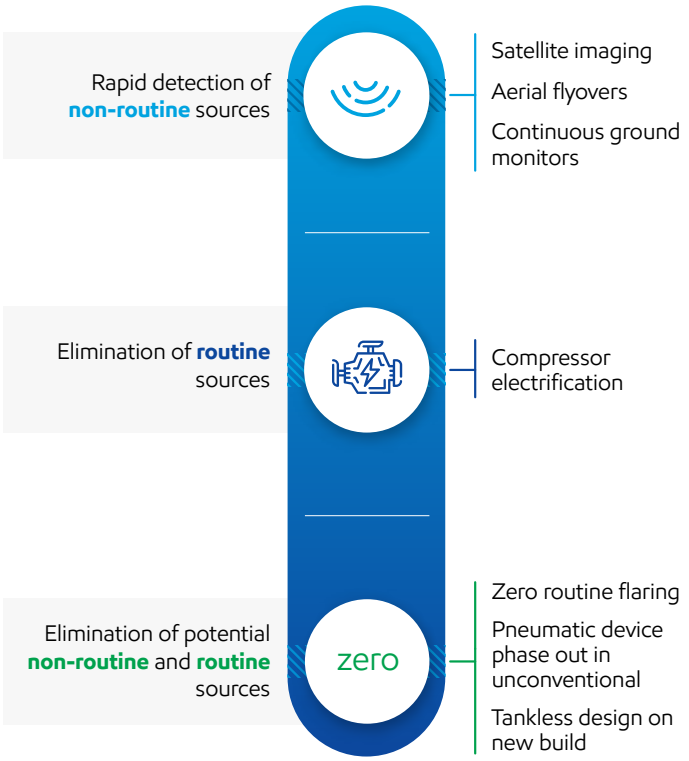
- It's reliable, flexible, and transportable.
- It's abundant in many places around the world.
- It reduces CO_2 emissions by up to 60% when used to generate electricity vs. coal.[32]

But to fully realize the benefits of natural gas, methane must be managed, because it is a potent GHG. That's why it's important for us to keep methane contained in our operations, including pipeline networks, storage tanks, and processing equipment.

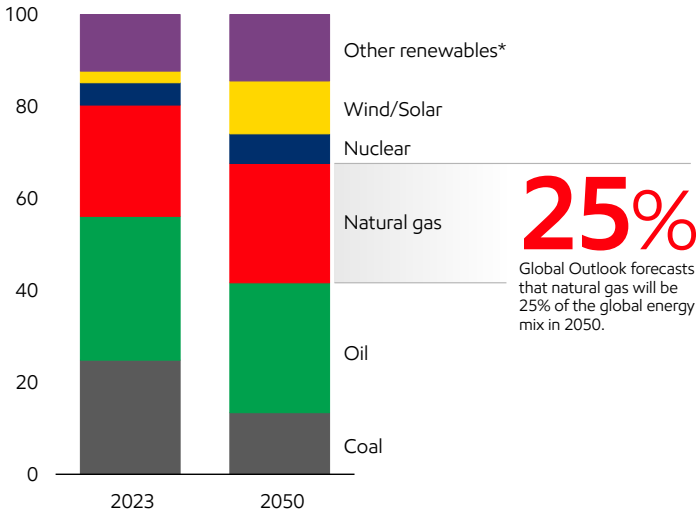
And we're making good progress. Methane and flaring reductions made up the bulk of our more than 15% company-wide emissions-intensity reductions since 2016.

Finding methane leaks in diverse environments, across vast acreage, at every point in our operations isn't easy. But we continue to develop and deploy technology for rapid detection, quantification, and mitigation of sources of methane at our operated assets.

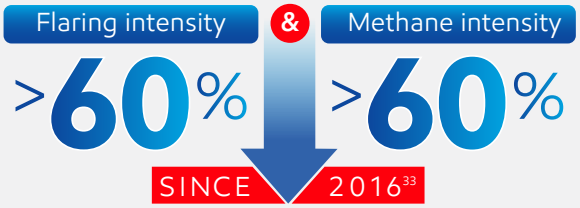
ExxonMobil's focus on methane emissions- from ground, air, and space



Natural gas demand continues to grow, and our Global Outlook forecasts that it will be 25% of the global energy mix in 2050.



* Includes biomass, biofuels, hydropower, geothermal
2024 Global Outlook



Our key collaborations:

Oil & Gas Decarbonization Charter as announced at COP28

- Industry-wide ambition for net-zero Scope 1 and 2 emissions for owned assets by 2050.
- Plans for methane, including near-zero upstream methane emissions by 2030 and zero routine flaring by 2030.
- Advocacy for best practices and policies to accelerate net zero.

U.N. Oil & Gas Methane Partnership (OGMP) 2.0

- Participating companies detect, quantify, verify, and report on methane emissions.

Rational and constructive policy - **Key to meeting demand for energy products and reducing carbon emissions**

Policy can, and must, work hand-in-hand with technology to accelerate a thoughtful energy transition. Any policy that doesn't help solve the "and" equation is neither rational nor just.

Today's approach is too narrowly focused on reducing supply, even as global demand continues to rise. That can lead to shortages, higher prices for essential products, and a world in which energy poverty remains far too common.

There's a better way.

ONLY

63 of 1,500

climate policies passed in the past 25 years have worked to reduce GHGs[34]

We propose **product-level carbon-intensity standards** that are underpinned by a uniform, accurate, and broadly applied **direct carbon emissions accounting framework (CEA)** based on the principles of chemistry and finance.

Chemistry: Understanding how and when CO_2 emissions are created, reduced, or emitted.

Accounting: When the emissions from each product and service are counted, the total must equal the total CO_2 emitted to the atmosphere.

Product-level carbon-intensity standards are proven. They are adjustable. And they allow for the most cost-effective solutions for consumers. There are many successful examples of product standards that have reduced or eliminated pollutants in diesel, marine fuel, refrigerants, and gasoline. The same principles can be applied to reduce emissions intensity.

That's how society can bend the curve on emissions while meeting people's needs.

1 IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.)]. IPCC, Geneva, Switzerland, pp. 1-34, doi: 10.59327/IPCC/AR6-9789291691647.001: https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.

2 IEA (2023), Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach, IEA, Paris https://www.iea.org/reports/net-zero-roadmap-a-global-pathway-to-keep-the-15-0c-goal-in-reach, Licence: CC BY 4.0.

3 Based on Scope 1 and Scope 2 emissions from operated assets. Intensity is calculated as emissions per metric ton of throughput/production. ExxonMobil 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 Ipieca. 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 Ipieca, to improve emission factors and methodologies, including measurements and estimates.

4 Lower-emissions cash capex includes cash capex attributable to carbon capture and storage, hydrogen, lithium, biofuels, Proxxima™ systems, carbon materials, and activities to lower ExxonMobil's emissions and/or third party (3P) emissions. Planned spend is from 2025-2030: https://d1io3yog0oux5.cloudfront.net/_55ef03a4ca6327454ca16bd9d75cb53a/exxonmobil/db/2261/22349/file/Corporate_Plan_Update_and_Upstream_Spotlight_Press_Release_Final.pdf.

5 ExxonMobil 2024 Global Outlook.

6 IEA (2023), Tracking Clean Energy Progress 2023, IEA, Paris https://www.iea.org/reports/tracking-clean-energy-progress-2023, Licence: CC BY 4.0.

7 IEA (2024), Renewables 2024, IEA, Paris https://www.iea.org/reports/renewables-2024, Licence: CC BY 4.0.

8 IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA. doi: 10.1017/9781009157926.

9 "End-to-end CCS system" entails CO_2 capture as well as transportation and storage of CO_2. Based on contracts to move up to 8.7 MTA CO_2, subject to additional investment by ExxonMobil and receipt of government permitting for carbon capture and storage projects.

10 References to virtually carbon-free hydrogen pertain to hydrogen expected to be produced at ExxonMobil's Baytown, TX facility, where approximately 98% of CO_2 is removed and permanently stored.

11 Based on ExxonMobil analysis for power plant use including EIA U.S. electricity net generation and resulting CO_2 emissions: https://www.eia.gov/tools/faqs/faq.php?id=74&t=11. Reductions may vary based on regional differences and other variables.

12 Lower emissions cash capex includes cash capex attributable to carbon capture and storage, hydrogen, lithium, biofuels, Proxxima™ systems, carbon materials, and activities to lower ExxonMobil's emissions and/or third party (3P) emissions. Planned spend is from 2025-2030: https://d1io3yog0oux5.cloudfront.net/_55ef03a4ca6327454ca16bd9d75cb53a/exxonmobil/db/2261/22349/file/Corporate_Plan_Update_and_Upstream_Spotlight_Press_Release_Final.pdf.

13 We see the opportunity to help other essential industries and customers achieve their goals to lower emissions. Estimates of GHG emissions are on a life cycle basis and include avoided and abated emissions from hydrogen, lower emission fuels, and carbon capture and storage. For example, customers could avoid up to 25 MTA of their GHG emissions if all of ExxonMobil's projected 2030 supply to the market of lower-emission fuels displaces conventional fuel refined from crude oil. Calculation is an ExxonMobil analysis illustrating the general benefits of lower-emission fuels based on estimated fuel carbon intensity (CI) from various third-party sources (such as Argonne National Labs' GREET model) as compared against its conventional fuel alternate on a life cycle basis. Calculation is an estimate that represents a range of potential outcomes that are based on certain assumptions. Estimates are based on the potential implementation of projects or opportunities that are at various stages of maturity. Individual projects or opportunities may advance to a final investment decision by the company based on a number of factors, including availability of supportive policy and permitting, technology and infrastructure for cost-effective abatement, and alignment with our partners and other stakeholders. Actual avoided and abated emissions may differ.

14 EPA's greenhouse gas equivalencies calculator: Carbon dioxide or CO_2 equivalent converted to a U.S. home's electricity use for one year: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results.

15 Based on contracts to move up to 8.7 MTA CO_2, subject to additional investment by ExxonMobil and receipt of government permitting for carbon capture and storage projects.

16 30 million metric tons of CO_2 captured and stored by 2030 subject to additional investment by ExxonMobil, receipt of government permitting for carbon capture and storage projects, and start up of low-carbon hydrogen project in Baytown, TX.

17 The Baytown hydrogen project is pre-FID. Final investment decision anticipated in 2025 subject to final 45V regulations for hydrogen production credits.

18 U.S. Department of Energy's National Hydrogen Program Plan: https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/hydrogen-program-plan-2024.pdf?sfvrsn=bfc739dd_1.

19 Information shown is approximate (e.g., storage / pipeline location) and has potential to change as projects are developed and implemented. CO_2 Storage includes Class VI Permit Application and GLO Storage Site Access.

20 Expected smaller footprint of lithium mining and expected lower carbon and water impacts: EM analysis of external sources and third party life-cycle analyses. a) Vulcan Energy, 2022 https://v-er.eu/app/uploads/2023/11/LCA.pdf, Minviro publication. Grant, A., Deak, D., & Pell, R. (2020). b) The CO_2 Impact of the 2020s Battery Quality Lithium Hydroxide Supply Chain-Jade Cove Partners. https://www.jadecove.com/research/liohco2impact. Kelly, J. C., Wang, M., Dai, Q., & Winjobi, O. (2021). c) 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.

21 EM estimate calculated based on volumetric displacement of epoxy resin on a cradle to gate basis. Source: Comparative Carbon Footprint of Product ExxonMobil's Proxxima™ Resin System to Alternative Resin Systems, June 2023 , prepared by Sphera Solutions , Inc. for ExxonMobil Technology and Engineering Company. The study was confirmed to be conducted according to and in compliance with ISO 14067: 2018 by an independent third party critical review panel materia-inc.com/what-do-we-do/our-products/creating-sustainable-solutions/lca-executive-summary.

22 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 Ipieca. 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 Ipieca, to improve emission factors and methodologies, including measurements and estimates.

23 Based on Scope 1 and Scope 2 emissions from operated assets. Intensity is calculated as emissions per metric ton of throughput/production. ExxonMobil 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 Ipieca. 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 Ipieca, to improve emission factors and methodologies, including measurements and estimates.

24 See our website at corporate.exxonmobil.com/news/news-releases for January 18, 2022, release of Scope 1 and Scope 2 net-zero ambition for operated assets by 2050.

25 IEA (2024), World Energy Outlook 2024, IEA, Paris https://www.iea.org/reports/world-energy-outlook-2024, Licence: CC BY 4.0 (report); CC BY NC SA 4.0 (Annex A); IPCC: AR6 Scenarios Database hosted by International Institute for Applied Systems Analysis (IIASA) release 1.0 average. IPCC C3: "Likely Below 2°C" scenarios.

26 Lower-emissions cash capex includes cash capex attributable to carbon capture and storage, hydrogen, lithium, biofuels, Proxxima™ systems, carbon materials, and activities to lower ExxonMobil's emissions and/or third party (3P) emissions. Planned spend is from 2025-2030: https://d1io3yog0oux5.cloudfront.net/_55ef03a4ca6327454ca16bd9d75cb53a/exxonmobil/db/2261/22349/file/Corporate_Plan_Update_and_Upstream_Spotlight_Press_Release_Final.pdf.

27 Based on Scope 1 and Scope 2 emissions from operated assets. Intensity is calculated as emissions per metric ton of throughput/production. ExxonMobil 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 Ipieca. 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 detect, measure and address greenhouse gas emissions. ExxonMobil works with industry, including API and Ipieca, to improve emission factors and methodologies, including measurements and estimates.

28 This chart illustrates 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).

29 These charts illustrate historical reductions and potential greenhouse gas abatement options for Scope 1 and 2 greenhouse gas emissions. The abatement 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). Historical reductions and potential abatement options have been normalized to exclude the impacts of divestments, acquisitions, and growth. Analysis as of April 2024.

30 References to routine flaring herein are consistent with the World Bank's Zero Routine Flaring by 2030 Initiative/Global Flaring & Methane Reduction (GFMR) Partnership principle of routine flaring, and excludes safety and non-routine flaring.

31 See our website at corporate.exxonmobil.com/news/news-releases for May 3, 2024, release announcing the completion of the Pioneer Natural Resources Company acquisition.

32 Based on ExxonMobil analysis for power plant use including EIA U.S. electricity net generation and resulting CO_2 emissions: https://www.eia.gov/tools/faqs/faq.php?id=74&t=11. Reductions may vary based on regional differences and other variables.

33 Emission metrics are based on assets operated by ExxonMobil, using the latest performance and plan data available as of 3/1/2025. Flaring intensity is calculated as m^3 per metric ton of throughput or production. Methane intensity is calculated as metric tons CH_4 per 100 metric tons of throughput or production. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipieca. 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 Ipieca, to improve emission factors and methodologies, including measurements and estimates.

34 Science, Vol. 385, No. 6711, Climate policies that achieved major emission reductions: Global evidence from two decades: https://www.science.org/doi/10.1126/science.adl6547.

Growing Low Carbon Solutions

Key takeaways

1. With our expertise in molecule management, we are positioned to scale a portfolio of lower emissions energy solutions through our Low Carbon Solutions (LCS) business.

2. Our strategic focus on the U.S. Gulf Coast leverages the existing infrastructure and client base that makes the region an industrial powerhouse for cost-effective decarbonization.

3. Supportive policy is critical to drive projects in this nascent industry, and a transition to market-forming policies is needed to help grow LCS in the long term.

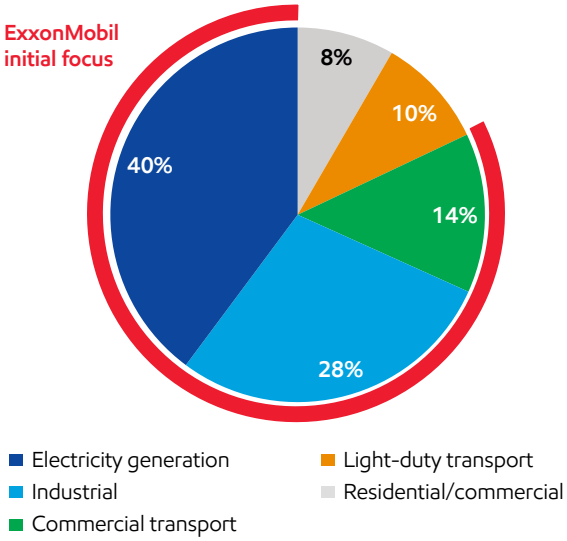
Accelerating the world's paths to net zero by building a new business with new markets

The world currently generates about 34 billion metric tons of energy-related CO_2 emissions per year. Industrial activity, power generation, and commercial transportation together account for ~80% of those emissions.[1] Emission-reduction markets in these hard to decarbonize sectors potentially represent a $6 trillion opportunity by 2050.[2]

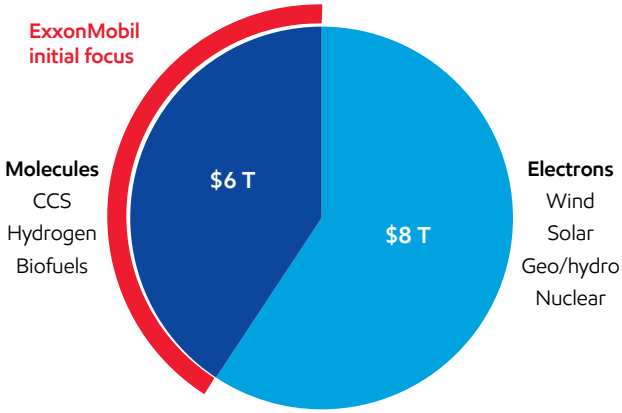
This provides significant opportunities for our Low Carbon Solutions business, where we're working to establish a competitively advantaged foundation that secures a leading position in these new markets.

Energy-related CO_2 emissions by sector, 2023[3]

34 billion metric tons



Potential size of low-carbon markets, 2050[4]

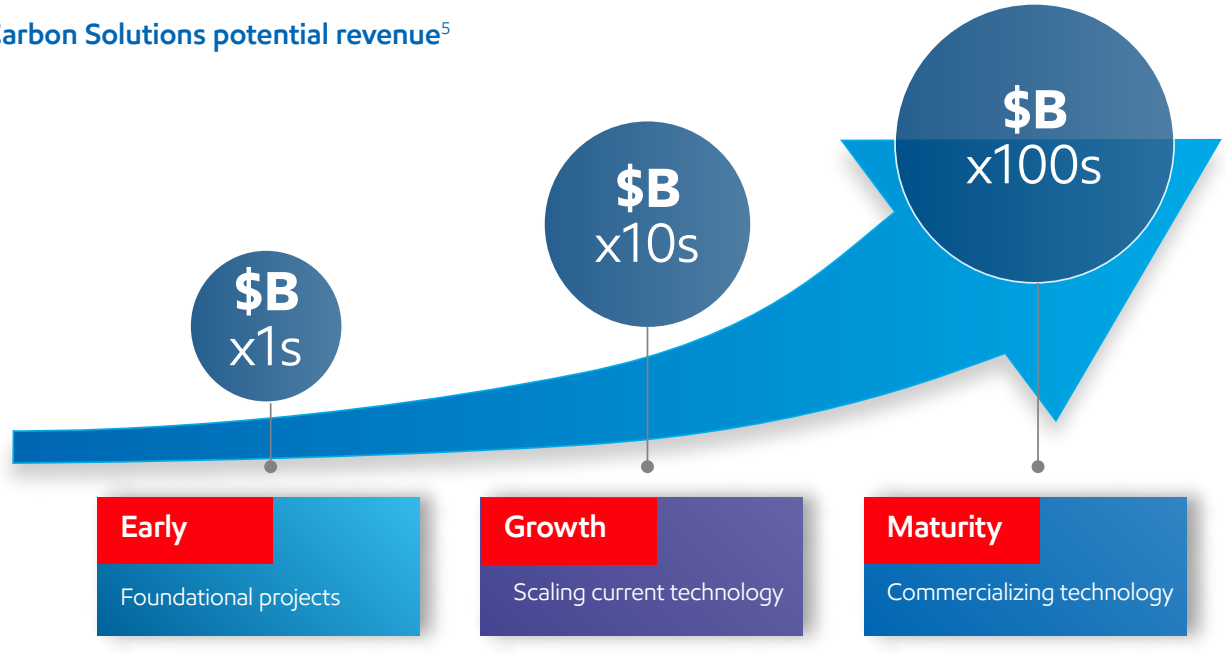


Our work involves technologies to capture, transport, and store molecules; produce hydrogen from other molecules; and source and co-process lower-carbon-intensity molecules. All of these technologies align with the competitive advantages we've built in our traditional businesses.

We understand our role and the unique and important contributions we can make. Our customers, many governments, and strategic partners see how our experience, skills, and capabilities can meaningfully help reduce emissions for ourselves and others.

Our ability to manage molecules aligns with our core competencies in the low-carbon space. We have the necessary scale and infrastructure to bring these technologies to market, spurring innovation and reducing the cost of GHG emissions reduction.

Low Carbon Solutions potential revenue[5]



These technologies can be developed and deployed in three main phases:

- **Early phase:** We are working with today's policies, technology, and infrastructure to build foundational projects, and we're making real progress. In this phase, we're working to demonstrate their potential as attractive investments and as lower-emissions solutions.
- **Growth phase:** This phase will be shaped by additional policy that helps develop market-based solutions that make decarbonization affordable. It is also defined by cost reductions through deployment of new and existing technology. In this phase, we can leverage the breadth of our operations to develop economies of scale.
- **Maturity phase:** This represents the full transition to market forces. Progress will be bolstered by additional cost reductions through a continued focus on scaling new technology and the reuse of infrastructure.

Government policy can play a key role in building new markets, especially in the near term. Rational and constructive policies are needed to drive projects in the early stages. We have the expertise and network to bring this technology to the market.

We support legislation like the U.S. Inflation Reduction Act (IRA), which provides incentives for companies to be part of the solution. European policy is currently more prescriptive and limits solutions for hard-to-decarbonize sectors. At this early stage, constructive policy remains critical to enable emissions reductions, advance technology, and drive scale to lower costs. Ultimately, to achieve society's net-zero ambitions, competitive markets for emissions reduction will need to develop.

We support a policy and regulatory framework for carbon capture and storage that would:

- Sustain long-term government support for research and development.
- Provide standards to ensure safe and secure CO_2 storage.
- Allow for fit-for-purpose CO_2 injection well design standards.
- Provide legal certainty for geologic storage ownership.
- Ensure a streamlined permitting process for carbon capture and storage facilities.
- Enable interstate CO_2 pipeline expansion.
- Provide access to CO_2 storage capacity owned or controlled by governments.
- Help develop carbon credits based on life cycle analysis of carbon-removal projects.

Investing in a lower-emissions future

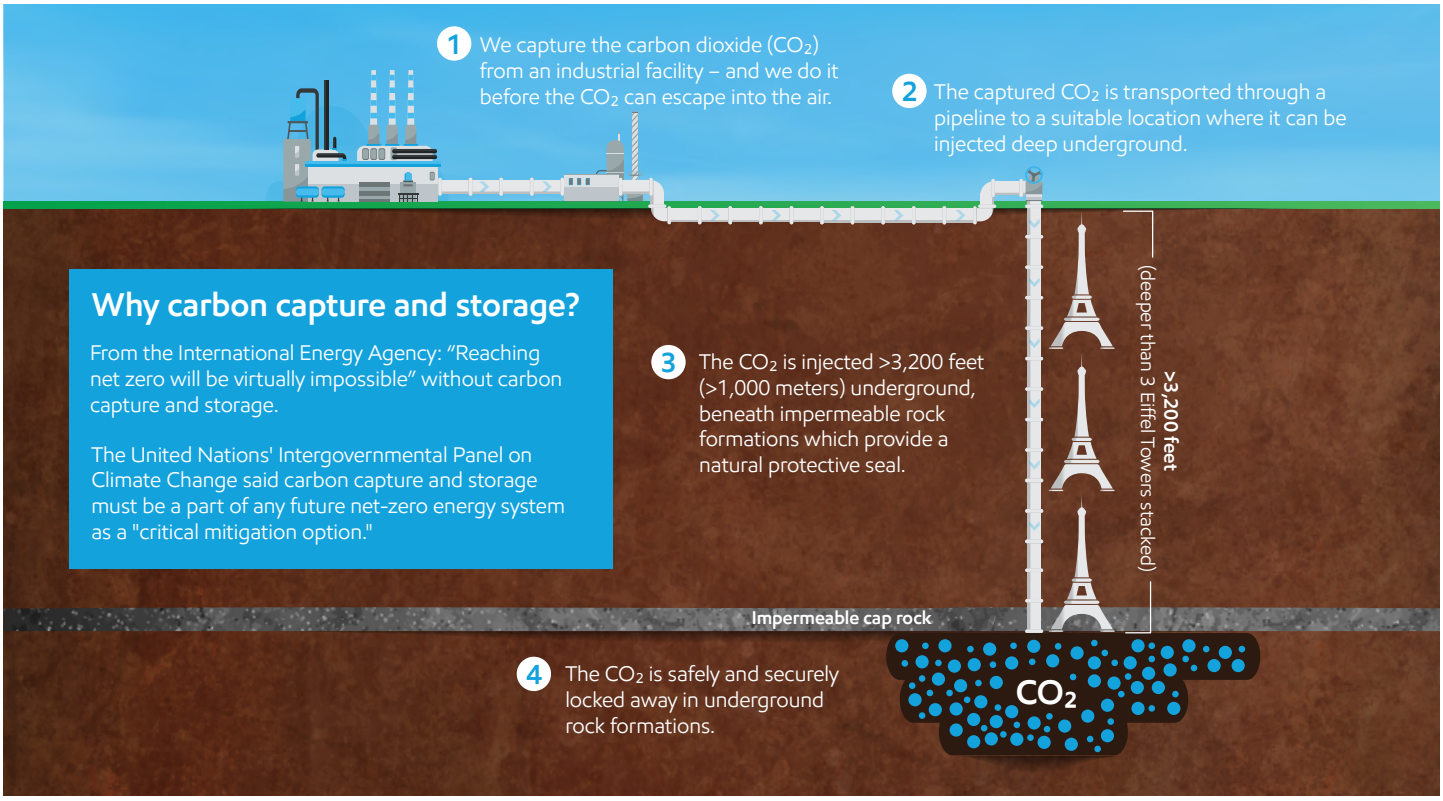
We're pursuing up to $30 billion in lower-emission investments from 2025 through 2030, with about 65% directed toward reducing the emissions of other companies.[6]

Carbon capture and storage

What it is

Carbon capture and storage is just what the term implies. Once CO_2 is captured at factories or power plants, it is transported and injected into geologic formations thousands of feet below the earth's surface for safe and secure storage. The CO_2 is held in place by thick, impermeable-seal rocks.

Carbon capture and storage, on its own or combined with hydrogen production, is one of the few proven technologies that could drive significant CO_2 emission reductions from high-emitting and hard-to-decarbonize sectors. These include power generation, refining, steel, cement, and chemicals manufacturing. According to the Center for Climate and Energy Solutions, carbon capture and storage can capture more than 90% of CO_2 emissions from power plants and industrial facilities.[7]



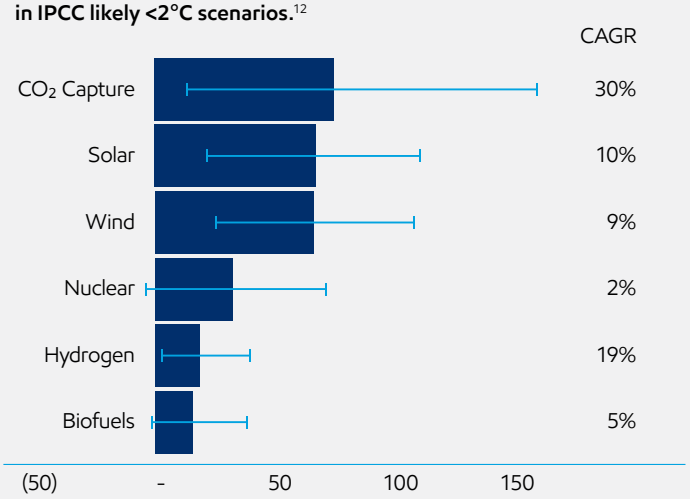
What respected third parties are saying about carbon capture and storage

Both the International Energy Agency (IEA) and the United Nations Intergovernmental Panel on Climate Change (IPCC) see carbon capture and storage as key to reaching global emissions goals.

The IEA NZE report concludes that more than 6 billion metric tons per year of CO_2 will need to be captured and stored by 2050 to reach a net-zero future.[8] By comparison, the world's current capture capacity is far below that at about 40 million metric tons of CO_2 per year.[9] The agency has also said "reaching net zero will be virtually impossible" without carbon capture and storage.[10]

The IPCC estimates that the cost of achieving a 2°C outcome would more than double without carbon capture and storage.[11]

Growth of lower-carbon solutions between 2020 and 2050 in IPCC likely <2°C scenarios.[12]



We identify opportunities with concentrated streams of CO_2 near sites with safe and secure storage space, and where we can use existing infrastructure to gain scale to offer cost-effective solutions to customers.

Leading now

We have the only large-scale end-to-end carbon capture and storage system in the world.[13] With more than 1,300 miles of pipeline and more than 30 years of experience in carbon capture, we lead the industry in the successful deployment of this technology at scale. We are continuing to develop and expand our capacity for storing CO_2 on a long-term basis.

Our initial CCS activity is focused on the U.S. Gulf Coast. This region has the critical drivers needed to provide a lower-cost decarbonization solution for industrial applications: a high concentration of emitters, geologic storage space, and existing transportation infrastructure. These drivers, strengthened by policy like the IRA, are helping us build a carbon capture and storage network that will help our industrial customers significantly reduce their emissions.

The U.S. Gulf Coast has a large concentration of CO_2 emissions – one third of all U.S. industrial emissions come from this region.[14]

This makes it a great strategic fit as about 70% of our CCS pipelines are located in the Gulf Coast states of Louisiana, Texas, and Mississippi. Our network will connect multiple CO_2 emitters with CO_2 storage locations that will improve operations reliability. This transport and storage network supports multiple low-carbon businesses – including carbon capture and storage, hydrogen, ammonia, and biofuels.

We continue to add suitable acreage onshore and offshore to expand our storage capacity, with 30 Mta per year expected by 2030.[15] Building on our successful collaborations with host governments, we are also negotiating to gain access to nationally owned acreage that holds potential for CO_2 storage. We also continue to work with local jurisdictions on the appropriate permitting to store CO_2, which will be essential to the success of these projects. We recently secured the largest offshore CO_2 lease in the United States from the Texas General Land Office. With over 271,000 acres, the site is our newest asset on the U.S. Gulf Coast.

Real Projects, Real Progress

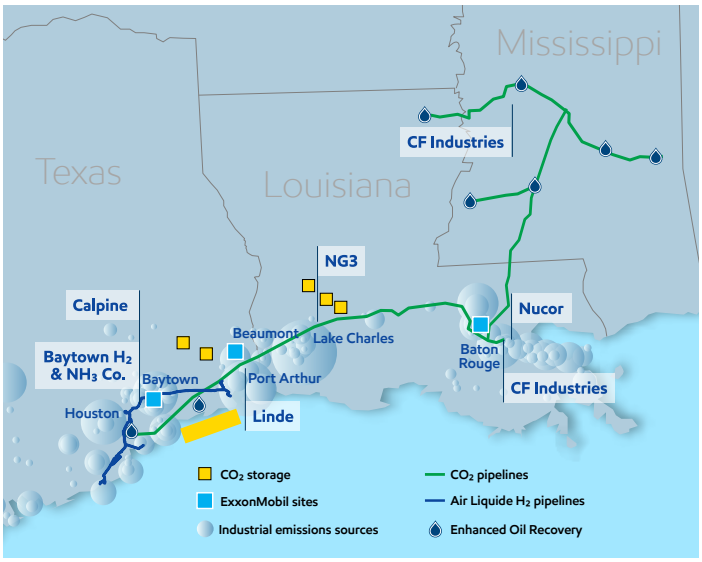
Another vital element of establishing a successful business is building a customer base, and we're making great progress. Our customers include a major fertilizer company, an industrial gas producer, a leading steel manufacturer, and more:

- **CF Industries:** A leading global manufacturer of hydrogen and nitrogen products. They signed the largest-of-its-kind commercial agreement with us to capture and permanently store up to 2.5 million metric tons of CO_2 emissions annually from their manufacturing complexes in Louisiana and Mississippi.
- **Linde:** One of the world's leading industrial gases and engineering companies. They entered into a long-term commercial agreement with us in which we plan to transport and permanently store up to 2.2 million metric tons of CO_2 annually from Linde's new clean hydrogen production facility in Beaumont, Texas.
- **Nucor Corp.:** North America's largest steel and steel products producer. They entered into a long-term commercial agreement with us where we will capture, transport, and store up to 800,000 metric tons of CO_2 annually from their manufacturing site in Convent, Louisiana.
- **New Generation Gas Gathering (NG3):** The first natural gas customer to use our CCS infrastructure. We have joined forces with the NG3 project to capture and store up to 1.2 million metric tons of carbon dioxide annually from their Louisiana facility.
- **Calpine Corporation:** The nation's largest producer of electricity from natural gas. In April 2025, they entered into an agreement with us to transport and permanently store up to 2 million metric tons of CO_2 annually from Calpine's Baytown Energy Center, a cogeneration facility near Houston, Texas.

8.7 Mta of long-term CO_2 offtake agreements with third parties

CF	▪ Transport and store ▪ 2 Mta
Linde	▪ Capture, transport, and store ▪ 2.2 Mta
NUCOR	▪ Capture, transport, and store ▪ 0.8 Mta
NG3	▪ Transport and store ▪ 1.2 Mta
CF	▪ Transport and store ▪ 0.5 Mta
CALPINE	▪ Transport and store ▪ 2 Mta

Advantaged U.S. Gulf Coast position[16]



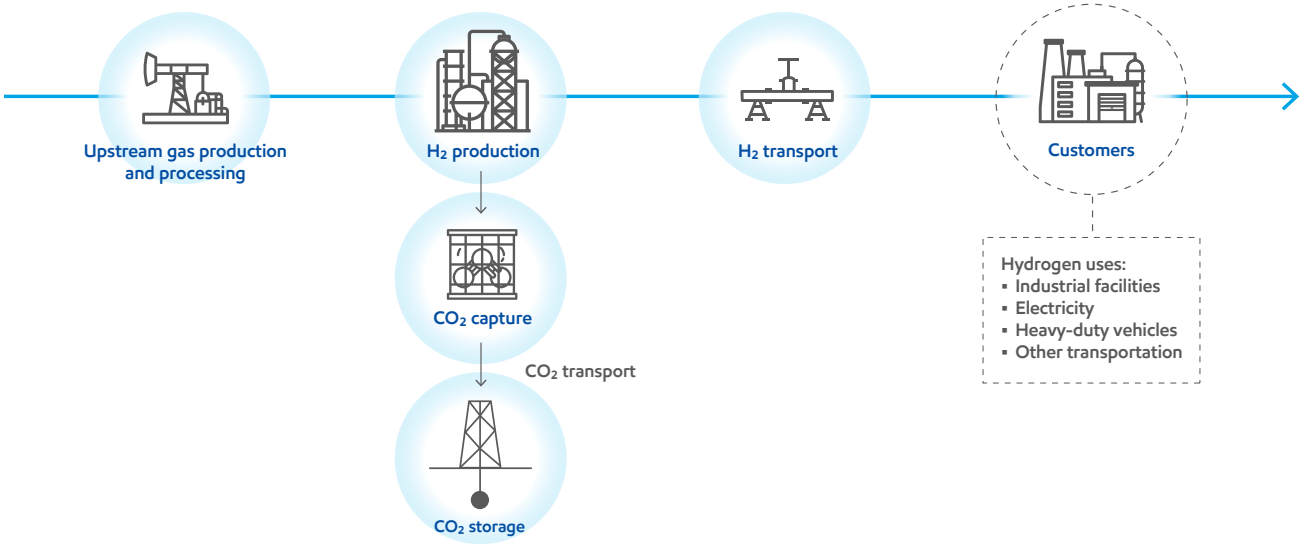
What's next

- **Building our customer base**: We continue to work with others in the industry to spur advances in technology to lower cost and further build our customer base. We see potential to reduce CO_2 emissions across the Gulf Coast by more than 100 million metric tons per year.[17]
- **Policy advocacy:** Land access is critical to accelerating carbon capture project deployment – onshore and offshore. We continue to advocate for streamlined permitting and regulation for long-term CO_2 storage.
- **Studying storage:** We are working with leading universities and other research organizations to advance knowledge in monitoring requirements and modeling of geologic storage. This work includes seal characterization for containment assessment,[18] as well as optimal long-term monitoring of stored CO_2.

Hydrogen

What it is

When used for energy, hydrogen does not emit carbon, and it can generate the high temperatures needed to produce steel, cement, and refining and chemical products without carbon dioxide emissions. This means it could serve as an affordable and reliable source of energy for hard-to-decarbonize industrial processes.



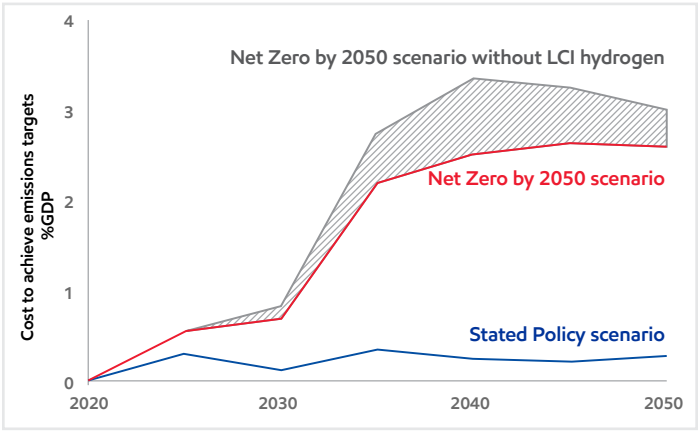
What respected third parties are saying about hydrogen

In 2024, the National Petroleum Council (NPC) published "Harnessing Hydrogen: A key element for the U.S. Energy Future." The study details deployment of low-carbon-intensity hydrogen at scale in the United States.

The NPC assembled a diverse team of more than 300 experts from over 100 organizations, 70% of which come from outside of the oil and natural gas industry. This study applied scenario-based modeling, partnering with Massachusetts Institute of Technology (MIT) Energy Initiative.

The key finding? Deploying lower-carbon hydrogen at scale in hard-to-abate sectors in the United States can lower th e cost of reducing carbon emissions. In fact, under the MIT's Net Zero by 2050 scenario, closely modeled on IEA's NZE, achieving net zero would cost approximately 30% more without hydrogen.[19]

Low-carbon-intensity (LCI) hydrogen plays a key role in achieving emissions reduction at a lower cost to society[20]



Leading now

Just as we have a long history with carbon capture and storage, we have deep and broad experience with hydrogen. We use hydrogen in just about every one of our refining and chemical plants, and we're looking to expand its use further.

In Baytown, Texas, we are working to develop the world's largest low-carbon hydrogen production facility. This project is being designed to produce 1 billion standard cubic feet of hydrogen per day.[21] The plant will also produce around 1 million metric tons of low-carbon ammonia per year.

The Baytown facility's access to the certified lower-emission natural gas we produce in the Permian Basin and nearby CCS and hydrogen infrastructure are key advantages. Industry peers and major players have recognized this and joined the project:

- **Air Liquide:** Air Liquide's project centers around building, owning and operating four Large Modular Air separation units (LMAs) to produce and supply 9,000 metric tons of oxygen and up to 6,500 metric tons of nitrogen daily to the facility. The agreement would leverage Air Liquide's existing pipeline infrastructure to foster the development of low-carbon hydrogen.
- **ADNOC:** ADNOC entered the Baytown project with a 35% equity stake. This investment will support both companies' net-zero ambitions, accelerate decarbonization of hard-to-abate sectors, and meet rising demand for low-carbon hydrogen and ammonia.

We're getting our foundational project in Baytown ready, but we need the right policy and necessary regulatory permits to make it a reality. Our Baytown project meets nearly 10% of the U.S. Department of Energy Hydrogen Program Plan's projected 10 million metric tons of hydrogen per year by 2030.[22] We expect to capture and store approximately 98% of the CO_2, or about 7.5 million metric tons per year, associated with producing this hydrogen.[23] The new plant could supply Gulf Coast industrial customers, as well as our own facilities in the Baytown area, with clean-burning hydrogen fuel for process operations. Front-end engineering is underway.

What's next

- **Policy advocacy:** Advocate for policies that advance hydrogen and ammonia projects, as well as broader policies that create a market for carbon abatement.
- **Research and development:** We are working with universities to expand understanding of the end-to-end carbon emissions from different technologies, including hydrogen. For example, the life-cycle tool we helped to develop as part of the MIT Energy Initiative is being used by policymakers and others as they consider policies to reduce global emissions at the lowest cost to society.[24]

Lower-emission fuels

What they are

These fuels generate fewer GHG emissions over their life-cycle than the traditional fuels they replace. They include biofuels made from renewable sources like plants and waste biomass and synthetics made from hydrogen and captured CO_2 to form methanol. Lower-emission fuels have the high energy density required to move heavy trucks, airplanes, trains, and ships. Renewable diesel may reduce life-cycle carbon emissions by up to 80% compared to conventional diesel.[25] Demand for these fuels is expected to grow rapidly. Our Global Outlook projects the global transportation sector will use nearly 9 million barrels of biofuels per day by 2050, more than four times 2021 levels.[26]

Our Product Solutions business is working to grow lower-emission fuels by applying technology and infrastructure.

At the same time, our Low Carbon Solutions business is working to develop lower-emission fuels, underpinned by our other low-carbon businesses.

We're exploring the combination of biomass-based fuel production with carbon capture and storage. This opportunity could open the door to very low- or negative-carbon intensity fuel production. Low-emission fuels can utilize existing distribution infrastructure, lowering the cost of deployment.

We're also looking at how we can efficiently transform natural gas into methanol-based fuels. And, we already have the capability to convert methanol to multiple end-use fuels, such as marine and jet fuel. This ability could enable a range of lower-emission fuels.

Leading now

- **Canada:** We are building renewable diesel facilities at our majority-owned affiliate Imperial Oil's Strathcona refinery. The facility is expected to be the largest of its kind in Canada and capable of producing up to 20,000 barrels a day.
- **France:** Our affiliate Esso France began producing SAF in November 2023. We're targeting production of more than 3,000 barrels per day of biofuels – including sustainable aviation fuel – at the Gravenchon facility in 2025.

What's next

- **Co-processing:** Critically needed to expand the production of biofuels, co-processing is the ability to process biofeed and conventional feedstock together. Where policy allows, we are conducting co-processing trials in our facilities to produce lower-emission fuels, including SAF. With constructive policy, co-processing would enable faster, lower-cost delivery of these fuels to customers versus constructing new facilities.
- **Maritime goals:** We support the International Maritime Organization's GHG emission-reduction goals, and we are working to help our customers determine the best ways to meet them. For example, we have supplied ExxonMobil bio marine fuel oil blends in Singapore and Amsterdam-Rotterdam-Antwerp bunkering hubs.
- **Testing with Toyota:** Toyota and ExxonMobil recently conducted public road tests using our innovative lower-GHG-emission fuels in Toyota's advanced engines and vehicles. So far, the program has demonstrated that these research fuels can be compatible with today's vehicles and have the potential to use existing infrastructure.
- **New jet fuel technology:** We announced a new technology that can produce jet fuel using renewable methanol as the feedstock.[27] This renewable methanol has a lower carbon intensity and can be derived from processes that use biofeeds (e.g., wood waste) or low-carbon hydrogen. We expect this process to provide a higher yield of jet fuel than other techniques, using feeds derived from gasification and captured CO_2 and hydrogen, which has the additional potential to be used to make other fuels or chemicals.

Lithium

What it is

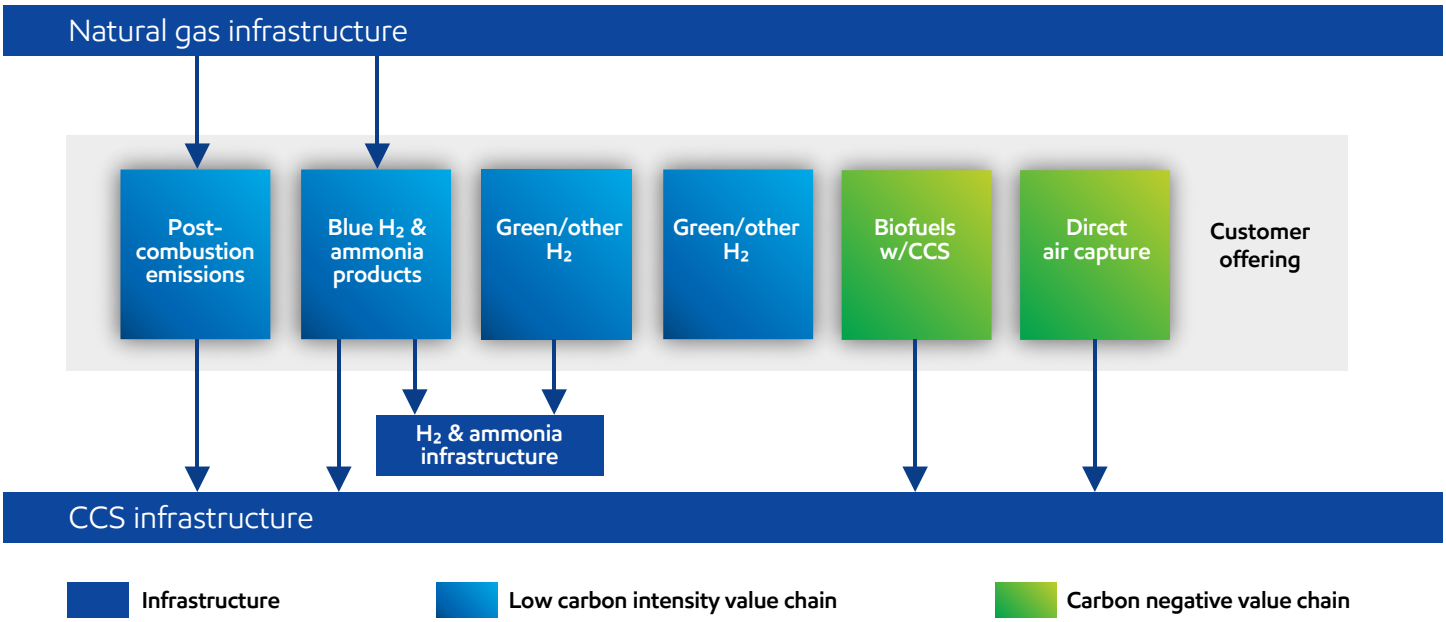
Lithium is a key component of battery technology. Batteries account for over 80% of global lithium use, and EVs rely on lithium for their rechargeable batteries. EVs can play a key role in reducing emissions in transportation, and lithium demand is expected to triple by 2030.[28]

Leading now

In 2023, we announced plans to produce lithium carbonate for use in EV battery manufacturing by employing direct lithium extraction (DLE) technology in southern Arkansas. By applying technology to separate the lithium from deep brine reservoirs, we're working to produce this critical mineral more efficiently and with fewer environmental impacts than traditional hard rock mining. We believe our existing skills in subsurface exploration, drilling, refining, and chemicals will allow us to bring meaningful scale to this technology and provide auto battery manufacturers with a more reliable, lower-carbon lithium supply option.[29]

Other solutions

Expanding our advantage through integrated value chains.



Carbon capture and storage, hydrogen, lower-emission fuels, and lithium are far from the only emission-reduction technologies in the world. We are always looking for opportunities that fit our strengths, capabilities, and businesses.

For example, many of our natural gas and LNG customers have significant post-combustion emissions that they'd like to reduce. We offer a "one-stop shop" for CO_2 capture, transportation, and storage that will help these customers reduce their emissions.

We also see a growing opportunity in the market for carbon materials to become a large domestic supplier of yet another key component of electric vehicles. Synthetic graphite in EV batteries can potentially provide up to a 30% improvement in range, as well as faster charges.

We're building on our technology, scale, project execution, and integration advantages to establish an attractive new business. We believe this new business complements our traditional businesses and will underpin the company's growth and returns for decades to come.

1 ExxonMobil 2024 Global Outlook.
2 Total addressable market for carbon capture and storage, wind, solar, hydrogen, nuclear, biofuels, geothermal, and hydropower based on ExxonMobil analysis of the IPCC's Sixth Assessment Report Scenarios Database hosted by IIASA. 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. Total addressable market for lithium reflects ExxonMobil analysis of Benchmark Minerals industry data and IEA critical minerals explorer database scenarios. 2020 dollars. "Molecules" includes carbon capture and storage, low-carbon hydrogen, biofuels, and lithium. "Electrons" includes wind, solar, geothermal, hydro, and nuclear power.
3 Ibid.
4 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.
5 Exponential revenue growth potential assumes double-digit returns and scale of business activity materializes consistent with supporting conditions, which include supportive government policies, technology breakthroughs to lower abatement costs, deployment of necessary technologies, and the ability to repurpose and build infrastructure at large scale.
6 Lower-emissions cash capex includes cash capex attributable to carbon capture and storage, hydrogen, lithium, biofuels, Proxxima™ systems, carbon materials, and activities to lower ExxonMobil's emissions and/or third party (3P) emissions. Planned spend is from 2025-2030, https://corporate.exxonmobil.com/news/news-releases/2024/1211_exxonmobil-announces-plans-to-2030-that-build-on-its-unique-advantages.
7 Center for Climate and Energy Solutions, https://www.c2es.org/content/carbon-capture/.
8 IEA (2023), World Energy Outlook 2023, IEA, Paris https://www.iea.org/reports/world-energy-outlook-2023, Licence: CC BY 4.0 (report); CC BY NC SA 4.0 (Annex A).
9 IEA (2022), World Energy Outlook 2022, IEA, Paris https://www.iea.org/reports/world-energy-outlook-2022, Licence: CC BY 4.0 (report); CC BY NC SA 4.0 (Annex A).
10 IEA (2020), CCUS in Clean Energy Transitions, IEA, Paris https://www.iea.org/reports/ccus-in-clean-energy-transitions, Licence: CC BY 4.0.
11 O. Edenhofer et al., Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change: https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_wg3_ar5_full.pdf
12 ExxonMobil 2024 Global Outlook.
13 "End-to-end CCS system" entails integration of CO_2 capture, transportation, and storage. Based on contracts to move up to 8.7 MTA CO_2, subject to additional investment by ExxonMobil and receipt of government permitting for carbon capture and storage projects.
14 United States Environmental Protection Agency, GHGRP Emissions by Location (2023): https://www.epa.gov/ghgreporting/ghgrp-emissions-location.
15 30 million metric tons of CO_2 captured and stored by 2030 subject to additional investment by ExxonMobil, receipt of government permitting for carbon capture and storage projects, and start up of low-carbon hydrogen project in Baytown, TX.
16 Information shown is approximate (e.g., storage / pipeline location) and has potential to change as projects are developed and implemented. CO_2 storage includes Class VI Permit Application and GLO Storage Site Access."
17 Market potential for emission reduction opportunity based on ExxonMobil analysis of CO_2 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.
18 D. Tapriyal, F. Haeri, D. Crandall, W. Horn, L. Lun, A. Lee, A. Goodman, Caprock Remains Water Wet Under Geologic CO_2 Storage Conditions, Geophysical Research Letters 51 (2024).
19 The chart shows the cost to society as a percent of GDP for achieving the current or Stated Policy scenario (which includes the IRA) and a U.S. aspirational target of Net Zero by 2050 scenario. The modeling for this study estimates that reaching net zero would cost about 3% GDP. However if LCI hydrogen is not deployed, the cost of achieving net zero could increase the cost by 0.5-1% of GDP. Assuming a GDP of $38 trillion in 2050, a 3% cost to society equates to $1.1 trillion. The impact of not deploying LCI hydrogen to achieve emission targets changes by year, ranging $160 – 260 billion between 2035 and 2050: https://harnessinghydrogen.npc.org/
20 Ibid.
21 The Baytown hydrogen project is pre-FID. Final investment decision anticipated in 2025 subject to final 45V regulations for hydrogen production credits.
22 U.S. Department of Energy Hydrogen Program Plan: https://www.hydrogen.energy.gov/docs/hydrogenprogramlibraries/pdfs/hydrogen-program-plan-2024.pdf?sfvrsn=bfc739dd_1
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25 Based on ExxonMobil analysis using Argonne National Labs' GREET2023 model and published fuel carbon intensity from California LCFS regulations. Argonne National Laboratory GREET model: https://greet.anl.gov/, California Air Resources Board Low Carbon Fuel Standard Regulation: https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/lcfs-regulation
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29 Expected lower carbon and water impacts vs traditional mining: EM analysis of external sources and third party life-cycle analyses. a) Vulcan Energy, 2022 https://v-er.eu/app/uploads/2023/11/LCA.pdf, Minviro publication. Grant, A., Deak, D., & Pell, R. (2020). b) The CO_2 Impact of the 2020s Battery Quality Lithium Hydroxide Supply Chain-Jade Cove Partners. https://www.jadecove.com/research/liohco2impact. Kelly, J. C., Wang, M., Dai, Q., & Winjobi, O. (2021). c) 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.

Positioned for growth in a lower-emission future

Key takeaways

1. We've built a robust business and investment portfolio that is positioned to grow in an energy transition.

2. Our company-wide transformation focused on three core businesses and centralized organizations is driving better environmental performance and earnings power.

3. Our Upstream and Product Solutions businesses are growing production of energy and products people need every day, while working to lead the industry in lowering emissions intensity.

4. As a technology company that transforms molecules, we're advancing new technology-driven businesses with the potential to add ~$3 billion to our earnings by 2030.[1]

ExxonMobil is a company with an unmatched combination of competitive advantages, which puts us in a unique position to help meet the world's energy and product needs and reduce emissions – now and in the future.

We're working to play a leading role regardless of how an energy transition unfolds. Across our portfolio of opportunities, we retain investment flexibility to maximize shareholder returns.

Our company-wide transformation has improved our earnings power, driving efficiencies that better leverage the scale of our integrated company. At the same time, we centralized our core functions and capabilities. This has improved our effectiveness and ability to allocate resources, drive continuous improvement, and grow value.

Our purpose

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

Our vision

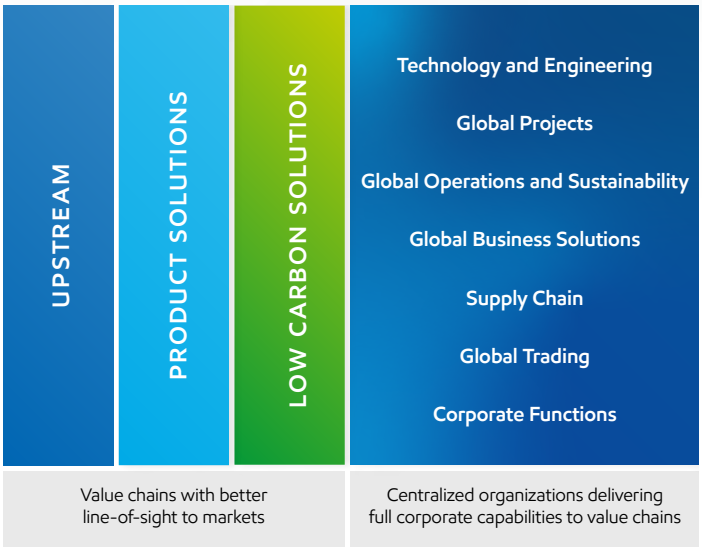
Lead industry in innovations that advance modern living and a net-zero future.

Core businesses

Upstream produces the oil and natural gas that strengthen energy security, while focusing on achieving the lowest emissions intensity in the industry.

Product Solutions is developing high-value and innovative fuels, plastics, lubes, and other products and materials the world needs – with a refining circuit twice the size of other IOCs.

Low Carbon Solutions is investing in technologies to help reduce our own and society's GHG emissions.



Upstream: Meeting energy demand and lowering emissions intensity

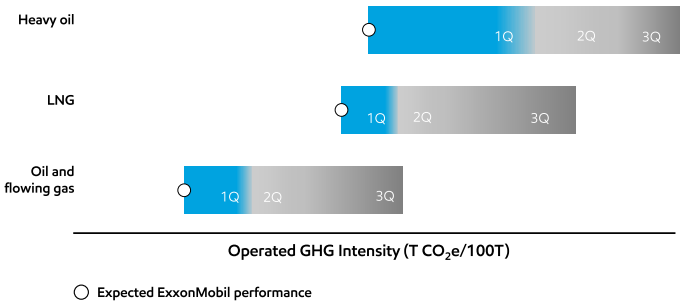
We are in a strong position to help meet the world's demand for oil and natural gas over the next decade and beyond. With our industry-leading reliability and excellence in execution, we're focused on growing value by increasing high-value production at a low cost of supply, reducing our emissions intensity, and driving additional structural cost savings.

We've identified more than 150 potential modifications to reduce GHG emissions across our upstream operated assets, including efficiency measures and equipment upgrades. Some examples include installing carbon capture and storage technologies at operations in the United States and Canada; electrifying our Permian operations; and replacing pneumatic devices to eliminate fugitive methane emissions.

We expect that each of our asset classes will deliver top-quartile Scope 1 and 2 emissions intensity by 2030, as shown in the chart below.[2]

2030 Upstream GHG intensity[3]

By asset class and benchmarking quartile (Q)



Unconventional operations

A few years ago, we announced industry-leading plans to achieve net-zero Scope 1 and 2 GHG emissions in 2030 for our operated unconventional assets in the Permian Basin. Last year, we acquired Pioneer Natural Resources. Following the merger, we maintained the net-zero plans for our heritage assets, while accelerating Pioneer's net-zero goals in the basin from 2050 to 2035 – 15 years faster.

We eliminated routine flaring in our heritage operated assets in Permian Basin in 2022 in line with the World Bank's Zero Routine Flaring Initiative.[4] We're also making good progress to reduce methane intensity, electrify our operations, and use energy from renewable and lower-emission sources.

In 2024, our facilities in Poker Lake, New Mexico, received a Grade A from MiQ, an independent validator of methane management, for the fourth year in a row.

Emission-reduction roadmaps for our operations were completed in 2022. We're now working to apply this process to Pioneer's assets. This includes evaluating lower-emission energy, electrifying fracking operations, improving processes, reducing methane emissions, and eliminating routine flaring.

Liquefied natural gas (LNG)

LNG is an important lower-emission option that can replace coal in power generation. We're continuing to develop our low-cost-of-supply LNG portfolio, and we are on track to nearly double our global LNG supply to more than 40 million tons per year by 2030. We have projects in the United States, Papua New Guinea, Mozambique, and Qatar. Our operated LNG assets are expected to be among industry's lowest in GHG intensity by 2030.[5]

Deepwater

Our deepwater oil and natural gas developments support our 2030 GHG emission-reduction plans.

Our Guyana developments, for example, are among the lowest emissions-intensity in our portfolio. Our FPSOs there have zero routine flaring – approximately 99% of the gas produced is used for fuel or reinjected. Our Prosperity FPSO and Liza Unity FPSO are two of the world's first to earn the SUSTAIN-1 notation by the American Bureau of Shipping in recognition of their design, documentation and operational procedures.

Product Solutions: Innovative products critical to modern society

Our Product Solutions business makes and sells products needed for modern life. And there is increasing demand for high-value products with lower life-cycle GHG emissions. Making these requires innovation in the design of our products and in our manufacturing processes.

Our refining and chemicals businesses each operate assets that are among the lowest in the industry for GHG intensity.[6] Through 2030, we expect to more than offset emissions from new operated facilities needed to meet growing demand. Among other actions, our emission-reduction plans consider:

- Fuel switching to hydrogen.
- Carbon capture and storage projects in Texas and the Netherlands.
- Energy attribute certificates and long-term power-purchase agreements.
- Energy efficiency projects.
- Conversions of select refineries to terminals.

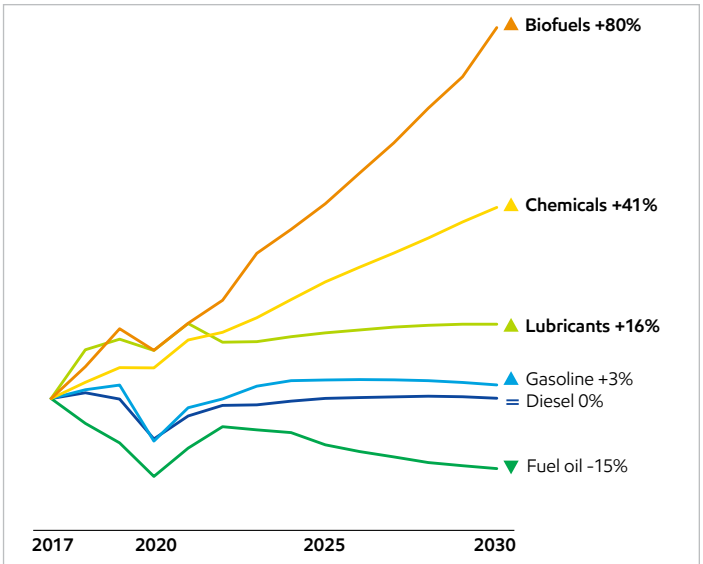
Energy products

Our Global Outlook shows that demand for energy-dense, lower-emission fuels is expected to grow rapidly between now and 2050.[8] This increase will be driven by the hard-to-decarbonize commercial transportation sector that includes aviation, marine, and heavy-duty trucking.

Across our portfolio, we have the flexibility to shift production to help meet this demand. Around 85% of our manufacturing capacity is co-located in large, integrated sites that can make this switch. As demand for conventional gasoline and diesel declines, we can repurpose assets to make other high-value products like chemicals, lubricants, and lower-emission fuels.

Global demand growth[7]

Indexed versus 2017, %



Source: 2024 Global Outlook

Chemical products

Cellphones, medical and hygiene supplies, diapers, packaging and storage to preserve food – all of these are needed for modern life. That's why global chemical demand is growing.[9]

And all of these products are made from materials like those we make in our Chemicals business. We have world-class technology centers in Texas, Belgium, and China, where our scientists research the latest polymers, plastics, and products to meet the needs of tomorrow.

As population and prosperity keep rising around the world, demand for performance chemicals is expected to be strong. This includes the performance polyethylene and polypropylene that we make.

Our customers use these materials in products that improve quality of life – in a way that can also support their efficiency and emissions objectives. Many of the products in our Chemicals portfolio are used to advance sustainability benefits, such as agricultural films that increase crop yields and packaging films that extend shelf life and decrease food waste. And our Vistamaxx™ performance polymers make different kinds of plastic more compatible so they can "mix in the melt" and don't have to be separated for recycling.

We continue to grow the supply of performance chemicals through large, competitively advantaged investments such as:

- The Gulf Coast Growth Venture (GCGV) in Corpus Christi, which has been up and running since 2021, and now uses utility-scale solar power.[10] GCGV has a 1.8 million-metric-ton-per-year ethane steam cracker, two polyethylene units that can produce up to 1.3 million metric tons per year, and a 1.1-million metric-ton-per-year monoethylene glycol unit.
- Our performance polypropylene project in Louisiana, which had its second full year of operations, added production capacity of 450,000 metric tons per year along the Gulf Coast.
- The Baytown, Texas, chemical expansion that started up in 2023, which will have the capacity to produce about 400,000 metric tons of Vistamaxx™ polymers per year and about 350,000 metric tons of Elevexx™ linear alpha olefins per year.
- A lubricant manufacturing plant we're building in India that will have capacity of 159,000 kiloliters of finished lubricants a year.
- The chemical complex we're building in China that includes polyethylene and polypropylene units more than twice the size of U.S. units and a flexible feed steam cracker with a capacity of about 1.6 million metric tons per year.

Key plan activities to grow high-value products[11]

Major expansions

Performance chemicals - Guangdong, China
Lubricants and chemicals - Singapore

Biofuels

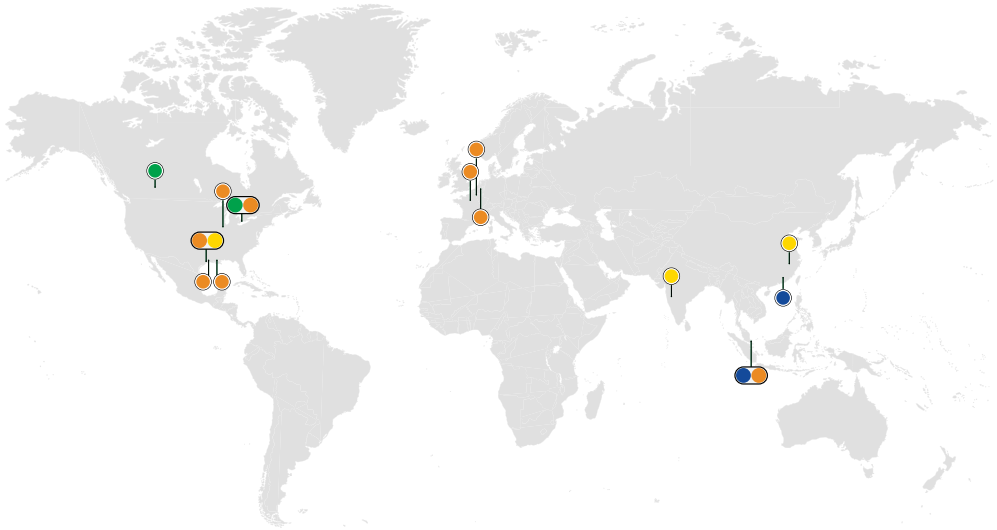
Renewable diesel - Strathcona, Canada
Bio co-processing - Sarnia & Naticoke, Canada

Advanced recycling

Baton Rouge, Louisiana
Antwerp, Belgium
Baytown, Texas
Gravenchon, France
Beaumont, Texas
Rotterdam, Netherlands
Joliet, Illnois
Singapore
Sarnia, Canada

Other

U.S. Gulf Coast refinery reconfigurations
China lubricants expansion
India lubricant manufacturing plant



Specialty products

We are rapidly advancing new businesses like Proxxima™ resin system and carbon materials.

We've demonstrated the value-in-use for our Proxxima™ thermoset resin – a revolutionary material that is stronger, lighter, and more corrosion-resistant than conventional materials. The applications include everything from high-performance coatings and injection molding to areas where traditional thermoset resins struggle to compete, such as rebar, structural components for automobiles, and new high-strength EV battery cases.

In our Carbon Materials Venture, we see a massive opportunity in the market for synthetic graphite for EV battery anode materials. Our aim is to produce world-scale quantities of next-generation graphite, potentially providing up to a 30% improvement in EV battery range, as well as faster battery charging.

With our technology, we have the potential to become a large domestic supplier of yet another key component of EVs. That's on top of our lithium and Proxxima™ offerings, as well as the plastics, lubricants, and cooling fluids that we provide today.

Demand for lubricants is expected to remain strong and grow in the industrial, aviation, and marine sectors. Our Singapore Resid Upgrade Project will turn bottom-of-the-barrel products into more valuable lubricant basestocks and fuels an innovative technology application. This investment will position us to better meet demand growth in Asia while displacing higher carbon-intensity products in the marketplace.

Proxxima™ thermoset resin

Carbon materials

Helping customers reduce their emissions

We're using our competitive advantages ... to make products that help customers

- Scale
- Integration
- Technology
- Execution excellence
- People

- Do more with less
- Improve efficiency in their operations
- Avoid GHG emissions from alternatives

with a world of applications in health and safety, packaging, transportation, industrial, and more

Innovative solutions to improve modern life

- Polyethylene-based packaging has lower life cycle GHG emissions than most alternatives - in fact, the market mix of alternatives in the U.S. and EU results in 2-2.5 times more GHG emissions than PE plastics.[12]
- Exceed™ XP enables up to 30% thinner plastic packaging versus conventional plastics for equivalent performance.[13]
- Proxxima™ systems outperform alternatives in applications like concrete reinforcement, wind turbine blades, subsea pipeline coatings, and vehicle parts with significantly reduced emissions.[14]

Total vehicle product solutions improve transportation efficiency

- Plastics can enable lighter vehicles, and 6%-8% fuel efficiency improvement for every 10% reduction in vehicle weight.[15]
- Halobutyl rubber improves air retention in tires, which can increase electric vehicle range by up to 7%.[16]
- Mobil 1 ESP x2 0W-20 engine oil helps provide up to 4% fuel economy improvement.[17]
- Renewable diesel may reduce carbon emissions by up to 80% compared to conventional diesel.[18]
- Marine biofuel can reduce carbon emissions by up to 30% compared to conventional marine fuel.[19]

Reliable solutions for industrial efficiency

- Mobil DTE 10 Excel Series provides up to 6% improvement in hydraulic pump efficiency vs. Mobil standard hydraulic fluids.[20]
- Mobil SHC™ 600 Series provides up to 3.6% energy efficiency gain vs. conventional mineral oils.[21]
- Mobil SHC™ Gear WT helps reduce oil consumption and maintenance costs through extended oil life and drain intervals.[22]

Testing the strength of our strategy and portfolio[23, 24]

Our steadfast strategy is a bold blueprint to win, irrespective of pace and direction of the energy transition. We use the projections in our Global Outlook as the basis for our business planning, and using the lower-demand assumptions in extreme third-party scenarios like the International Energy Agency's (IEA NZE) Net Zero by 2050 scenario can demonstrate the strength of our portfolio and plans.

We modeled a robust hypothetical business and investment portfolio based on the IEA NZE scenario, using the latest assumptions that would significantly impact our modeling outcomes. We enlisted an independent third party, Wood Mackenzie Inc., to audit our portfolio model.

Our modeling included:

- Existing operations – including our Upstream, and Product Solutions businesses and plastics production.
- The Denbury and Pioneer acquisitions.
- Future opportunities in oil, natural gas, fuels, lubricants, chemicals, lower-emission fuels, hydrogen, lithium, Proxxima™ thermoset resins, carbon materials, and carbon capture and storage.

We used IEA NZE assumptions to inform our own demand and pricing assumptions in the model, including:

- Oil prices decline to $25 per barrel by 2050; natural gas prices decline to $2-$4.60 per million British thermal units depending on region (both in real terms, 2019 USD).
- Oil and natural gas demand declines from 53% of total primary energy in 2020 to 14% by 2050.
- Chemicals demand increases by 30% from 2020 to 2050, with 80% of production leveraging carbon capture and storage or hydrogen technology integration.
- Carbon prices increase to $250 per metric ton in advanced economies, $200 per metric ton in China, Russia, Brazil, and South Africa, and $55 per metric ton in other emerging markets and developing economies (real terms, 2019 USD).
- Carbon capture and storage volumes expand rapidly from 40 million metric tons in 2020 to more than 6 billion metric tons in 2050, supported by a range of measures to increase investment.
- Lower-emission fuels, in which the IEA includes liquid biofuels, biogas and biomethane, and hydrogen-based fuels, increase from 1% of global final energy demand in 2020 to 20% in 2050.
- Hydrogen production increases by a factor of six, from 87 million metric tons in 2020 to 528 million metric tons in 2050.

We assumed that current prices decline to conform to IEA published prices by 2030 and that the path is linear between the price assumptions that IEA provided by decade thereafter. The IEA NZE scenario did not provide assumed margins for our whole business, so we filled in the gaps:[25]

- Traditional oil and gas: We assumed margins will decline to the lowest level needed to meet IEA NZE oil demand.
- Chemicals: We modeled margins to support investment necessary for demand growth, declining over time but partially offset by inflation.
- Low Carbon Solutions: Used IEA NZE Assumptions and assumed our investments would attract returns consistent with business projections.

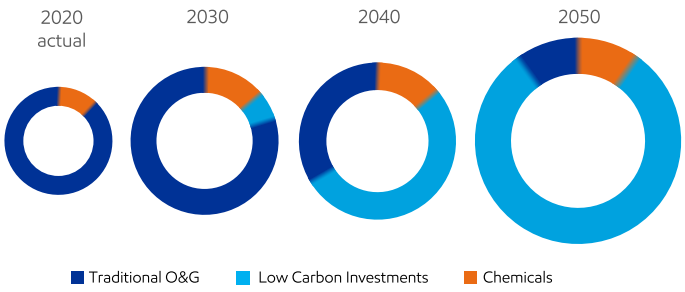
We also assumed:

- Resulting market position for existing and new areas as a percentage of demand under IEA NZE is in line with our current market positions in existing businesses.
- Investment to abate estimated GHG emissions from our businesses by 2050.
- Annual inflation of 2.5%.
- Total capital expenditures through 2050 is sufficient investment to maintain market share.

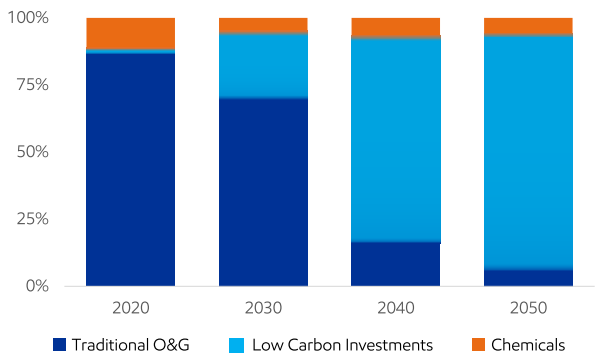
Our testing shows a robust business through 2050, even under an extreme scenario

The chart illustrates potential changes to our business portfolio through 2050 from the modeling. It shows that we have flexibility to grow cash flows under the IEA NZE assumptions through less investment in oil and natural gas and more investment in chemicals, carbon capture and storage, lower-emission fuels, and hydrogen.

Operating cash flow modeled under IEA NZE[26]
Trailing 5-year averages (nominal $)



Capital expenditures modeled under IEA NZE[27]
Trailing 5-year averages



Through 2030, our modeling shows several considerations for our business under the IEA NZE scenario.

Upstream

- **Focus on competitive resources:** Prioritize assets with shorter production cycles (e.g., Permian) and lower cost of supply (e.g., Guyana).
- **Cease exploration in new basins:** Reduce spending on new developments if long-term decline in demand and pricing materializes.
- **Optimize long-term production:** Focus on cost-efficient, low GHG-emissions-intensity assets to meet global demand, which IEA NZE assumptions set at 24 million barrels of oil and 170 billion cubic feet of natural gas in 2050.

Product Solutions

- **Reconfigure manufacturing:** Shift sites to meet demand for non-combusted products and lower-emission fuels. Current examples include renewable diesel investments in Canada and Norway.
- **Support chemicals demand:** Invest in value-accretive projects (e.g., U.S. Gulf Coast, Singapore, China). Current examples include expansions underway in these regions.
- **Additional integration:** Carbon capture and storage and/or fuel switching with hydrogen technology would further accelerate lowering GHG emissions intensity, with less advantaged sites potentially closed or converted to terminals.

Low Carbon Solutions

- **Capitalize on growth potential:** Explore significant opportunities in lower-emission fuels, carbon capture and storage, new materials and products, and hydrogen.
- **Leverage core capabilities:** Utilize subsurface expertise, project scaling, existing assets, and skilled workforce to compete effectively.
- **Increasing carbon price:** Would support attractive investments, boosting cash flow in Low Carbon Solutions.
- **Focus on key projects:** Scale projects like lower-emission fuels, hydrogen, geologic storage for CO_2, and new industrial clusters to advance infrastructure opportunities and position us as a partner of choice for potential customers.

Longer-term through 2050, the carbon price and demand for decarbonization options would continue to grow rapidly in the scenario, leading to a significant shift in our capital spend to further scale carbon capture and storage and hydrogen.

Since the initial release in 2021, the IEA has continued to make updates to its NZE scenario. The IEA also updates energy-related CO_2 emission levels, as well as the critical technologies and clean energy investments it assumes necessary in net-zero pathways. Fundamentally, an update that increases improvements needed while shortening the time allowed means that each iteration of the NZE's methodology leads to assumptions that increase the importance of lower-carbon solutions. These scenario updates have not changed the outcome of our assessment.

Assessing potential impacts

The following is intended to address the potential impacts through 2050 to our proved reserves, resources, evaluation of asset impairments, and other measures, considering the discussed scenarios' ranges of oil and natural gas demand.[28]

We took a portfolio approach and did not model individual assets. We believe taking a portfolio approach is the most appropriate way for ExxonMobil to provide transparency in our analysis of the potential impacts of any energy transition scenario, including the IEA NZE. For more information on scenarios that inform our plans, please read our Global Outlook.

An energy transition will unfold at an uncertain pace, determined in part by variation in policy by region and advancements in technology. As an integrated company with assets around the world, we have seen that economic events and trends may have a negative effect on one asset and an offsetting positive effect on others, with a minimal net effect on the full portfolio. Additionally, the interplay among assets in the market and the optionality of assets in a specific region can be misinterpreted if assets are analyzed in isolation.

Every asset responds differently to economic signals, technology evolution, commodity prices, and other variables. Even where global benchmark prices are given, local prices, including differentials, are influenced by external factors that cannot be reliably predicted. Any disclosure that doesn't account for the net effects of these variables or ignores macro factors like energy reliability and security wouldn't be meaningful.

Other companies have different asset portfolios, strategies, markets, and regulatory realities. These lend themselves to different approaches and may lead to different results. Their results may not be comparable to ours, especially if they assume lower production or leaving oil and natural gas in the ground entirely.

We believe our approach is industry-leading, because it provides a clearer view of enterprise value of our company, expertise, and opportunities than hypothetical noncash accounting measures dependent on asset-specific assumptions not provided by the IEA NZE.

Use of sensitivity analysis

Sensitivity analysis provides greater perspective on how variations to our Global Outlook assumptions could affect projected energy supply and demand. Analyzing these sensitivities involves evaluating possible technology advancements and their potential impact on energy supply and demand. This results in a range of potential low- to high-demand outcomes for certain energy sources. The projections yielded by sensitivity analysis do not represent our viewpoint or the likelihood of these alternatives but can provide context.

Proved reserves

Each year, we assess our proved reserves and report them in our annual Form 10-K, following the rules set by the U.S. Securities and Exchange Commission. According to our 2024 production schedules, a substantial majority of our proved reserves at the end of 2024 are expected to be produced by 2050. The rest are generally linked to assets where most development costs are incurred before 2050. While these reserves might face more stringent climate-related policies in the future, advancements in technology and strategic investments could help reduce GHG emissions and associated costs. These mature assets generally have a lower risk profile due to the experience and technical knowledge gained over decades of production.

Resources

We have a large and diverse portfolio of undeveloped resources. These provide us the flexibility to develop new supplies to meet future demand. We work to enhance the quality of this resource base through:

- Successful exploration.
- Application of new technology.
- Acquisitions.
- Divestments.
- Development planning efforts.
- Appraisal activities.

The underlying economics of commercializing resources depend on factors we assess annually. Options include developing the resource, selling it, or exiting it. All investments are tested over a wide range of commodity price assumptions and market conditions, including scenarios like the IEA NZE.

It is impossible to know which specific assets will ultimately be developed, given the array of dynamic factors that influence governments' diverse approaches to regulation and industry's commercial decisions. Diverse, long-lived assets are a hedge against instability.

Some examples:

- Regional policies that constrain supply in one area could enhance returns in others.
- Under IEA NZE assumptions, some higher-cost assets could become disadvantaged without active portfolio management.
- Geopolitical conflict in one region could advantage resources in another.

We're confident in our ability to apply high-impact technologies to position our portfolio to compete successfully in a broad range of scenarios.

Plastics

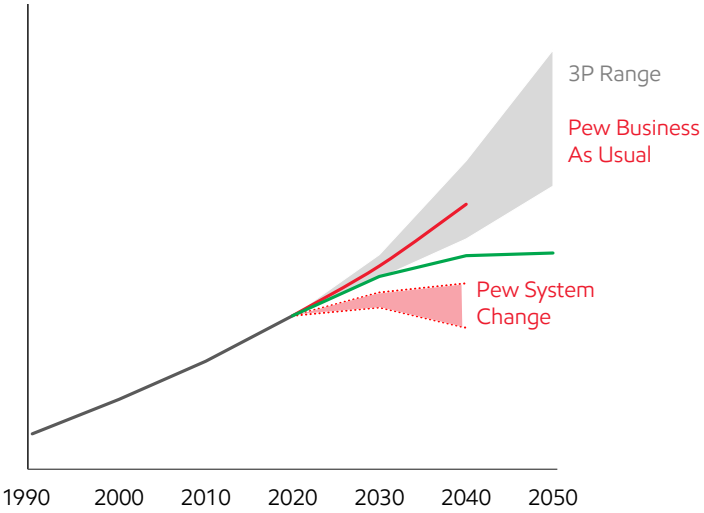
Lower-demand scenarios like the (IEA NZE) project growth in plastics.

Pew's 2020 Breaking the Plastic Wave report introduces several scenarios for addressing plastic waste, including the System Change Scenario (SCS), their lowest demand scenario. Like the IEA NZE, it starts with an outcome and a timeframe and works backward from it to propose pathways to get there. And like the IEA NZE, society is not on the Pew SCS pathway.

The SCS covers only a subset of plastics,[29] but using their assumptions for the full plastics market shows demand ranging between 20% growth and 10% decline from 2020 to 2040.[30] Even at the low end, this puts plastics demand similar to what it was in 2017, when the average earnings of our Chemicals business were more than $3 billion.[31]

Plastics Demand

MTA polyethylene and polypropylene



In the same report, Pew shares their Current Commitments Scenario, focused on public and private sector commitments made between 2016 and 2019. If all the included regulations, restrictions, and bans came to pass by 2040, global plastic demand would fall by less than 5%. Applying that reduction to our Chemicals Business earnings over the last five years would show a decrease in corporate earnings of less than 1%.

The energy transition is a global opportunity – and it will take significant investment[32]

There is no credible energy transition scenario that doesn't include a role for oil and natural gas. Sustained investment will be needed to meet the world's demand for oil and natural gas.

By 2050:

- Our Global Outlook shows a 15% increase in overall energy demand vs. 2023 – with a 4% increase in oil demand and 39% increase in natural gas demand. This will be driven by population growth and rising living standards, nearly all of it in developing nations.
- The IEA Stated Policies Scenario (STEPS) projects global energy demand to average about 93 million barrels per day in 2050, not significantly lower than our Global Outlook projection of around 100 million barrels per day.
- The Intergovernmental Panel on Climate Change's Likely Below 2°C scenarios show an average global oil demand drop to 60 million barrels per day.
- The International Energy Association's Net's Zero Emissions (IEA NZE) by 2050 scenario shows about 24 million barrels per day of oil demand.

The variations in these projections and scenarios come from the different approaches taken. Our Outlook models supply and demand dynamics, scientifically grounded in long-term market fundamentals. But the IEA NZE and many other scenarios start at the end with a target in mind, then work backward to propose pathways to get there.

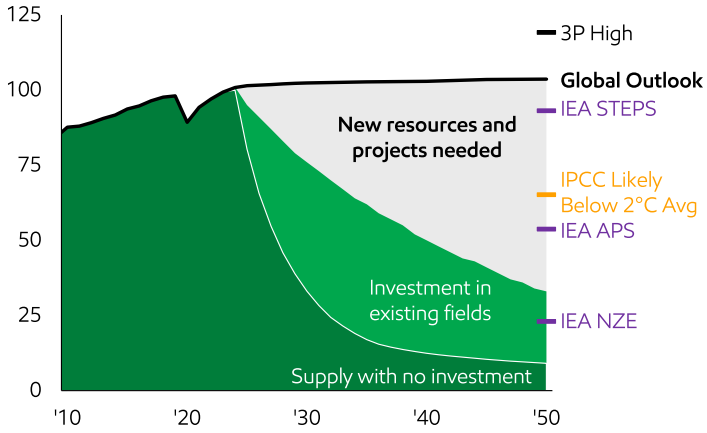
Global oil supply and demand through 2050

The IEA acknowledges the world is not on an NZE pathway. Even in that extreme scenario, however, investment of approximately $8 trillion through 2050 would be needed in oil and natural gas to meet the world's energy demand.[33] That's just to offset the natural decline rate of oil production, which is needed to avoid supply shortages that would impact people's lives and hamper global prosperity.

Even as economies grow and consume more energy, global carbon emissions are expected to fall for the first time by 2030. In fact, our Global Outlook projects carbon emissions declining through 2050 due to increases in efficiency, renewables,and lower-emission technologies.

Global oil supply and demand

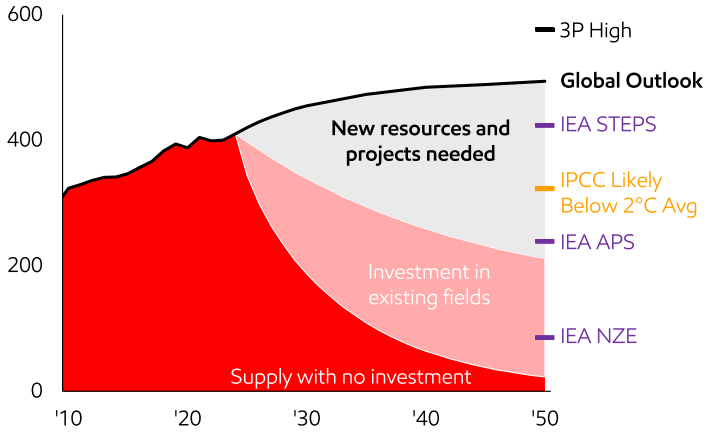
Million barrels per day



Oil excludes biofuels
IPCC AR6 Scenarios Database hosted by IIASA release 1.0 average of 306 IPCC C3: "Likely below 2°C" scenarios
IEA scenarios from '24 WEO; 3rd Party high 2023 OPEC World Oil Outlook 2045: Laissez-Faire case
Decline rates based on 10-yr CAGR

Global gas supply and demand

Billion cubic feet per day



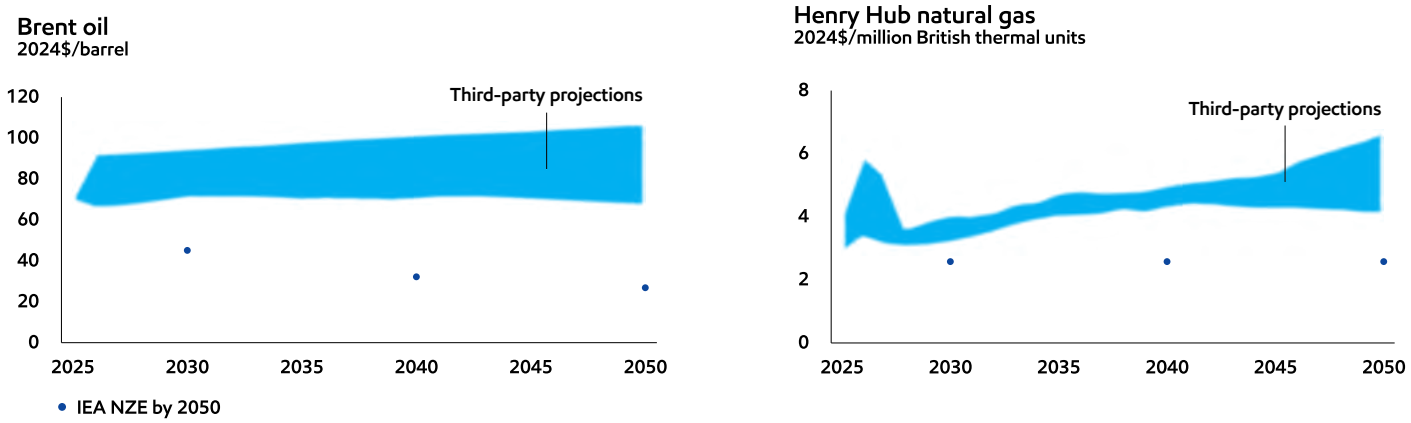
Excludes flaring
IPCC AR6 Scenarios Database hosted by IIASA release 1.0 average of 306 IPCC C3: "Likely below 2°C" scenarios
IEA scenarios from '23 WEO; 3rd Party high 2023 OPEC World Oil Outlook 2045: Laissez-Faire case
Decline rates based on 10-yr CAGR

Pricing

Our near-term price assumptions for oil and natural gas are informed by market conditions. For mid- to longer-term, our prices are in the range of third-party projections published by reputable organizations with significant industry expertise. While our projections for prices are proprietary, they fall well within historical bands.[35]

IEA STEPS projects a 2050 price of crude of $83 per barrel and a U.S. natural gas price of $4.3 per million British thermal units (in 2023 U.S. dollars). The pricing in IEA NZE diverges significantly from these estimates.

Third-party price projections versus IEA NZE[34]



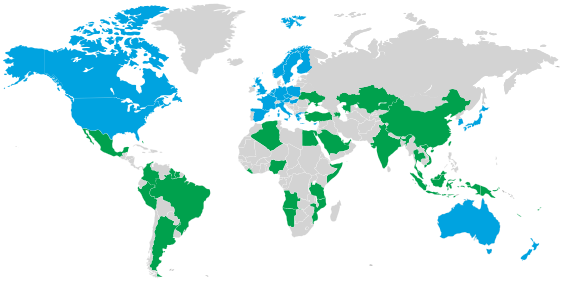
Policy impact

Our Global Outlook seeks to identify how climate-related policies might affect global energy demand. We use various tools and assumptions, including a proxy cost of carbon, to estimate these impacts.

We also use proprietary greenhouse gas pricing where we operate and invest. Where existing policies provide greenhouse gas pricing, we follow them to evaluate investments and estimate costs where appropriate, for specific greenhouse gas emissions sources.

International accords and underlying regional and national regulations covering greenhouse gas emissions continue to evolve with uncertain timing, outcome, and potential business impact. Where no such policies exist, we assume a price informed by our Global Outlook.

GHG emissions pricing where ExxonMobil operates or invests



$/metric ton CO_2 2024$ real	World Bank[36] Carbon prices	ExxonMobil GHG emissions prices	IEA WEO STEPS[37] CO_2 prices	
		2022-2050	2030	2050
Advanced economies	2-108	8-150	<144	<163
Emerging economies	1-13	3-100	<40	<54

Ranges provided for jurisdictions where ExxonMobil operates or invests.

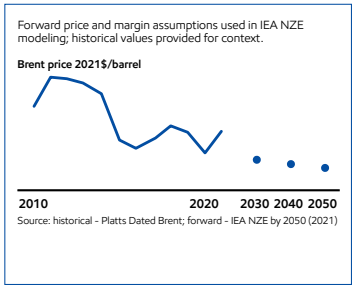
ExxonMobil's GHG emissions pricing for 2024-2030 is based on currently stated existing or anticipated policies; pricing for 2030-2050 reflects presumed regional policies for both advanced and emerging economies.

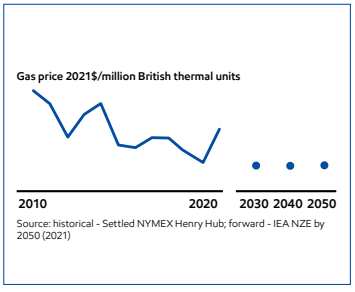
ExxonMobil's GHG emissions pricing is in 2024 USD and has not been adjusted for future inflation.

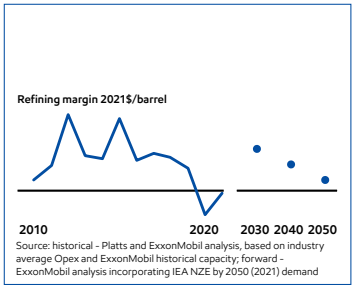
For 2024 and 2025, we have not applied GHG emission prices to our operations or investments in countries where there is no existing GHG emission price. We do apply anticipated prices within the range identified in the table in those countries beginning in 2026.

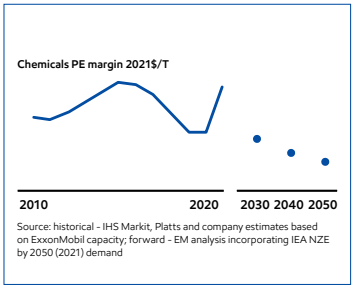
ExxonMobil's GHG emissions prices include CO_2 and other GHGs (e.g., methane), where appropriate.

1 $3 billion by 2030 subject to additional investment by ExxonMobil, final 45V regulations for hydrogen production credits, and receipt of government permitting for carbon capture and storage projects.
2 Existing ExxonMobil operated facilities; excludes startup phase of major new facilities. Projected emission intensity includes Scope 1 and 2 emissions of ExxonMobil operated assets as compared to available benchmark. Reduction estimates provided herein have a high degree of uncertainty, and are subject to change based on potential future conditions. 2030 first quartile projection based on comparison of available peer performance data, publicly available announcements, third-party sources (Rystad for oil and flowing gas, Alberta Government for heavy oil, Phillip Townsend and Associates Inc. for LNG), and ExxonMobil analysis.
3 Ibid.
4 References to routine flaring herein are consistent with the World Bank's Zero Routine Flaring by 2030 Initiative/Global Flaring & Methane Reduction (GFMR) Partnership principle of routine flaring, and excludes safety and non-routine flaring.
5 First quartile operated performance based on Phillip Townsend and Associates Inc. industry benchmarking analysis for operating year 2021.
6 Aggregate based on Scope 1 and 2 emissions of ExxonMobil operated assets. Refining performance results based on ExxonMobil analysis of 2022 Solomon Associates' proprietary Carbon Emissions Index; Chemicals performance results based on ExxonMobil analysis of key competitors' publicly available information, annual data (2016-2023). Benchmarking is updated regularly as new data sources become available.
7 Total demand through 2030 – ExxonMobil 2024 Global Outlook. Chemicals based on ExxonMobil 2024 Global Outlook for Energy chemical feedstock projected demand excluding direct ethane from Upstream operations.
8 ExxonMobil 2024 Global Outlook.
9 Global economy - ExxonMobil's 2024 Global Outlook; Chemicals growth - IHS Markit Report, Global (Polyethylene, Polypropylene, and Paraxylene), 2023 edition: Fall 2023 update.
10 The utility-scale solar farm is owned and operated by Lightsource bp with power supplied to GCGV under a long-term contract https://www.gcgv.com/our-impact/2023-sustainability-report/sr-environmental-stewardship/advancing-climate-solutions
11 May not reflect final investment decisions made by the company. Individual opportunities may advance based on a number of factors, including availability of supportive policy, technology for cost-effective abatement, and alignment with our partners and other stakeholders. The company may refer to these opportunities as projects in external disclosures at various stages throughout their progression.
12 ExxonMobil analysis based on: Elizabeth Avery, Experience Nduagu, Eric Vozzola, Timothee W. Roux, Rafael Auras, Polyethylene packaging and alternative materials in the United States: A life cycle assessment, Science of The Total Environment, Volume 961, 2025, 178359,ISSN 0048-9697, https://doi.org/10.1016/j.scitotenv.2024.178359. Manfred Tacker, Tasja Hafner-Kuhn, Andrin Gstöhl, Experience Nduagu, Eric Vozzola, Timothee W. Roux, Rafael Auras, Life cycle assessment of polyethylene packaging and alternatives on the European market, Cleaner Environmental Systems, Volume 17, 2025,100270, ISSN 2666-7894, https://doi.org/10.1016/j.cesys.2025.100270
13 Based on performance of specific ExxonMobil Exceed™ XP grades versus conventional polyethylene in flexible packaging applications.
14 Comparative Carbon Footprint of Product - ExxonMobil's Proxxima™ Resin System to Alternative Resin Systems, June 2023, prepared by Sphera Solutions, Inc. for ExxonMobil Technology and Engineering Company. The study was confirmed to be conducted according to and in compliance with ISO 14067:2018 by an independent third party critical review panel.
15 Department of Energy statements at https://www.energy.gov/eere/vehicles/lightweight-materials-cars-and-trucks
16 Based on ExxonMobil analysis: https://www.exxonmobilchemical.com/en/resources/library/library-detail/91254/properly_inflated_tires_affect_energy_consumption_en
17 Provides up to 4% fuel economy when changing from a higher viscosity 5W-30 engine oil. Based on ExxonMobil analysis when compared to conventional mineral oils: https://www.mobil.com/en-be/passenger-vehicle-lube/pds/eu-xx-mobil-1-esp-x2-0w-20
18 Based on ExxonMobil analysis using Argonne National Labs' GREET2023 model and published fuel carbon intensity from California LCFS regulations. Argonne National Laboratory GREET model: https://greet.anl.gov/, California Air Resources Board Low Carbon Fuel Standard Regulation: https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard/lcfs-regulation
19 Based on ExxonMobil analysis using Argonne National Labs' GREET2022 model versus conventional fuel oil. Argonne National Laboratory GREET model: https://greet.anl.gov/ Performance dependent on blend rates and bio components used.
20 Based on ExxonMobil analysis; performance profile at https://www.mobil.com/en-us/industrial/pds/na-xx-mobil-dte-10-excel-series.
21 Based on ExxonMobil analysis; performance profile at https://www.mobil.com/en-us/industrial/pds/na-xx-mobil-shc-600-series
22 Based on ExxonMobil analysis; performance profile at https://www.mobil.com/en-us/industrial/pds/gl-xx-mobilshc-gear-320-wt
23 The Use of Scenario Analysis in Disclosure of Climate-related Risks and Opportunities – TCFD Knowledge https://www.tcfdhub.org/scenario-analysis/
24 The statements and figures contained in this section are hypothetical in nature, do not constitute a forecast of future company performance and are based on assumptions from International Energy Agency (2021), Net Zero by 2050, IEA, Paris., including updates released by IEA in successive Net Zero reports that were deemed to have a significant impact on the outcomes.
25 Forward price and margin assumptions used in IEA NZE modeling; historical values provided for context.









26 ExxonMobil analysis, IEA NZE by 2050 (2021). Supplemental information for non-GAAP and other measures. This chart 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 publication and its associated supplement, including on emissions, is not financial data and is not GAAP data.

27 ExxonMobil analysis, IEA NZE by 2050 (2021).

28 For the purposes of this report, "proved reserves" means estimated year-end 2024 proved oil and gas reserves for consolidated subsidiaries and equity companies which was reported in the Corporation's 2024 Annual Report on Form 10-K. Proved oil and gas reserves are determined in accordance with Securities and Exchange Commission (SEC) requirements. Proved reserves are those quantities of oil and 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. For the purposes of this disclosure, resources are total remaining estimated quantities of discovered oil and gas that are expected to be ultimately recoverable. The resource base includes proved reserves and quantities of oil and gas that are not yet classified as proved reserves.

29 Report developed by the Pew Charitable Trusts and SYSTEMIQ, "Breaking the Plastic Wave: A Comprehensive Assessment of Pathways Towards Stopping Ocean Plastic Pollution: https://www.pewtrusts.org/-/media/assets/2020/10/breakingtheplasticwave_mainreport.pdf

30 Third-party projections and scenarios include: (1) Chemical Market Analytics (CMA) Circular Plastics Service, August 2024, by OPIS, A Dow Jones Company, Base Case and Green Case scenarios; (2) McKinsey & Company, How plastics-waste recycling could transform the chemical industry (December 12, 2018), (3) OECD, Global Plastics Outlook: Policy Scenarios to 2060 (June 21, 2022), Baseline and Regional Action scenarios; (4) Pew Breaking the Plastic Wave, 2020 Report Business as Usual and Pew System Change scenarios; and (5) International Energy Agency (IEA), Net Zero Roadmap: A Global Pathway to Keep the 1.5C Goal in Reach (2023 Update). The discussion of these third-party scenarios in this document does not reflect the likelihood or probability of any scenario occurring, the likelihood of the average of these scenarios occurring, or the adoption of any of these scenarios or their average by ExxonMobil for planning purposes or otherwise. The third-party scenarios reflect the modeling assumptions and outputs of their respective authors, not ExxonMobil. ExxonMobil recognizes that considerable uncertainty exists in all future scenarios. Third-party projections and scenario reporting has varying product and timing granularity. ExxonMobil technical experts have made assumptions to bring all data onto a consistent basis. Where there is no split of plastics products provided by third-parties, CMA and OECD splits are assumed. IEA net zero primary chemicals demand assumed to be sum of primary chemicals production and primary chemicals savings, and growth assumed to be consistent across chemical products. Third-party growth rates are applied to normalized historic data. Data plotted in 10 year increments. Where decade end datapoints not available, they are estimated based on growth rates. The high end of the range on the chart of the Pew Report's System Change Scenario assumes growth of durable plastics equal to the Pew Report's Business-as-Usual scenario. The low end of the range on the chart of the Pew Report's System Change Scenario assumes durable plastics follow the same trend as municipal solid waste (~non-durable) plastics in the System Change Scenario. MTA is an abbreviation of millions of tonnes per annum.

31 See our website at corporate.exxonmobil.com/news/news-releases for February 2025, release of 4Q 2024 earnings: https://d1io3yog0oux5.cloudfront.net/_55ef03a4ca6327454ca16bd9d75cb53a/exxonmobil/db/2288/22354/earnings_release/4Q24+Earnings+Press+Release+Website.pdf

32 IEA World Energy Outlook 2023, ExxonMobil analysis, ExxonMobil 2023 Global Outlook, IPCC Sixth Assessment Report, Likely Below 2°C scenarios refers to Category C3.

33 ExxonMobil analysis based on IEA (2023), World Energy Outlook 2023, IEA, Paris https://www.iea.org/reports/world-energy-outlook-2023, Licence: CC BY 4.0 (report); CC BY NC SA 4.0 (Annex A).

34 IEA NZE by 2050 (2023). Third-party oil price range includes projections from Wood Mackenzie, IHS Markit, S&P Platts, Rystad Energy and the U.S. EIA, and is based on their most current publications as of December 2024. Third-party gas price range includes projections from Wood Mackenzie, IHS Markit, S&P Platts, Rystad Energy, Facts Global Energy, and the U.S. EIA, and is based on their most current publications as of December 2024.

35 For example, from 2010 to 2024, annual Brent crude prices ranged from $112 a barrel to $42 a barrel. For the same period, annual Henry Hub natural gas price ranged between $6.45/mmbtu and $2.03/mmbtu. Source: U.S. EIA Brent and Henry Hub Annual Spot Price (nominal dollars).

36 World Bank: State and Trends of Carbon Pricing 2024, https://openknowledge.worldbank.org/entities/publication/b0d66765-299c-4fb8-921f-61f6bb979087. Reference World Bank ranges are consistent with existing carbon pricing for those jurisdictions as of April 1, 2024.

37 IEA World Energy Outlook 2024. IEA ranges have been adjusted for 2024$ Real.

Driving reductions in methane emissions

Key takeaways

1 We've cut methane emissions intensity by more than 60% since 2016 and are on track to achieve reductions of 70-80% by 2030.[1]

2 Reducing methane leaks is smart business. Keeping more natural gas in the pipe means more to sell, and natural gas has been the biggest driver in cutting CO_2 emissions from electricity generation in the U.S. in recent years.[2]

We're deploying leading-edge technology on the ground, in the air, and in space to mitigate, monitor, and measure methane emissions. Our Center for Operations and Methane Emissions Tracking (COMET) is a model for our other locations around the world.

From our Model Regulatory Framework to collaborations with the Oil and Gas Methane Partnership (OGMP) 2.0 and Methane Guiding Principles, among others, we're working to be a global leader in eliminating methane emissions.

Methane: The other GHG

Methane is a powerful molecule.

With just one carbon and four hydrogen atoms, it's the principal component in natural gas. Methane has the high energy density needed to make natural gas a reliable and flexible energy source. Natural gas is doing more to meaningfully reduce CO_2 emissions in the U.S. electricity sector than any other technology.[3] It will remain a critical source of energy in a lower-emissions future. Our Global Outlook forecasts that natural gas will supply 20% of the world's power generation needs in 2050.[4]

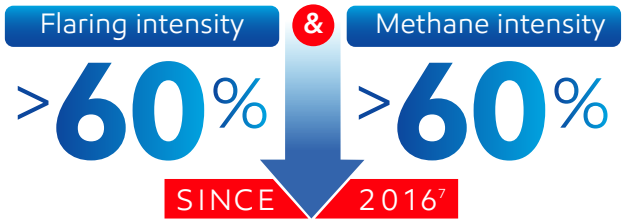
Why is natural gas such a good option?

- Natural gas-fired electricity generation can reduce CO_2 emissions by up to 60% and produce fewer air pollutants when it replaces coal.[5]
- Natural gas is abundant in many places around the world and can be easily transported.
- Natural gas is versatile, used in everything from power to transportation to home use.
- Natural gas is reliable, backing up intermittent renewable power generation.

But, as with any form of energy, there are tradeoffs. For natural gas, fugitive or leaked methane is a challenge. Compared to CO_2, methane exists for a short time in the atmosphere but has 30 times the global warming potential on a 100-year timespan.[7]

That's why it's important for us to keep methane contained and managed – in our pipelines, in our storage tanks, and in our processing equipment.

Managing methane is smart business. Keeping more natural gas in the pipe means we have more product to sell.



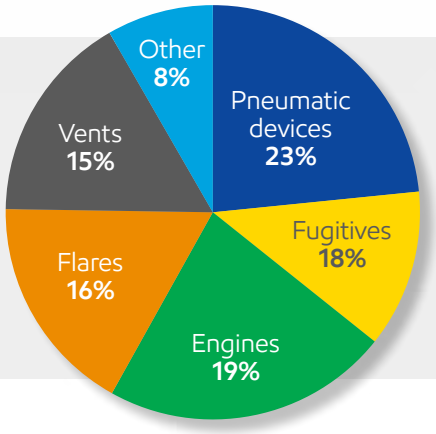
Methane at ExxonMobil

Methane emissions in our industry come from four main sources:

- **Flaring:** the burning of excess natural gas for safety or other reasons.
- **Venting:** the release of excess methane to reduce pressure in pneumatic devices, storage tanks, dehydration units, and other components of our operations to help ensure safety.
- **Fugitive emissions:** unintentional leaks from equipment.
- **Combustion slip:** uncombusted methane in the exhaust of natural gas engines.

ExxonMobil upstream methane emissions[8]

By source



As reported in the data table, methane emissions at ExxonMobil were approximately 112,000 metric tons in 2024, about 4% of our total direct (Scope 1) operated emissions. Approximately 95% of our methane emissions come from our upstream operations.

What we've done	What we're doing
Cut operated methane emissions intensity by more than 60% from 2016-2024.[9]	On plan to reduce methane intensity versus 2016 across all operated assets 70%-80% by 2030.[10]
Eliminated routine flaring in heritage Permian Basin operated assets.	On track to achieve zero routine flaring across all operated upstream assets by 2030, consistent with World Bank Zero Routine Flaring Initiative.[11]
Joined the U.N. Oil and Gas Methane Partnership (OGMP) 2.0.	Deploying continuous monitoring platforms on all key operated sites in the Permian basin by the end of 2025.
Eliminated pneumatics in our heritage Permian Basin assets, replacing all pneumatic devices (>6,000), and exploring options for recently acquired Pioneer assets.	Executing methane emissions measurement consistent with OGMP 2.0 Gold Standard reporting requirements.
Began monitoring our Bakken assets in North Dakota through our headquarters-based COMET.	
Heritage Pioneer operations received Gold Standard Pathway recognition from OGMP 2.0 in 2024.	

Mitigating methane emissions

We're taking a multilayered approach, using leading-edge technology to **mitigate**, **monitor**, and **measure** methane emissions.

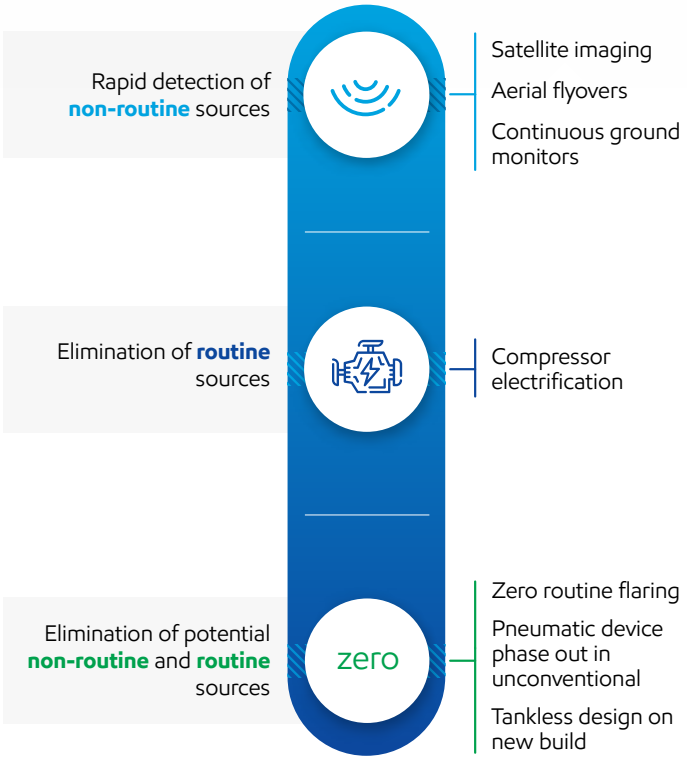
We start with mitigation. Because when we eliminate potential sources of routine and non-routine methane leaks, we're also reducing uncertainty. With fewer ways for methane to leak, we can keep it contained and focus our monitoring and measurement efforts where they're most needed.

To reduce our methane intensity, we are evolving the designs of our facilities, improving our processes and protocols, and pursuing new technologies.

Aiming for zero

In March 2022, we joined others in our industry to launch the Aiming for Zero Methane Emissions Initiative to strive to reach near zero methane emissions from operated oil and gas assets by 2030. Our efforts support the goals of the Global Methane Pledge and the U.S. Methane Emissions Reduction Plan – as well as our own 2050 net-zero ambition.

ExxonMobil's focus on methane emissions - from ground, air, and space



In 2024, flaring made up about 16% of methane emissions in our upstream operations.[12] Flaring is the most visible source of methane emissions because the flame can be seen by the naked eye. It's also a focus area for us, which is why we've eliminated all routine flaring in our heritage Permian Basin operations.[13] We are on track to achieve zero routine flaring across all operated upstream assets by 2030 in line with the World Bank Zero Routine Flaring Initiative.[14]

Ongoing enhancements – large and small, complex and simple, proven and leading edge – are advancing our efforts to reduce or avoid methane emissions.

In some cases, we're doing more with less, such as modifying designs or simply doing the same things, but better. For example, we continue to improve the seals on centrifugal compressors to prevent leaks and expand gas collection systems to capture and transport natural gas for processing.

In short, every feasible option is on the table as we work to safely and reliably mitigate methane emissions.

Certified natural gas

Our facilities in Poker Lake, New Mexico, and the Appalachian Basin have been certified annually for the last three years by MiQ, an independent, not-for-profit organization focused on reducing methane emissions. The certification verifies that the natural gas we produce has lower methane intensity. This helps our customers make more informed decisions about the environmental impact of the natural gas they purchase.

Replacing pneumatic devices

Pneumatic control devices have been used in our industry for more than a century. They operate valves that control liquid levels, pressure, temperature, and other parts of the production process.

They also emit methane. Each time a pneumatic device is used, a small amount of methane is vented. Multiply this by the number of devices at each site, and it can add up. That's why we are working to eliminate natural-gas-driven pneumatic devices in our key U.S. unconventional operated assets. We have already replaced all pneumatic devices (>6,000) in our heritage Permian Basin unconventional operations. And we're planning to do the same in the recently acquired Pioneer assets.

Unfortunately, there's no one-size-fits-all solution to this challenge. In some cases, when there's ready access to electricity, it's as simple as installing an air compressor or a mechanical valve. In other cases, it means looking outside our industry, collaborating with others to enhance existing controllers and other technologies to mitigate or eliminate emissions.

It can even mean using existing equipment in new ways, such as substituting nitrogen, a gas with no global warming potential, in pneumatic devices. We have deployed this solution with more than 1,000 pneumatic devices in the Appalachian Basin.

And the benefits extend beyond each piece of equipment. When retrofitting our existing assets, we often replace the infrastructure, which improves reliability and can further reduce the chances of leaks and fugitive emissions.

We're continuing to conduct trials to test emerging solutions as well. We'll deploy the most promising ones and share what we learn to advance the ambition of near-zero methane emissions.

Setting the standard in the Permian Basin

In the Permian Basin, we're making good progress on our industry-leading plans to achieve net zero by 2030 for Scope 1 and 2 GHG emissions from our heritage operated assets, even as our production continues to grow to help meet demand.

Reducing methane emissions is a key part of that plan. So far, in our heritage Permian Basin operations, we have:

- Eliminated all routine flaring.
- Replaced all natural-gas-driven pneumatic devices.
- Begun electrifying our natural gas compression units, eliminating methane slip.
- Electrified 100% of our drilling fleet.[15]
- Deployed our first electric fracturing unit.

We are working to accelerate similar milestones in our recently acquired Pioneer assets.

We have also focused on improving leak detection and response times. Remote operators now receive automated alerts 24/7 when an event is detected so they can quickly analyze the data and dispatch crews. Our work led to us being recognized as an industry leader by the Environmental Defense Fund.[16]

We are working to expand these continuous monitoring and response capabilities, as well as automate the collection and analysis of data through integrated operations support centers.

Monitoring and detection

Our detection and quantification work is improving the accuracy of the methane volumes and intensity data. This work also and helps us assess the scale of the challenge and how effective our efforts are. The framework we've established and shared with regulators, trade groups, and others has helped in the development of consistent and comparable data which, along with improving field measurements, guide our mitigation efforts.

On the ground, in the air, and in space, the technology and processes we use to identify non-routine methane emissions give us a wide range of data points to inform and continuously improve our mitigation efforts. At this time, we're advancing detection technologies across our global upstream operated assets.

Methods of detection

Method	Technologies	Detection thresholds*	Considerations	ExxonMobil sites**
Manual detection	▪ Handheld devices ▪ Portable detectors	Less than 1 kg/hr	**Advantages:** Precise location of emissions, using services already available in some locations. **Limitations:** Labor intensive, periodic, and subject to human error. Does not provide quantification. No access to difficult-to-reach locations.	▪ Permian Basin, U.S. (Including Pioneer) ▪ Eagle Ford, U.S. ▪ Bakken, U.S. ▪ Appalachian Basin, U.S. ▪ Haynesville , U.S. ▪ LaBarge, U.S. ▪ Guyana FPSO ▪ Hebron, Canada ▪ Kearl Oil Sands, Canada ▪ Cold Lake, Canada ▪ Normal Wells, Canada ▪ Malaysia ▪ Nigeria ▪ Angola ▪ Germany
Facility-scale, near-continuous monitoring	▪ Fixed cameras ▪ On-the-ground sensors	1 kg/hr – 20 kg/hr	**Advantages:** Stationary monitoring, offering near continuous coverage of an individual site. Continued research and innovation are increasing the likely scalability. **Limitations:** Quantification is an area of active and ongoing development. For point sensors, localization can also be challenging.	▪ Permian Basin, U.S. (including Pioneer)
Facility-scale, periodic monitoring	▪ Drones	Less than 1 kg/hr	**Advantages:** Can cover multiple sites in their entirety, including areas unreachable by handheld devices. **Limitations:** Wind speed affect the detection and quantification performance.	▪ Permian Basin, U.S. (heritage)
Aerial detection	▪ Airplanes ▪ Helicopters	Less than 3 kg/hr - 50 kg/hr	**Advantages:** Can cover hundreds of sites per day. **Limitations:** Observations reflect only a snapshot in time. The effectiveness of the survey can be limited by weather conditions.	▪ Permian Basin, U.S. (including Pioneer) ▪ Eagle Ford, U.S. ▪ Bakken, U.S. ▪ Appalachian Basin, U.S. ▪ Haynesville, U.S. ▪ Germany ▪ Australia
Satellite detection	▪ Low-earth orbit networks	Less than 100 kg/hr - 1,400 kg/hr	**Advantages:** Global coverage. Potentially lower cost. **Limitations:** High detection thresholds and sensitivity to environmental conditions.	▪ LaBarge and Permian Basin, U.S. (heritage) ▪ Kearl and Cold Lake, Canada ▪ Germany ▪ Indonesia ▪ Australia

***Detection thresholds vary depending on human and environmental factors, including weather and wind conditions.**

****Includes sites where these technologies have been piloted or deployed.**

The technology to detect and quantify methane emissions keeps getting better. The current industry and regulatory approach on the ground is focused on manual leak detection. At the same time, we're investing to develop and deploy technologies that increase the efficiency, precision, and coverage of our detection abilities.

We are rapidly advancing the development and deployment of near-continuous monitoring to enable real-time notification and mitigation of potential non-routine emission sources. We expect to deploy continuous monitoring platforms on all key operated sites in the Permian Basin by the end of 2025. We are taking our learnings to develop plans for similar deployments for our recently acquired Pioneer assets and across our global upstream portfolio.

Periodic monitoring using airplanes or drones can further expand coverage to dozens of onshore sites per day, depending on local conditions and logistics. The moment-in-time observations provided by airplane surveys continue to be a valuable source of data – but we're going even higher to enhance detection across larger areas on a more continuous basis.

And, at the highest level, satellites have the potential to provide global, near continuous data.

COMET: Bringing it all together in real time

Your home smoke detector serves an important purpose. When the alarm sounds, you know that it has sensed a problem. Whether it's smoke or just a low battery, you know that you need to respond.

Our Center for Operations and Methane Emissions Tracking (COMET) operates much like a smoke detector in your home. Only we've scaled it to cover massive areas with diverse sources of data. When there's a problem, our operators will know.

Launched in 2022, COMET continuously monitors and analyzes methane emissions data from sources across our heritage operations in the Permian Basin. The facility, located in our global headquarters, in Houston, Texas, is staffed 24 hours a day, 7 days a week to enable rapid detection and mitigation.

COMET is a potential game changer for ExxonMobil and the industry, and we're continuing to apply what we've learned. In early 2024, we began monitoring advanced process data from our Bakken assets in North Dakota. Proactive and continuous monitoring provides actionable data about unscheduled takeaway and mechanical issues that lead to flaring. These efforts have helped reduce average daily flaring in the Bakken by approximately 30% since 2023.

Measurement and reporting

We've publicly reported our methane emissions every year since 2014. Reporting is useful as we work with academia, industry peers, and other stakeholders to improve understanding of methane emissions and develop best practices.

Our data, past and present, is measured and reported based on internationally recognized methods and is compiled by determining emissions by source at each operated asset across our company. Using frameworks like Veritas and the Oil and Gas Methane Partnership, we've improved our reporting each year.

Reducing uncertainty in how we quantify methane emissions is an important part of our efforts. We're advancing solutions that help to continuously monitor and more precisely measure methane emissions.

As technology develops, we're making good progress with direct methane measurement, recognizing that in some cases, direct measurement and quantification may be difficult or impossible. In offshore locations, for example, water interferes with accurate satellite and aerial measurement. In other areas, airspace regulations may restrict drone use. Each location is different and presents unique challenges.

We joined the Oil & Gas Methane Partnership (OGMP) 2.0 in January 2024 and are pursuing Gold Standard pathway. Our heritage Pioneer assets received Gold Standard Pathway recognition in 2024. As part of OGMP 2.0, we plan to increase measurements at the emission source. This work will contribute to a better understanding of our absolute emissions and support continuous monitoring solutions. We expect these measurements to be completed by year-end 2026 for our operated assets, and measurement-informed data will be reported in 2027.

Understanding emission factors

Consistent with industry practices, we use emission factors with observational and other data, to estimate average methane emissions. Classes of equipment, types of activities, or other variables are multiplied by the relevant emission factor, which provides a credible estimate for our emissions inventory. Consistent with regulatory reporting requirements, emission factors come from multiple sources, including the American Petroleum Institute and the U.S. EPA GHG Reporting Program. As direct measurement and detection technologies evolve, emission factors are expected to be improved or used less industry-wide.

Advocacy and collaboration

The energy industry is collaborative by nature. We work with industry partners and regulators around the world to advocate for strong and consistent measurement, reporting, and verification standards. We also collaborate with universities, industry groups, and others to advance the technologies and fundamental science related to methane emissions.

Supporting rational and constructive policy

The model regulatory framework we published in 2020 provides a blueprint for industry-wide regulation, urging stakeholders, policy makers, and governments to develop comprehensive rules for methane emissions.

We work with the European Commission Directorate-General for Environment and United States agencies such as the Environmental Protection Agency, the Bureau of Land Management, the Pipeline and Hazardous Materials Safety Administration, among others, to encourage practical and effective regulation of methane emissions. In the

United States alone, there are half a dozen agencies doing important work on methane rules. If not well coordinated, this could lead to overlapping and potentially conflicting regulations. This is why we're focused on rational and constructive policy that supports the deployment of technology and builds on successful industry efforts.

In recent years, the commentary and guidance we've offered regulators includes:

- Comment letters to the U.S. EPA in November 2019, January 2022, and February 2023 related to new source performance standards.
- A joint comment letter about continuous monitoring to the U.S. EPA, co-signed with five other companies in the energy, power, and aviation industries.
- Our comment letter to the Pipeline and Hazardous Materials Safety Administration on their proposed rules for leak detection.
- Testimony at the U.S. EPA Methane Detection Technology Workshop
- Our submission to the European Union Commission's Methane Emissions Stakeholder Meeting.

Teaming up to reduce methane emissions

We know we can't go it alone. Collaboration is vital. By working with a wide range of universities, academic consortiums, environmental groups, and more, we're helping to advance leading-edge research and pilot new technologies.

Among others, we're members of (*ExxonMobil is a founding member):

- Oil and Gas Methane Partnership 2.0: A United Nations Environmental Programme (UNEP) partnership of more than 140 companies across more than 70 countries focused on improving the accuracy and transparency of methane emissions measurement and reporting in the oil and gas industry.
- Oil and Gas Decarbonization Charter: A unique collaboration to accelerate the decarbonization of the global oil and gas sector by fostering inclusive industry cooperation and knowledge sharing.
- Oil and Gas Climate Initiative: A CEO-led initiative of 12 of the world's leading energy companies, which celebrated its tenth year of collective action in 2024.
- Stanford Natural Gas Initiative*: A collaboration of more than 40 research groups from multiple disciplines working with industry partners and others to maximize the social, economic, and environmental benefits of natural gas.
- Project Astra*: A partnership to monitor emissions across the Permian Basin with a first-of-its-kind sensor network, led by The University of Texas at Austin and bringing us together with the Environmental Defense Fund, Chevron, and GTI Energy, a research organization focused on energy solutions.
- Veritas: GTI Energy's Methane Emissions Measurement and Verification Initiative, pursuing credible, comparable methane emissions measurement and accelerating actions that reduce methane emissions.
- The Environmental Partnership*: A collaboration among U.S. oil and natural gas companies of all sizes to take action on environmental performance, transfer knowledge, and foster collaboration among stakeholders.

Thought leadership

We share what we learn through peer-reviewed publications either co-authored by ExxonMobil or funded in part by the company. Since 2016, dozens of articles have been published in academic and trade journals. Topics covered include tiered leak detection and repair programs, global to point-source methane emissions quantification, next-generation imaging, satellite capabilities, region-specific life-cycle greenhouse gas emissions of oil and natural gas, and much more.

Our work has been shared in technical briefings at venues like the American Geophysical Union and European Geophysical Union annual meetings, the American Petroleum Institute's Environmental Partnership meetings, and Stanford University's Methane Emissions Technology Alliance.

1 ExxonMobil's 2030 GHG emission reduction plans: https://corporate.exxonmobil.com/news/news-releases/2021/1201_exxonmobil-announces-plans-to-2027-doubling-earnings-and-cash-flow-potential-reducing-emissions. ExxonMobil's 2030 plans are expected to result in a 20%-30% reduction in corporate-wide greenhouse gas intensity, including reductions of 40%-50% in upstream intensity, 70%-80% in corporate-wide methane intensity, and 60%-70% in corporate-wide flaring intensity. Based on Scope 1 and 2 emissions of ExxonMobil operated assets (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 Ipieca. There is uncertainty associated with emissions, reductions, and avoidance performance data due to variation in 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 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.

2 Based on U.S. Energy Information Administration, Monthly Energy Review, December 2024 Edition: eia.gov/totalenergy/data/monthly/archive/00352412.pdf and IEA CO_2 Emissions Report in 2023: https://iea.blob.core.windows.net/assets/33e2badc-b839-4c18-84ce-f6387b3c008f/CO2Emissionsin2023.pdf.

3 International Energy Agency, CO_2 Emissions 2023, Page 14: https://iea.blob.core.windows.net/assets/33e2badc-b839-4c18-84ce-f6387b3c008f/CO2Emissionsin2023.pdf. CO2Emissionsin2023.pdf.

4 ExxonMobil 2024 Global Outlook.

5 H. Khutal, K. Kirchner-Ortiz, M. Blackhurst, N. Willems, H. S. Matthews, S. Rai,G. Yanai, K. Chivukula, Priyadarshini, M. B. Jamieson, T. J. Skone, "Life Cycle Analysis of Natural Gas Extraction and Power Generation: U.S. 2020 Emissions Profile," National Energy Technology Laboratory, Pittsburgh, December 2024.

6 IPCC AR6 Report, Chapter 7: The Earth's Energy Budget, Climate Feedbacks and Climate Sensitivity (Table 7.15): https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter07.pdf.

7 Emission metrics are based on assets operated by ExxonMobil, using the latest performance and plan data available as of 3/1/2025. Methane intensity is calculated as metric tons CH4 per 100 metric tons of throughput or production. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipieca. 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 Ipieca, to improve emission factors and methodologies, including measurements and estimates.

8 ExxonMobil methane emissions estimates as of year-end 2024.

9 Emission metrics are based on assets operated by ExxonMobil, using the latest performance and plan data available as of 3/1/2025. Methane intensity is calculated as metric tons CH4 per 100 metric tons of throughput or production. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipieca. 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 Ipieca, to improve emission factors and methodologies, including measurements and estimates.

10 Based on Scope 1 and 2 emissions of operated assets (versus 2016).

11 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.

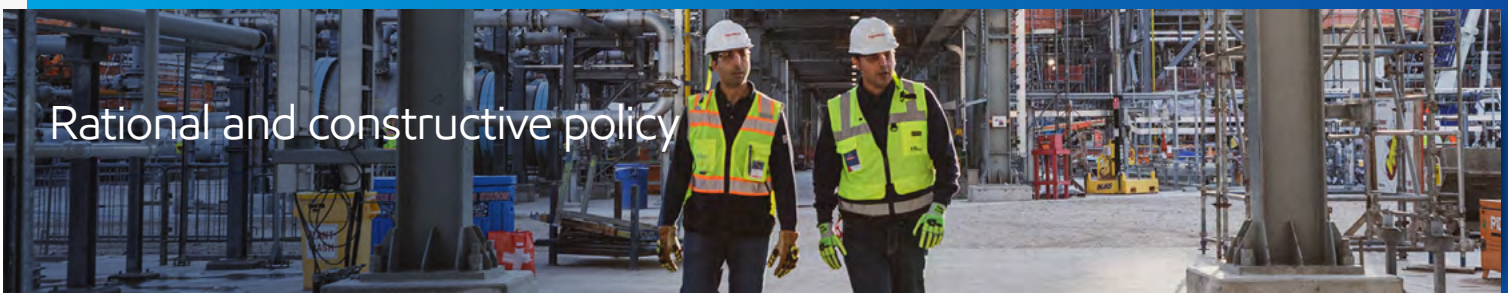
12 Emission metrics are based on assets operated by ExxonMobil, using the latest performance and plan data available as of 3/1/2025. Methane intensity is calculated as metric tons CH4 per 100 metric tons of throughput or production. Calculations are based on industry standards and best practices, including guidance from the American Petroleum Institute (API) and Ipieca. 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 Ipieca, to improve emission factors and methodologies, including measurements and estimates.

13 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.

14 Ibid.

15 Fleet utilizes grid electricity when available.

16 https://blogs.edf.org/energyexchange/wp-content/blogs.dir/38/files/2022/11/PermianMAPFinalReport.pdf



Rational and constructive policy

Key takeaways

1. The world's climate policies are falling short.[1] It's time for a pragmatic approach using product-level carbon-intensity standards to incentivize production of low-carbon-intensity products.[2]

2. Product-level standards have been used to solve a multitude of tough challenges, and they can help create an efficient marketplace for products with low-emissions intensity.

3. Carbon-intensity standards can be tightened over time as technology improves, reducing the cost of lowering emissions, encouraging producers to invest, and ensuring demand is met.

4. To be effective, intensity standards must be underpinned by a well-designed carbon emissions accounting framework that reliably tracks CO_2 emissions.

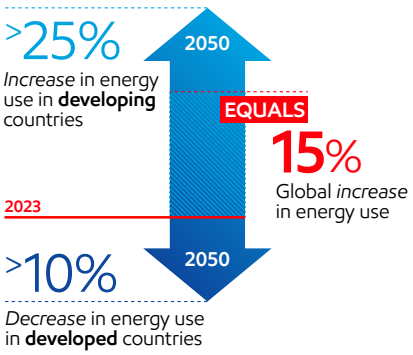
5. Rational and constructive policies that encourage the full range of technologies are key to lowering global emissions *and* meeting society's needs for critical products and services.

Framing the challenge

The International Energy Agency reports that global energy use grew almost 50% since 2000.[3] At the same time, GHG emissions have continued to rise[4] despite significant government subsidies fueling the growth of renewable energy.[5]

- Global CO_2 emissions are up 7.5% over the past decade.[6]
- Only 15 of 195 countries have updated their nationally determined contributions (NDCs) under the Paris Agreement.[7]
- Only 3 of 50+ technologies needed to support net-zero emissions by 2050 are "on track."[8]

Our Global Outlook forecasts energy use will increase another 15% by 2050. The growing needs of a rising population in the developing world drive this increase as economies develop and living standards improve. A better quality of life and lowering energy poverty rates drives higher energy consumption. This highlights the need for a new approach to help ensure CO_2 is appropriately managed as prosperity grows.



"To achieve a lower-emissions future, government GHG policy should set carbon-intensity standards on products. We believe this is the best way to engage the collective efforts of industry and leverage competitive market forces. To drive further innovation and reduce the most emissions at the lowest cost, policies must remain technology agnostic.Governments should not pick winners and losers. Intensity standards establish a level playing field and have a strong precedent."

Darren Woods, ExxonMobil Chairman and CEO

Product-level carbon-intensity standards – a pragmatic approach

Today, countries around the world set thousands of standards for products.[9] Products sold into these countries must meet these standards irrespective of where the product is made.

There are many examples of product standards that have proven effective and allowed ample time for technology to improve and costs to come down. They include energy efficiency standards on appliances, food safety, and fuel economy.

These standards work by setting limits on certain product characteristics. They can be tightened over time, which incentivizes producers to meet increasingly stringent requirements.

Standards like the following have prompted markets to adopt new technologies and enabled capital to flow to the most cost-effective solutions, while still meeting demand.

Example: marine fuel

In the 2010s, the International Maritime Organization (IMO) required that the limit for sulfur content in marine fuels be lowered from 3.5% to 0.5%. The feasibility of the change was studied with industry involvement, and the change was messaged to the industry over more than 10 years. This gave shippers and their suppliers time to consider how to best meet the new standard. A variety of solutions were implemented. They included fuel hydrotreating, alternate feeds to marine fuels, onboard scrubbers, and alternate fuel vessels. In 2020, when the standard became effective, only 55 cases of non-compliance were reported among the 60,000 ships driving global trade, according to the IMO.[10]

In the marine fuel example, demand for the product continued to be driven by the underlying market. However, shippers were required to meet technically achievable standards. Fuel producers had a key role in finding ways to meet the market need affordably with the cost of compliance embedded in the price of the product, while the shippers retrofitted their ships with scrubbers to meet the standard. Using similar approaches, society has been able to address a multitude of environmental and safety challenges.

A carbon-intensity standard could be similarly effective in lowering emissions by creating market-forming policies.

The example below provides additional lessons that can be applied to carbon emissions intensity.

Ultra-low-sulfur diesel (road transport)

Background:

Until the 1990s and early 2000s, sulfur dioxide emissions from diesel fuel use were identified as a contributor to acid rain, which had become a growing public environmental concern.[11]

Application of product standard:

The European Union and U.S. regulators established limits for sulfur content in diesel fuel. Implementation allowed different regions to reduce sulfur content in various ways.[12]

Lessons learned:

Collectively, diesel standards reduce sulfur emissions from diesel on- and off-road by more than 90%.[13] This has contributed to the significant decline in acid rain and improvement in air quality.[14] The standards had several positive features:

- Allowing different regions to make progress in their own way reflecting local conditions and involvement of industry groups in setting timelines.[15]
- Industry collaboration spurring a market mechanism where over-performers exchanged and blended material with under-performers to meet the standards.[16]

Incorporating carbon intensity into product-level standards

The global population and demand for reliable, affordable energy will continue to grow. To help emerging and developing nations improve quality of life, we need rational and constructive policies that help lower CO_2 emissions *and* still meet demand for critical products and services.

When governments or international bodies have applied standards to individual products or categories of products, without picking technology winners and losers, producers and sellers have efficiently competed to develop products that meet the emissions-intensity standard at the lowest price.

Governments can require that products must meet these carbon intensity standards to be sold in the market. They can decide the starting point and how to make the standard more stringent over time. Market-forming policies help create demand for lower-emission intensity products, and they help encourage producers to invest in decarbonization efforts.

Policy makers can start with the products that could drive large amounts of global CO_2 emission reductions, such as steel, cement, and aviation fuel, where even small changes in carbon intensity would have big impacts.[17]

This approach embeds the cost of reducing emissions in the product's price rather than as an explicit tax. The regulated application of carbon-intensity standards would require all entities selling technologies and products into a market to comply with the standard, unlocking innovation, competition, and capital.

Over time, as demand for these lower-carbon-intensity products grows, governments can step back from incentives and let markets handle compliance costs. Producers can use any viable solution to reduce carbon intensity, leading to faster and cheaper emission reductions as technologies are deployed and scaled.

Like technology, policy improvements can help catalyze cost-effective actions to lower emissions by enabling:

- Different technologies to compete.
- Market-based trading.
- Consumer choice.
- Clear, durable market signals for investment.
- Consistent policy application at the country level.

Why does the approach need to be technology neutral?

Successful policies avoid picking winners and losers. They let technologies compete.

Take the example of low-carbon hydrogen.

Hydrogen produced from natural gas with CCS is a cost-effective, scalable, and rapidly deployable alternative to other low-carbon intensity options.

Intuitively, you might think hydrogen produced using renewable sources like wind and solar would have zero GHG emissions. But as the chart below shows, that's not the case.

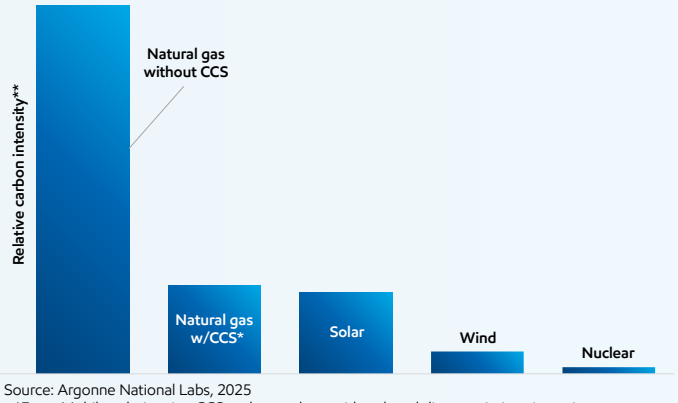
To compare alternatives, you have to consider the life cycle GHG emissions of each. For example, the mining, manufacturing, and transportation needed to build wind turbines, solar panels, and renewable power plants all result in direct GHG emissions and should be accounted.

Natural gas can be used to produce hydrogen using existing infrastructure. While it also involves direct emissions from extraction, processing, and transport, technology can be used to reduce these direct emissions. Additional technologies, such as CCS, can further reduce emissions when natural gas is converted to hydrogen.

Key features of effective product-level carbon-intensity standards

- **Product specific:** Develop carbon-intensity standards for specific products (e.g., fuels, power, steel, cement) while considering regional factors and resources.
- **Gradual tightening:** Set a baseline for carbon intensity and gradually adjust it over time based on regional, sectoral, technological, affordability, and demand factors.
- **Technology neutral:** Allow producers to choose any carbon-reducing technology to meet standards, ensuring fair competition without bias.
- **Recognize over-performance:** Encourage innovation by rewarding producers who exceed carbon emission intensity standards, allowing them to trade compliance credits within their sector.
- **Ease of implementation:** Strategically assess and implement targets across value chains to involve a manageable number of participants (i.e., paper products vs. book printers or cement producers vs. builders) while maximizing emissions coverage.

Proper accounting can help identify today's lowest-emission pathways for U.S. hydrogen production on an emissions accounting basis[18]



Source: Argonne National Labs, 2025
*ExxonMobil analysis using CCS and natural gas with reduced direct emissions intensity
** Well-to-gate

Successfully implementing product-level carbon-intensity standards will require a well-designed direct carbon-emissions accounting framework

The GHG Protocol, established more than 25 years ago, is often cited as the gold standard for carbon accounting. In our view, nothing could be further from the truth.[19] The truth is that the GHG Protocol Corporate Accounting and Reporting Standard was never designed as an accounting framework for products. It was designed as an inventory-based reporting tool for companies to report their emissions. It is structurally incapable of providing anything approximating an accurate tracking of CO_2 as it moves through the economy, for the following reasons:

Four flaws of the GHG Protocol*

1. **Fails to accurately assess a company's emissions efficiency.**
   Holding producers accountable for their absolute emissions, without acknowledging carbon intensity as the most appropriate way of understanding how efficient an emitter is relative to the work it is doing, will simply force a company to produce less as the only way of lowering its GHG Protocol reporting. As a result, even the lowest-emitting companies must cut production or sell assets, which shrinks supply but not demand. That means the world could face shortages, or less efficient companies would step in to meet demand rather than more responsible operators, and global CO_2 will rise as a likely consequence.

2. **Lacks a meaningful way to compare alternatives.**
   Because the GHG Protocol focuses on "absolute" measures, a small producer of high-emitting products will appear to be more efficient than a large producer of lower-emitting products. This can penalize companies just for being large, even if they are more efficient.

3. **Double or even triple counts emissions.**
   As designed, the GHG Protocol can account for ExxonMobil's Scope 2 emissions as another company's Scope 1 and as a consumer's Scope 3. This double or triple counting means, by definition, no one can depend on the GHG Protocol to give an accurate picture of CO_2 emissions. A system with these inherent flaws cannot be relied on by investors or other stakeholders to accurately gauge a company's progress in positively (or not) impacting global CO_2 emissions.

4. **Doesn't allow for avoided emissions.**
   When coal is replaced by LNG in power generation, CO_2 emissions can be reduced by up to 60%.[20] In fact, the LNG producer risks reputational or financial damage when it's labeled a "bad actor" because its Scope 1 emissions go up, even as the LNG it produces helps society's emissions go down. To use another example, ExxonMobil's current efforts to reduce CO_2 emissions for our company and other industries have the potential to reduce carbon emissions by the equivalent of 10 million U.S. households.[21,22] That's a very good thing. But this work will result in a higher Scope 1 and/or 2 number. In this way, the GHG Protocol can actually disincentivize the very work it should be encouraging.

Quite clearly, the GHG Protocol is the wrong tool if the goal is to meet society's objective of better living standards with reduced CO_2 emissions. Despite this, it is often used as the basis for many of today's policies and corporate disclosure frameworks that have resulted in an overly narrow focus on restricting supply, even as global demand and emissions continue to rise.

* GHG Protocol is currently the underlying accounting framework for net-zero and GHG target-setting and disclosure standards such as ISO, CA100+, SBTi, and TPI, among others.

For the world to achieve meaningful reductions in global CO_2 emissions, it must have a well-designed carbon-emissions accounting (CEA) framework based on the principles of science and financial accounting that focuses on the product level – one that:

- Makes clear where and when CO_2 is counted in producing and using a product or service.
- Informs policy decisions that incentivize low-carbon investments and encourage companies to meet society's needs using the most effective technology options.
- Enables secure supply of energy, products, and services to grow to meet demand.

CEA is not financial reporting and should not be treated like financial disclosures. But it should use accounting principles to track and verify CO_2 emissions across products, companies, and countries. For example:

- CO_2 should be counted only once. This would allow for an accurate accounting of direct CO_2 produced at each stage in the life cycle of a product.
- When the CO_2 associated with each product and service is counted, that total should ultimately balance with the total CO_2 emitted to the atmosphere. Think of it like a financial ledger or balancing a checkbook.

The CEA framework, like other accounting frameworks, should have rules for countries, companies, and products. As mentioned above, CO_2 should only be counted once by the product owner. CO_2 can then be transferred between entities, but if it is, only the new owner accounts for it.

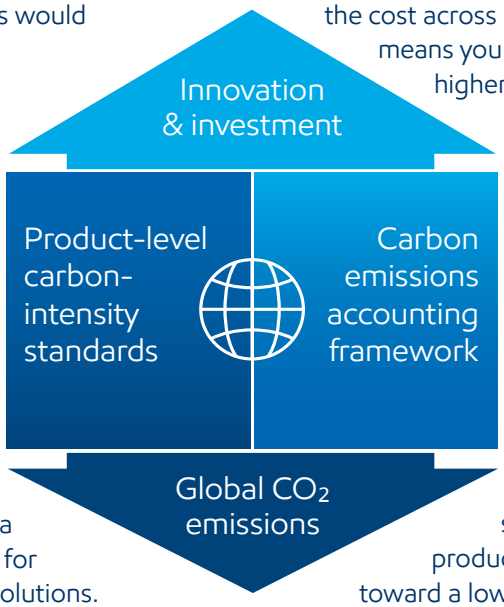
A well-designed carbon-emissions accounting framework would more clearly track how reductions in the product-level carbon-intensity standards are impacting overall emissions. Without a standardized approach, society risks continuing down the current path of misguided and deeply flawed measures that fail to account for the true sources of carbon emissions and their relative impact.

Successful transitions happen when policy, industry, and technology work together

An energy transition must begin at the product level. Effective policies engage industry participants and competitive markets to drive the best methods to achieve emission reductions at the lowest cost. Product-level carbon-intensity standards would do just that.

The right policies can drive innovations and technologies that speed up lower-emission options by fueling competition. And they work in tandem with the broader landscape of energy and economic policy so progress toward one objective doesn't undermine another.

When governments focus on the "what" rather than the "how," they avoid picking winners and losers so that companies can develop and deploy a full range of strategies and technologies for lower-emission-intensity products and solutions.



Direct carbon emissions accounting goes hand-in-hand with carbon-intensity standards to bring all the market forces to bear in reducing emissions. Importantly, it enables emissions reductions in existing products and systems, thus spreading the cost across a very large, established base, which means you can maintain affordability and achieve higher levels of carbon reduction.

A business-led coalition that leverages its collective expertise and experience could help support this approach. If governments, the private sector, and others work together to implement policies that are technology agnostic, competitive markets will develop and spur innovation. It's been done before at the product level. We're confident it can be done again to advance an energy transition that grows the supplies of affordable energy and products people need and moves the world toward a lower-emissions future.

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2 The content that follows is informed by research and analysis from McKinsey & Company, in collaboration with ExxonMobil. Individual data points have not been independently verified.
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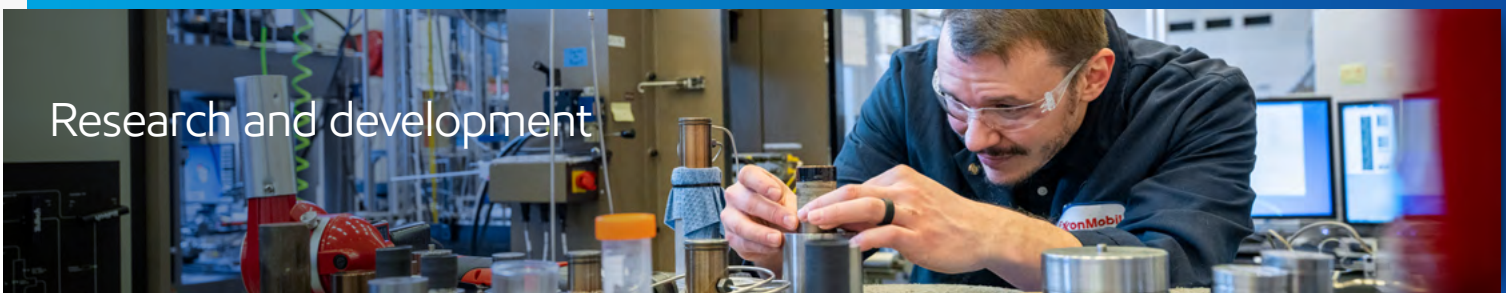
17 ExxonMobil 2024 Global Outlook.
18 Includes the embodied emissions with power generation.
19 Roger S Ballentine, The unusual suspects: are well-meaning environmental stakeholders and institutions undercutting the contributions that companies can make to fighting climate change?, Oxford Open Climate Change, Volume 3, Issue 1, 2023, kgad009, https://doi.org/10.1093/oxfclm/kgad009.
20 Based on ExxonMobil analysis for power plant use including EIA U.S. electricity net generation and resulting CO_2 emissions: https://www.eia.gov/tools/faqs/faq.php?id=74&t=11. Reductions may vary based on regional differences and other variables.
21 We see the opportunity to help other essential industries and customers achieve their goals to lower emissions. Estimates of GHG emissions are on a life cycle basis and include avoided and abated emissions from hydrogen, lower emission fuels, and carbon capture and storage. For example, customers could avoid up to 25 MTA of their GHG emissions if all of ExxonMobil's projected 2030 supply to the market of lower-emission fuels displaces conventional fuel refined from crude oil. Calculation is an ExxonMobil analysis illustrating the general benefits of lower-emission fuels based on estimated fuel carbon intensity (CI) from various third-party sources (such as Argonne National Labs' GREET model) as compared against its conventional fuel alternate on a life cycle basis. Calculation is an estimate that represents a range of potential outcomes that are based on certain assumptions. Estimates are based on the potential implementation of projects or opportunities that are at various stages of maturity. Individual projects or opportunities may advance to a final investment decision by the company based on a number of factors, including availability of supportive policy and permitting, technology and infrastructure for cost-effective abatement, and alignment with our partners and other stakeholders. Actual avoided and abated emissions may differ.
22 EPA's greenhouse gas equivalencies calculator: Carbon dioxide or CO_2 equivalent converted to a U.S. home's electricity use for one year: https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results.

Research and development



Our approach to R&D

For us, research and development starts with fundamental science and engineering. It is the foundation for our work to identify and advance new technologies that, once proven, could be deployed at a commercial scale with supportive policy in place.

We determine which research projects to advance based on a range of factors that include alignment with our competitive advantages and core capabilities. We also consider the benefits versus alternatives, the ability to scale, key partners, and the probability of commercial success.

As we work to advance carbon capture and storage, hydrogen, and lower-emission fuels opportunities, we are also investing in research and development aimed at next-generation, lower-emission solutions.

Thousands of scientists and engineers work at ExxonMobil, and more than 1,500 hold Ph.D.s. Those in R&D are exploring areas such as new catalytic and separation materials, novel low-energy process development and scale-up, advanced performance materials, and improved means of CO_2 capture and storage.

Our scientists have written more than 1,000 peer-reviewed publications and received more than 10,000 patents since 2010. We also collaborate with more than 80 universities around the world, four energy centers, and several national laboratories.

These collaborations have increased knowledge in key areas important to the energy transition such as detection and modeling of fugitive methane emissions, CO_2 capture and storage, process electrification, and energy systems models.

We also monitor emerging technologies to gain better insight into potential pathways of the energy transition. This can help us identify future research and development opportunities.

Core R&D capabilities

- Engineering
- Process & scale-up
- Production technology
- Geoscience
- Emerging technology
- Modeling & data science
- Energy modeling
- Biology
- Catalysis
- Chemistry
- Physics
- Materials science

Energy center collaborations

Stanford | ENERGY
Strategic Energy Alliance

SINGAPORE ENERGY CONSORTIUM

The University of Texas at Austin
Energy Institute

MITei
MIT Energy Initiative

National labs

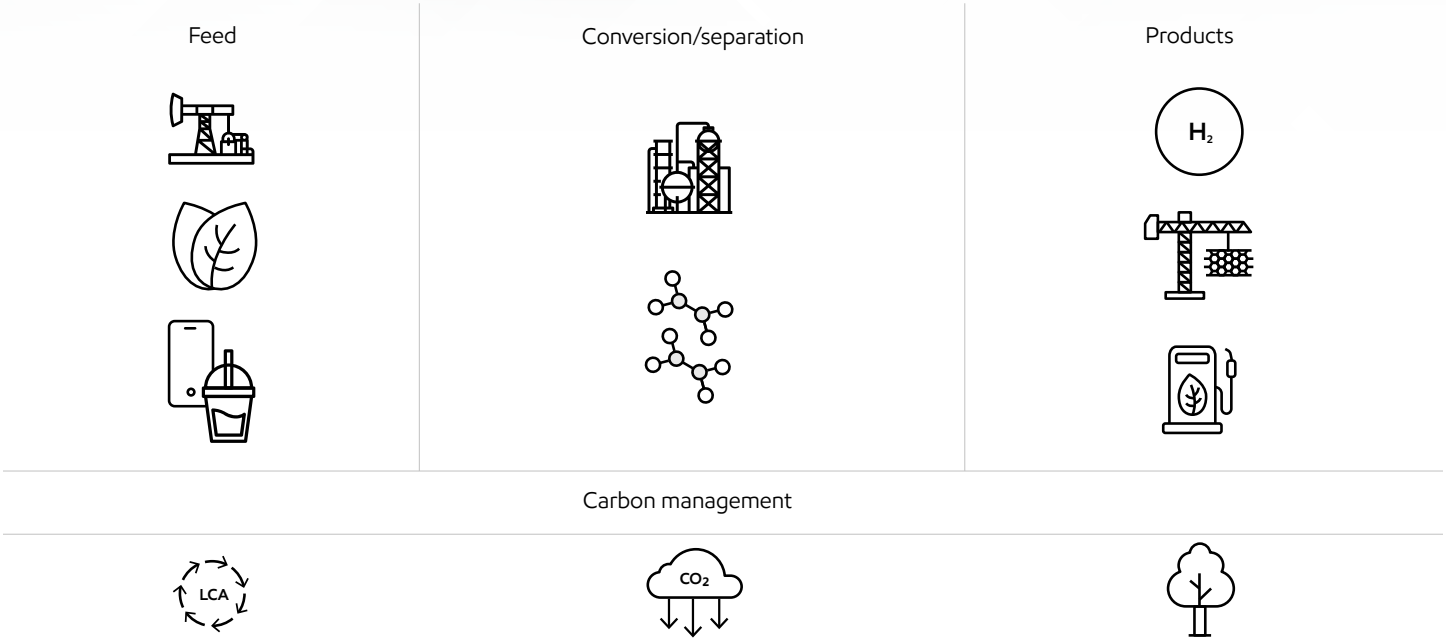
NETL

NREL
NATIONAL RENEWABLE ENERGY LABORATORY

INL
Idaho National Laboratory

Agency for Science, Technology and Research
SINGAPORE

Innovating across our value chain



Feed

Biomass – We are working to expand the range of materials used to make biofuels feedstocks, ranging from vegetable oils to cover crops and more. These have potential applications at our biofuels facilities, including our Strathcona renewable diesel plant and future advanced biofuel deployments.

Plastic waste – Our research to expand advanced (chemical) recycling focuses on plastics that are difficult to recycle mechanically. This technology would allow us to use a wider range of mixed plastic waste to make valuable raw materials safely, reliably, and economically at scale.

Methane detection – We are testing and deploying new technology to measure and reduce fugitive emissions from the natural gas we produce. Producing lower-emission-intensity natural gas also provides additional GHG benefits when it is used to support the production of low-carbon hydrogen.

Conversion/separation

New catalysts – We develop catalysts to make products such as performance materials and lower-emission fuels, including renewable fuels. For example, our dewaxing catalyst for renewable diesel gives a higher yield while using less hydrogen and improving the flow of diesel at low temperatures.

Low-energy separations – The sorting of molecules requires energy. This includes the isolation of hydrocarbons for use in the refining or chemical process. Increasing energy efficiency in this area can reduce emissions in manufacturing. Our scientists are building off years of research with university partners to identify ways to improve the scalability of this technology.[1,2]

GHG abatement and energy efficiency – We evaluate new technologies for our GHG roadmaps. This includes supporting future deployment of carbon capture, exploring opportunities for electrification and heat recovery, and pursuing the full range of efficiency improvements that may lower emissions.

Products

Hydrogen – We are developing advanced, lower-cost technology for production of low-carbon hydrogen at scale. We are also working with Zeeco, a leading combustion equipment manufacturer, on burners designed for industrial fuel switching to hydrogen and ammonia while controlling NO_X emissions. In addition, we are testing steel and other materials in pipelines to transport hydrogen and collaborating with the U.S. Department of Energy and industry organizations to evaluate safe and cost-effective hydrogen transport options. Progress in this area could help us grow the supply of hydrogen for a wide range of end users.[3]

Performance materials – Our R&D helps develop and deploy new thermosets, thermoplastics, and lubricants. Our advancements in these areas improve performance and allow the customer to use less energy and fewer materials. For example, our Proxxima™ thermoset resin system, based on Nobel Prize-winning technology, provides advantages in automotive applications, infrastructure, coatings, and wind turbine blades.[4] We are also studying additional opportunities for carbon materials where we see a significant opportunity in the market for synthetic graphite for EV battery anode materials and other applications.

Lower-emission fuels – Our continuing research in advanced biofuels could lead to improved longer-term solutions by converting bio-based feedstock into renewable fuels. For example, we have identified a new pathway for the production of sustainable aviation fuel (SAF) from renewable methanol, which can produce jet fuel with high selectivity and lead to reduced GHG emissions. In addition, we are leading the industry through an ASTM technical evaluation of this pathway to certify its use in aircraft.

Carbon management

Post-combustion carbon capture – We have a strategic alliance with Mitsubishi Heavy Industries (MHI) to deploy their CO_2 capture technology as part of our end-to-end carbon capture and storage solution for industrial customers. This alliance also leverages our combined core capabilities in engineering and science to advance the carbon capture technology for improved performance and lower overall cost of CO_2 capture.

We are working to develop next-generation carbonate fuel cell technology for CO_2 capture from industrial point sources. A project is underway at our Rotterdam refinery to validate fuel cell performance and lower the cost of CO_2 avoidance in an industrial deployment. We are developing commercialization options as part of our Low Carbon Solutions portfolio.

Direct air capture (DAC) – We believe there is potential for direct air capture to play an important role in addressing GHG emissions. With our in-house expertise and select partners, we plan to play a leading role in the development of this technology. We brought a DAC prototype demonstration unit online in early 2024. Our goal is to produce a lower-cost commercial platform at scale through rapid learning cycles.

Carbon storage – We continue to build upon our expertise to improve technologies required for the global scale-up of geologic CO_2 storage. One example is our work with Massachusetts Institute of Technology (MIT) to build fault permeability models to help manage and mitigate CO_2 migration potential.[5] We also worked with the University of Texas at Austin, the National Energy Technology Laboratory, and Brooklyn College and the Benjamin Levich Institute at City College, both part of City University of New York. In that collaboration, our laboratory simulations indicated that the pore-scale sealing of caprocks is maintained under geological CO_2 storage conditions.[6,7,8]

Carbon offsets – We continue to evaluate potential opportunities for high quality carbon credits that remove CO_2 from the atmosphere, either directly or indirectly, and durably store the carbon. Our research includes developing science-based approaches for measuring, reporting, and verifying carbon credits. Our work in carbon reduction and removal technologies may also help supply high-quality credits to markets.

Life-cycle assessment – We develop life-cycle assessments with multiple partners to compare different technology options. For example, we collaborated on a recent report for the Department of Energy that explored the costs and benefits of scaling up low-carbon hydrogen for hard to abate industries, including the life cycle carbon intensity of different alternatives. We have also worked with MIT Energy Initiative to develop the Sustainable Energy System Analysis Modeling Environment (SESAME) tool. It can perform full life-cycle assessments and techno-economic analysis for complex technology pathways. These pathways range from primary energy sources to final products or services.[9]

1 K. Thompson, R. Mathias, D. Kim, J. Kim, N. Rangnekar, J. Johnson, S. Hoy, I. Bechis, A. Tarzia, K. Jelfs, B. McCool, A. Livingston, R. Lively, M. Finn, N-Aryl-linked spirocyclic polymers for membrane separations of complex hydrocarbon mixtures, Science 369 (6501) (2020) 310-315.
2 Siyao Li, Ruijiao Dong, Valentina-Elena Musteata, Jihoon Kim, Neel D. Rangnekar, J. R. Johnson, Bennett D. Marshall, Stefan Chisca, Jia Xu, Scott Hoy, Benjamin A. McCool, Suzana P. Nunes, Zhiwei Jiang, Andrew G. Livingston, Hydrophobic polyamide nanofilms provide rapid transport for crude oil separation, Science 377 (6614) (2022) 1555-1561.
3 HyBlend: Opportunities for Hydrogen Blending in Natural Gas Pipelines | Department of Energy: https://www.energy.gov/eere/fuelcells/hyblend-opportunities-hydrogen-blending-natural-gas-pipelines
4 Targeting global markets in both the coatings and composites industries: In coatings the focus is on corrosion protection of vessels (e.g., tanks, ships, and railcars) and insulation (e.g., subsea pipes and equipment) applications. Within composite materials (i.e., materials containing glass or carbon fiber) the focus in on infrastructure, wind energy, and mobility sectors. Examples include replacing steel rebar in flatwork applications, replacing epoxy in wind turbines, and structural support in hydrogen tanks, EV battery casings, and other transportation components.
5 L. Saló-Salgado, S. Davis, R. Juanes; Fault permeability from stochastic modeling of clay smears. Geology 2022; 51 (1): 91–95. doi: https://doi.org/10.1130/G50739.1.
6 Awad, M. M. and D. N. Espinoza (2024). "Mudrock wettability at pressure and temperature conditions for CO_2 geological storage." International Journal of Greenhouse Gas Control 135: 104160.
7 Tapriyal, D., Haeri, F., Crandall, D., Horn, W., Lun, L., Lee, A., Goodman, A. "CO_2 wetting properties on reservoir caprock conducted at conditions targeted for commercial scale CO_2 storage." Geophysical Research Letters, 51, e2024GL109123 (2024) doi: https://doi.org/10.1029/2024GL109123.
8 Camargo, A. P., Jusufi, A., Lee, A., Koplik, J., Morris, J. (2024). "Water and Carbon Dioxide Capillary Bridges in Nanoscale Slit Pores: Effects of Temperature, Pressure, and Salt Concentration on the Water Contact Angle." Langmuir, 40 (35), pp. 18439–18450
9 E. Gencer, S. Torkamani, I. Miller, T. Wu, F. O'Sullivan, Sustainable energy system analysis modeling environment: analyzing life-cycle emissions of the energy transition, Applied Energy 277 (2020) 115550. doi: https://doi.org/10.1016/j.apenergy.2020.115550.

Our risk management approach

Our Enterprise Risk Management Framework provides a comprehensive and structured approach to identify, prioritize, understand, and manage ExxonMobil's most important risks. It is designed to drive consistency across risk types and support monitoring key risks.

Our Enterprise Risk Management Framework

We assess climate change and energy transition risks across key risk areas of our Enterprise Risk Management Framework. This ensures a comprehensive approach to managing potential impacts on our business

Enterprise risk framework elements
1. A way to organize and aggregate risks.
2. Robust risk identification practices.
3. A prioritization method.
4. Systems and processes to manage risk.
5. Risk governance to support oversight.

Risk types
1. Strategic
2. Reputational
3. Financial
4. Operational
5. Safety, Security, Health and Environment
6. Compliance and litigation

Our approach to risk governance is multilayered and includes clearly defined roles and responsibilities for managing each type of risk, including responsibilities of risk owners, functional experts, and independent verifiers. Each type of risk is managed and supported by centralized organizations that fulfill these defined roles.

For more discussion of our board's oversight see Governance.

Physical risk: protection of assets, the community, and the environment

We have extensive experience operating in a wide range of challenging physical environments around the world.

Effective physical risk management requires the ongoing assessment and mitigation of potential impacts to our people, our assets, the community, and the environments in which we operate. Before pursuing a new development, we assess potential environmental, socioeconomic, and health impacts associated with construction and operations. As appropriate, we use data, advanced computer modeling, and insights gleaned from consultation with local communities. We also work with regulators to share information and seek necessary approvals. This process gives us a comprehensive understanding of possible impacts. We use these insights to implement measures to avoid, reduce, or remedy the risks or impacts mentioned above.

When we assess physical environmental risks, we evaluate the type and location of facilities and investments. As an example, changes in patterns of waves, wind, or ice floes can affect offshore facilities. Onshore facilities could be impacted by sea-level changes, storm surge, flooding, wind and seismic activity, or geo-technical considerations. We conduct environmental assessments before building and operating facilities to ensure that protective measures and procedures are in place.

The Hebron platform is located off the coast of eastern Canada in 92 meters of water. The platform is made of reinforced concrete, and it is a gravity-based structure to help it withstand ice, severe weather and other ocean-related conditions. Hebron was engineered and wave-tank tested for storms so extreme they might occur only once every 10,000 years. On Nov. 14, 2018, the Grand Banks saw its largest storm in 30 years, estimated as a 100-year return period event. Following temporary shutdown of all Grand Banks platforms, Hebron was up and running within a week without any major issues.

Our team of scientists and engineers have expertise across a wide range of disciplines. Through their active participation in industry groups, they gain insight into industry best practices. Through their leadership they advise and improve upon industry standards which are then adopted to enhance our own standards and procedures.

We rely on our professional experience in tandem with industry standards to cover a range of uncertainties. These standards include the American Society of Civil Engineers (ASCE 7) Minimum Design Loads and Associated Criteria, for Buildings and Other Structures for onshore facilities.[1] Industry standards for offshore facilities include the American Petroleum Institute (API) Recommended Practices RP-2 series[2] and the International Standards Organization (ISO) 19900 series.[3] After the construction of a facility, we manage facility integrity through periodic checks of key aspects of the structures.

Once facilities are in operation, we maintain plans for disaster preparedness, response, and business continuity. These plans are detailed, well-practiced, continuously improved and are tailored to each facility to help us prepare for unplanned events, including extreme weather. We also conduct periodic emergency drills with the appropriate government agencies and community coalitions. This helps to improve readiness and minimize the impacts of an event. Strategic emergency support groups are established around the world to develop and practice emergency response strategies and assist field responders. Regardless of the size or complexity of any potential incident, all our facilities and business units have access to readily available trained responders and regional response teams.

1 American Society of Civil Engineers (ASCE 7) Minimum Design Loads and Associated Criteria for Buildings and Other Structures, https://doi.org/10.1061/9780784415788

2 American Petroleum Institute (API) Recommended Practices RP-2 series: https://www.api.org/-/media/files/oil-and-natural-gas/exploration/offshore/api-standards-for-safe-offshore-operations-brochure.pdf and https://www.api.org/oil-and-natural-gas/wells-to-consumer/exploration-and-production/offshore/api-standards-for-safe-offshore-operation

3 International Standards Organization (ISO) 19900 series for offshore structures: https://www.iso.org/standard/69761.html

Governance and executive compensation

We have a robust governance framework designed to oversee risks and opportunities associated with our business. This enables our Board and management to effectively exercise oversight responsibilities.

Our Board of Directors oversees and provides guidance on the company's strategy and planning. This includes opportunities and risks related to climate change and an energy transition. The effectiveness of our Board reflects the diversity of strengths and experience of the individual directors, as well as their commitment and ability to work as a group in carrying out their responsibilities.

The Board and its committees review:

- Long-term strategic plans.
- Stewardship of business performance.
- Litigation and other legal matters.
- Political contributions, budget, and policy.
- Lobbying costs.
- Developments in climate science and policy.
- World energy supply and demand to 2050.
- Approach to help reduce GHG emissions in support of our emission-reduction plans and our net-zero ambition.

Directors engage with experts from inside and outside the company and apply their individual experience and perspective to oversee the company's capital-allocation priorities, with a focus on growing shareholder value and playing a leading role in an energy transition. The independent lead director plays a key role in shareholder engagements and consults with the Chairman to develop Board meeting agendas.

The Board visits ExxonMobil sites regularly. These visits enable directors to observe and provide input on safety, operating practices, environmental performance, technology, products, industry and corporate standards, and community engagement.

Our annual Proxy Statement contains more information about our Board, including guidelines for selection.

Assessing climate and interrelated risks

The Board, collectively and through its Environment, Safety and Public Policy Committee, regularly engages with senior management on climate matters and a broad spectrum of interrelated risks, such as those related to employee and community safety, health, and environmental performance. This includes briefings with internal and external subject-matter experts, which can cover elements of scientific and technical research, public policy positions, GHG emission-reduction performance, and new technology developments.

As part of the business planning process, the Board reviews and discusses technology deployment within the business lines and research on new technology to further reduce GHG emissions from our operated assets. The Board approves company strategy and annual capital allocation and reviews assumptions and sensitivities in testing major projects and investments for resiliency across a range of potential outcomes.

After discussion and dialogue with ExxonMobil management, the Board exercised its oversight in endorsing the company's plans through 2028. This includes pursuing more than $30 billion in lower-emission investments from 2025 through 2030.

Independent directors engage directly with shareholders to gather insights and share perspectives on issues of importance to the company, including discussions regarding the risks and opportunities related to climate change and the energy transition.

Each committee includes aspects of climate-related risks in their charters.

- **The Environment, Safety, and Public Policy Committee** oversees operational risks associated with safety, security, health, and environmental performance including actions taken to address climate-related risks, lobbying activities and expenditures, and community engagement.
- **The Finance Committee** oversees risks associated with the company's capital structure and capital allocation, including actions to enhance resiliency.
- **The Audit Committee** oversees the company's overall enterprise risk management approach and structure, which is applied to risks related to climate change, among other business risks.
- **The Nominating and Governance Committee** oversees matters of corporate governance, including Board transition and refreshment.
- **The Compensation Committee** reviews executive compensation, which is aligned with the long-term interests of shareholders and requires careful consideration of current and future risks, such as those related to climate change.

Integrating energy transition risk management into executive compensation

The executive compensation program is designed to incentivize long-term, sustainable decision-making. Key design features include performance shares with long vesting periods and compensation that is strongly tied to the company's performance.

The program is based on four strategic objectives that are established to drive sustainable growth in shareholder value while positioning the company for long-term success in a lower-emission future. These objectives are interdependent, with long-term business success determined by delivery in each of the strategic objectives.

Strategic objectives are integrated into the corporate plan, which is reviewed and finalized by the Board each year. Accomplishments versus plan goals and objectives inform the level of compensation. This approach helps ensure accountability at all levels in the organization.

Two of the four strategic objectives specifically integrate climate risk:

- Operations performance: deliver industry-leading performance in safety, emissions-intensity reductions, environmental performance, and reliability.
- Energy transition: lead industry in reducing emissions in hard-to-decarbonize sectors.

Financial and operating metrics tie to our strategic objectives and are assessed over near- and long-term time horizons.

Details on the executive compensation program can be found in our annual Proxy Statement.

Long-term strategic objectives centered around independent performance dimensions

Operations performance	Financial performance	Energy transition	Business portfolio
Deliver industry-leading performance	Deliver industry-leading earnings and cash-flow growth	Lead industry in hard-to-decarbonize emissions reductions	Optimize existing business portfolio

Managing sustainability

Our Management Committee provides ongoing oversight of our 14 sustainability focus areas, including regular assessments of strategic risks, safeguards, and mitigation plans.

The Management Committee consists of four members:

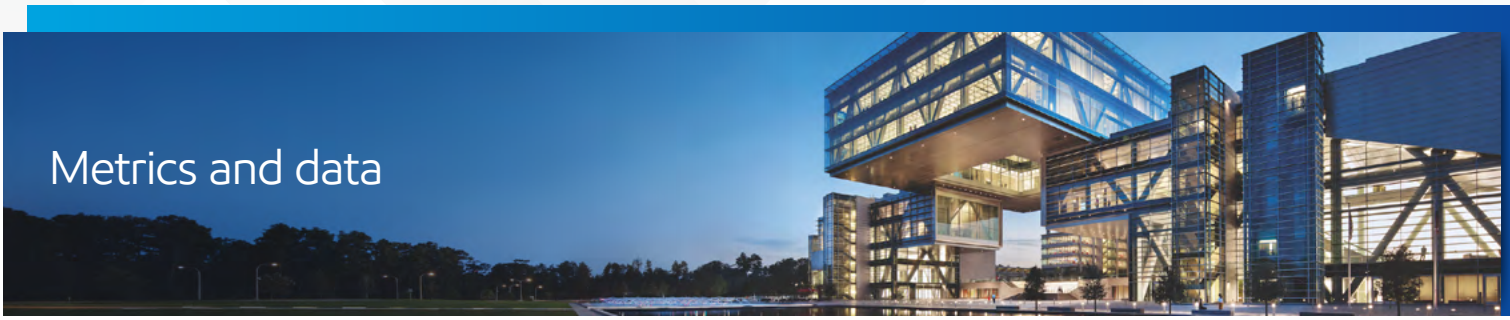
- Darren Woods—Chairman and Chief Executive Officer
- Neil Chapman—Senior Vice President
- Kathryn Mikells—Senior Vice President and Chief Financial Officer
- Jack Williams—Senior Vice President

Our Global Operations & Sustainability (GO&S) Vice President reports directly to a member of our management committee. This role is responsible for enabling our *Protect Tomorrow. Today.* guiding principle. This includes:

- Working with ExxonMobil's Corporate Strategic Planning organization and the business lines to develop goals.
- Integrating goals into our plans and operations.
- Stewarding sustainability topics with our Chairman and the Management Committee at least once per quarter.

Within GO&S, the Sustainability Director manages our sustainability focus areas. This includes our environmental management system and other key processes. Experts within the team work with others across the company to seek out opportunities for continuous improvement.

For additional information, see our risk management approach.



Metrics and data

Greenhouse gas emissions performance data[1]

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 and the selection of the data included in this performance table. The following data table is based upon IPCC AR6.[2,3]

Environmental Resources Management CVS has provided their independent limited level of assurance that the 2023 ExxonMobil greenhouse gas emissions inventory meets ISO 14064-3 expectations. ERM CVS Assurance Statement. 2024 third-party assurance underway.

Operated Basis

Indicator	Units	2016	2020	2021	2022	2023	2024
GREENHOUSE GAS							
GHG Emissions Intensity (Scope 1 + Scope 2)*	(metric tons CO_2e per 100 metric tons throughput or production)	27.5	26.0	25.4	24.5	24.2	22.6
Upstream*	(metric tons CO_2e per 100 metric tons production)	31.7	26.7	25.5	24.4	23.7	20.4
Downstream	(metric tons CO_2e per 100 metric tons throughput)	20.4	20.6	20.5	19.9	19.6	19.2
Chemical	(metric tons CO_2e per 100 metric tons production)	52.8	51.4	49.0	47.9	49.9	49.6
GHG Emissions (Scope 1 + Scope 2)	(million metric tons CO_2e)	118	102	104	101	98	98
Upstream	(million metric tons CO_2e)	53	44	43	40	38	40
Downstream	(million metric tons CO_2e)	46	40	41	41	41	39
Chemical	(million metric tons CO_2e)	19	19	19	20	20	20
Scope 1 GHG Emissions[4]	(million metric tons CO_2e)	109	95	97	96	92	91
CO_2	(million metric tons CO_2)	99	90	92	92	88	87
CH_4	(million metric tons CO_2e)	9	5	5	4	3	3
Other gases	(million metric tons CO_2e)	<1	<1	<1	<1	<1	<1
CO_2 Biogenic	(million metric tons CO_2)	<0.1	<0.1	<0.1	<0.1	0.2	0.1
Scope 2 GHG Emissions (Location-based)[5]	(million metric tons CO_2e)	9	8	7	8	8	9
Scope 2 GHG Emissions (Market-based)[6]	(million metric tons CO_2e)	9	7	7	4	7	8
Energy attribute certificates (RECs, GOOs)	(million metric tons CO_2e)	0	<1	1	3	1	1
Net GHG (Excludes exported power and heat)[7]	(million metric tons CO_2e)	114	100	101	98	96	96
GHG Emissions from exported power and heat	(million metric tons CO_2e)	3	2	3	3	3	2
CO_2 - captured for storage[8]	(million metric tons CO_2)	6	6	6	6	6	6
METHANE							
Methane (CH_4) Intensity*	(metric tons CH_4 per 100 metric tons of throughput or production)	0.07	0.04	0.04	0.04	0.03	0.03
Methane (CH_4)	(million metric tons CH_4)	0.30	0.17	0.16	0.15	0.11	0.11
FLARING							
Hydrocarbon flaring Intensity*	(m^3 per metric ton throughput/production)	13	9	7	6	5	5
Hydrocarbon flaring	(million standard cubic feet per day)	530	320	280	250	220	200
Africa/Europe/Middle East	(million standard cubic feet per day)	400	170	170	130	120	100
Americas	(million standard cubic feet per day)	70	120	80	80	70	70
Asia Pacific	(million standard cubic feet per day)	60	30	30	30	30	20
Scope 1 - Greenhouse gas emissions from flaring	(million metric tons CO_2e)	16	10	8	7	6	6
ENERGY							
Energy use	(billion gigajoules)	1.5	1.5	1.5	1.5	1.5	1.4
Upstream Energy Intensity	(gigajoules per metric ton production)	2.6	2.6	2.5	2.2	2.4	2.1
Downstream Energy Intensity	(gigajoules per metric ton throughput)	3.0	3.3	3.4	3.4	3.2	3.2
Chemical Energy Intensity	(gigajoules per metric ton production)	10.3	11.4	10.0	11.1	10.5	9.8

Equity Basis

Indicator	Units	2016	2020	2021	2022	2023	2024
GREENHOUSE GAS							
GHG Emissions Intensity (Scope 1 + Scope 2)	(metric tons CO_2e per 100 metric tons throughput or production)	26.9	26.6	26.4	25.2	24.7	23.0
Upstream	(metric tons CO_2e per 100 metric tons production)	28.4	26.4	26.2	24.6	23.5	20.7
Downstream	(metric tons CO_2e per 100 metric tons throughput)	20.4	20.6	20.9	20.2	19.8	19.1
Chemical	(metric tons CO_2e per 100 metric tons production)	54.8	54.8	51.8	50.8	53.3	53.2
GHG Emissions (Scope 1 + Scope 2)	(million metric tons CO_2e)	129	115	118	114	111	110
Upstream	(million metric tons CO_2e)	60	52	52	49	46	48
Downstream	(million metric tons CO_2e)	47	40	43	42	42	39
Chemical	(million metric tons CO_2e)	22	23	23	23	23	23
Scope 1 GHG Emissions[4]	(million metric tons CO_2e)	121	108	111	110	105	103
CO_2	(million metric tons CO_2)	111	102	105	105	101	99
CH_4	(million metric tons CO_2e)	9	6	6	5	4	3
Other gases	(million metric tons CO_2e)	<1	<1	<1	<1	<1	<1
CO_2 Biogenic	(million metric tons CO_2)	<0.1	<0.1	<0.1	<0.1	0.1	0.1
Scope 2 GHG Emissions (Location-based)[5]	(million metric tons CO_2e)	8	8	8	7	7	8
Scope 2 GHG Emissions (Market-based)[6]	(million metric tons CO_2e)	8	7	7	4	7	7
Energy attribute certificates (RECs, GOOs)	(million metric tons CO_2e)	0	<1	1	3	1	1
Net GHG (Excludes exported power and heat)[7]	(million metric tons CO_2e)	125	112	115	110	108	108
GHG Emissions from exported power and heat	(million metric tons CO_2e)	4	3	4	3	3	2
CO_2 - captured for storage[8]	(million metric tons CO_2)	6	7	7	7	7	7
METHANE							
Methane (CH_4) Intensity*	(metric tons CH_4 per 100 metric tons throughput or production)	0.06	0.04	0.04	0.04	0.03	0.02
Methane (CH_4)	(million metric tons CH_4)	0.30	0.19	0.19	0.16	0.12	0.12

*ExxonMobil announced greenhouse gas emission-reduction plans[9] compared to 2016 levels.

Portfolio life-cycle emissions intensity

Individual projects or opportunities may advance to a final investment decision by the company based on a number of factors, including availability of supportive policy and permitting, technology and infrastructure for cost-effective abatement, and alignment with our partners and other stakeholders. Actual avoided and abated emissions may differ.

For more information on the potential impact of our investments see our Corporate Plan Update.

Using a life-cycle approach and applying it to ExxonMobil's business plans through 2030, we expect an 8% reduction in full life-cycle emissions intensity, the result of which is expected to be an estimated 6% increase in full life-cycle absolute emissions, inclusive of growth in our natural gas business and the acquisition of Pioneer. These are in comparison to 2016 levels.

A life-cycle approach was used to develop our proprietary portfolio life-cycle intensity model, which estimates direct and indirect emissions for our Upstream, Product Solutions, and Low Carbon Solutions businesses. The estimated figures are based on our projected 2024 corporate plan volumes for 2030. The portfolio life-cycle emissions intensity calculation is based upon the emissions associated with the mass of products delivered to the market.

Scope 3 emissions

The table below provides Scope 3 estimates associated with the use of our natural gas and crude production in alignment with Category 11 of Ipieca's methodology, which contemplates accounting for products at the point of extraction, processing, or sales. Scope 3 estimates represent three approaches for accounting and are not meant to be aggregated, as this would lead to duplicative accounting.

Estimated Scope 3 emissions from the use of ExxonMobil's crude and natural gas production for the year ending December 31, 2024, as provided under Ipieca's Category 11 were 630 million metric tons.

For example, for completeness, the Scope 3 estimates associated with the combustion of the crude processed, produced, or sold from our refineries are provided; however, to avoid duplicative accounting, these Scope 3 estimates are not included in our Scope 3 Category 11 total, since the associated Scope 3 emissions would have been reported by the producer of those crudes.

Applied CO_2 emission factors were obtained from EPA or derived from API calculations; where applicable, emission factors for specific fuel products were applied. Non-fuels products are not combusted by the end user and therefore are not included in these Scope 3 estimates. Ipieca's Scope 3 methodology includes 15 categories of activities along each product's value chain. Due to limited third-party data, Scope 3 emissions for categories other than Category 11 are not provided. Scope 3 guidelines are based on the GHG Protocol.

ExxonMobil 2024 Scope 3 estimates
(million metric tons CO_2-equivalent)

Ipieca Category 11 Scope 3 potential estimates		Upsteam production	Refining throughput	Petroleum product sales
Natural gas production	160	630	620	730
Crude production	470			

We do not set Scope 3 targets. Using the GHG Protocol to measure and manage company or sector-wide emissions is flawed and counterproductive. It also ignores growing energy demand, enabling no comparison of alternative ways to meet that demand.

To meet a net-zero goal, it is essential that companies fully understand their net emissions and have a means of comparing themselves against others in their industry. Most importantly, the approach needs to equip and incentivize companies to make investments that will reduce their emissions or the emissions of their customers when providing low carbon solutions – not simply encourage companies to back away from meeting society's needs and pass portions of their carbon footprint to someone else.

1 Greenhouse gas emissions (GHG) performance data reflects a change in methodology for asset specific density when estimating GHG emissions intensity.
2 Based on Scope 1 and 2 emissions of ExxonMobil operated assets through 2024 (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. 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 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.
3 IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2391 pp. doi:10.1017/9781009157896.
4 Scope 1 (direct emissions) include emissions from exported power and heat.
5 Includes indirect emissions from imported electricity, heat, steam, and cooling.
6 Includes indirect emissions from imported electricity, heat, steam, and cooling; incorporates the purchase of energy attribute certificates (renewable energy certificates, guarantees of origin).
7 The net GHG metric includes Scope 1 GHG emissions and Scope 2 GHG emissions (market-based), excluding emissions from exported power and heat.
8 Mass of CO_2 that was captured for applications such as geologic sequestration, acid gas injection, enhanced oil and gas recovery, including capturing CO_2 for third parties or customers.
9 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.

About our Advancing Climate Solutions and Sustainability Reports and Cautionary Statement

The "Sustainability" section of our website contains two reports:

Our **Advancing Climate Solutions Report** describes what we are doing to tackle the challenge of meeting society's need for energy while reducing greenhouse gas emissions and growing long-term value.

And our **Sustainability Report** completes the picture as it describes our approach to managing our operations and our commitment to carry out our business activities the right way, for the long term.

The Sustainability Report, the Advancing Climate Solutions Report, and corresponding Executive Summaries were issued on April 30, 2025. The content and data referenced in these publications focus primarily on our operations from Jan. 1, 2024 – Dec. 31, 2024, unless otherwise indicated. Information regarding some known events or activities in 2025 and historical initiatives from prior years are also included. Tables on our "Metrics and data" page were updated to reflect full year 2024 data.

The reporting guidelines and indicators in the Sustainability Reporting Guidance for the Oil and Gas Industry (4th edition, 2020, revised February 2023) developed by Ipieca, the American Petroleum Institute, and the International Association of Oil & Gas Producers informed our Sustainability Report and Advancing Climate Solutions Report. These reports may also reference the GRI standards, the Task Force on Climate-related Financial Disclosures, the United Nations Sustainable Development Goals, and/or other sources where appropriate.

The "Sustainability" section of our website uses qualitative descriptions and quantitative metrics to describe our policies, programs, practices and performance. Many of metrics used in preparing the "Sustainability" section of our website are difficult to measure, methods for collecting data continue to evolve and may contain estimates or assumptions believed to be reasonable at the time of preparation. The uncertainty associated with this data depends on variation in the processes and operations, the availability of sufficient data, the quality of those data and methodology used for measurement and estimation. Changes to the data may be reported as updated data and/or methodologies become available.

Our topic selection process helped inform our sustainability reporting. Visit our content index for a detailed mapping of the locations of information regarding topics included in the reports.

For purposes of the "Sustainability" section of our website, the selected topics do not correspond to the concept of materiality used in securities laws and disclosures required by U.S. Securities and Exchange Commission rules or any U.S. or foreign governing body.

2025 Advancing Climate Solutions Report and 2025 Sustainability Report published on April 30, 2025.

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, aims, aspirations, plans, goals, events, projects, projections, opportunities, expectations, performance, 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, stable 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 ExxonMobil or 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 heritage Permian Basin unconventional operated assets by 2030, and in Pioneer Permian assets by 2035, 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 ExxonMobil's greenhouse gas emission reduction plans and goals, divestment and start-up plans, and associated project plans as well as technology advances, including in the timing and outcome of projects to capture, transport and store CO_2, produce hydrogen and ammonia, produce lower-emission fuels, produce Proxxima™ systems, produce carbon materials, produce lithium, and use plastic waste as feedstock for advanced recycling; future debt levels and credit ratings; business and project plans, timing, costs, capacities and profitability; resource recoveries and production rates; planned Denbury and Pioneer integrated benefits; obtain data on detection, measurement and quantification of emissions including reporting of that data or updates to previous estimates and progress in sustainability focus areas could vary depending on a number of factors, including global or regional changes in oil, gas, petrochemicals, or feedstock prices, differentials, seasonal fluctuations, or other market or economic conditions affecting the oil, gas, and petrochemical industries and the demand for our products; new market products and services; future cash flows; our ability to execute operational objectives on a timely and successful basis; the ability to realize efficiencies within and across our business lines; new or changing government policies for lower carbon and new market investment opportunities, or policies limiting the attractiveness of investments such as European taxes on energy and unequal support for different methods of carbon capture; developments or changes in local, national, or international treaties, laws, regulations, taxes, trade sanctions, trade tariffs, and incentives

affecting our business, including those related to greenhouse gas emissions, plastics, carbon storage and carbon costs; timely granting of governmental permits and certifications; uncertain impacts of deregulation on the legal and regulatory environment; 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, carbon capture and storage, hydrogen and ammonia production, Proxxima™systems, carbon materials or direct lithium extraction on a commercially competitive basis; the development and competitiveness of alternative energy and emission reduction technologies; unforeseen technical or operating difficulties, including the need for unplanned maintenance; availability of feedstocks for lower-emission fuels, hydrogen, or advanced recycling; changes in the relative energy mix across activities and geographies; the actions of co-venturers competitors; changes in regional and global economic growth rates and consumer preferences including willingness and ability to pay for reduced emissions products; actions taken by governments and consumers resulting from a pandemic; changes in population growth, economic development or migration patterns; timely completion of construction projects; war, civil unrest, attacks against the Company or industry, and other political or security disturbances, including disruption of land or sea transportation routes; decoupling of economies, realignment of global trade and supply chain networks, and disruptions in military alliances; and other factors discussed here and in Item 1A. Risk Factors of our Annual Report on Form 10-K and under the heading "Factors affecting future results" available under the "Earnings" tab through the "Investors" page of our website at www.exxonmobil.com. The Advancing Climate Solutions Report includes 2024 greenhouse gas emissions performance data as of March 1, 2025, and Scope 3 Category 11 estimates for full year 2024 as of February 19, 2025. 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 April 30, 2025. The content and data referenced in these publications focus primarily on our operations from Jan. 1, 2024 – Dec. 31, 2024, unless otherwise indicated. Tables on our "Metrics and data" page were updated to reflect full year 2024 data. Information regarding some known events or activities in 2025 and historical initiatives from prior years 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. ExxonMobil assumes no duty to update these statements or materials as of any future date, and 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. The Sustainability Report and Advancing Climate Solutions Report are each a voluntary disclosure and are not designed to fulfill any U.S., foreign, or third-party required reporting framework.

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 stable and 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 and other new investments is based on our corporate plan; however, actual investment levels will be subject to the availability of the opportunity set, stable 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) manual. 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 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 estimate, detect, measure, and address 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 "Modeling Toolkit." 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 acquisitions of Denbury Inc. and Pioneer Natural Resources Company. These reports and the data therein do not speak of these companies' pre-acquisition governance, risk management, strategy approaches, or emissions or sustainability performance unless specifically referenced.

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SUPPLEMENTAL INFORMATION FOR NON-GAAP AND OTHER MEASURES

The Positioned for Growth in a Lower-Emission Future 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.