

Talking Points for External Engagements

February 2026

This document is intended to be a reference when engaging with stakeholders in the normal course of business. The talking points in this document have been approved for conversations with government officials, regulators, policymakers, customers and employees. This document is not to be used as a handout or leave-behind.

Any communications or media response materials (e.g., publications, EM social media posts, presentations, speeches, intranet articles, media interview requests, press releases, etc.) based on these messages must be separately reviewed through the appropriate established P&GA or SIRP processes. Please direct questions to P&GA Advisor, Angel Smith.

Note: The abbreviation 'CCS' is used throughout this document for simplicity. However, when using these talking points externally, it is recommended that 'carbon capture and storage' be used; messaging research indicates 'CCS' is not well-known to many non-industry audiences.

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PART 1: Overarching narrative

ExxonMobil strategy

- We create solutions that improve quality of life and meet society's evolving needs.
- Our **2025 Global Outlook** represents our best projection of where the world is going based on market fundamentals, economic trends, technology advancements, and policies. We use it to inform and shape our long-term strategy. Our view of the world in 2050:
 - The world's population will grow by more than 1.5 billion people, mostly in developing countries.
 - Rising living standards increase energy use 25% in developing countries. Currently 4 billion people – half the world's population – lack access to the energy needed for housing, infrastructure, jobs, and other basic human needs.
 - Industry and transport underpin the global economy and will require growing supplies of energy.¹
 - All energy types are needed for a prosperous, lower-emissions future. Renewables expected to grow the fastest, coal declines the most, and oil and natural gas make up more than half of the global energy mix.²
 - Affordability will drive the pace of any energy transition. When lower-emission options are cost competitive, they are more readily adopted.
- To achieve its stated emissions reduction ambitions, the world needs to reduce carbon emissions while providing the energy people need. This is the genesis of our **"and" equation**.
 - We're committed to meeting demand for energy and essential products AND driving emission reductions, reducing the life-cycle emissions of our operations and helping our customers to do the same.
 - We aim to achieve **net-zero** operating scope 1 and 2 greenhouse gas emissions by 2050.³
- A successful energy transition should focus on reducing emissions with affordable, scalable and reliable technology solutions while bringing billions of people out of energy poverty to improve global living standards.

Lower-emission investments

- Our commitment to lowering emissions – both ours and others, is evident. Across the corporation, we're pursuing approximately **\$20G** in lower-emission investments between 2025 and 2030, with approximately 60% focused on reducing emissions for third-party customers.⁴
 - On an annualized basis, our spend is approaching the budget of the U.S. Environmental Protection Agency (EPA).⁵ **Think about that:** One company, investing nearly as much as the U.S. agency responsible for environmental protection.
- We're pursuing opportunities with **attractive markets**. The energy transition won't be successful if it's not economically viable. ExxonMobil's focus on molecule-based offerings – like

¹ The World Bank: Word Development Indicators <https://wdi.worldbank.org/table/4.2> (accessed July 2025).

² References: [2025 Global Outlook](#); [2025 Global Outlook slide library](#).

³ With advancements in technology and clear, consistent, stable, and effective government policies, we aim to achieve net-zero Scope 1 and 2 greenhouse gas emissions in our operated assets by 2050.

⁴ Reference: [2025 Corporate Plan](#). Lower emissions investments include cash capex attributable to carbon capture and storage, hydrogen, lithium, biofuels, Proxima™ systems, carbon materials, and activities to lower ExxonMobil's emissions and/or third party emissions.

⁵ U.S. EPA FY 2026 Budget. <https://www.epa.gov/system/files/documents/2025-05/fy-2026-epa-bib.pdf>

CCS, hydrogen and its derivatives, biofuels, and lithium – has an estimated potential market opportunity of around \$6 trillion by 2050 to build an advantaged business.⁶

- We have the ability to invest in the largest and highest-return, lower-carbon opportunities anywhere in the world, but we recognize the significant uncertainty in how the energy transition and the LCS business will develop.
- We expect to pace emissions-reduction investments, effectively allocating resources as markets, customer commitments, and policy evolve. This minimizes the downside risks while establishing an advantaged position to capture and maximize the upside potential.
- If the necessary policy support and market development do not materialize in the timeline we expect, we'll defer or suspend investments.
- We've often said that for a lower-carbon venture to compete for capital, it needs to show competitive returns and be able to scale, both of which are not easy considering many businesses have failed to achieve them in the new energy space. We are one of the few companies capable of overcoming these challenges. We're more than leaders in this space, we're pioneering new solutions and frankly, we're the right people for the job.

LCS mission & strategy

- LCS aims to help accelerate the world's path to decarbonization while building a compelling new business. Our strategy focuses on creating new carbon-reduction solutions that deliver innovative products and technologies to our customers. Our initial areas of focus include carbon capture and storage, low-carbon hydrogen and its derivatives, and lithium. We aim to make these solutions available worldwide to industries that are the toughest to decarbonize (heavy industry, power generation, commercial transportation) – about 80% of the world's emissions come from these sectors.
- We've selected opportunities aligned with our **core competencies** – subsurface technology, hydrocarbon processing, and large-scale capital projects to name a few – which not only provide us with a competitive advantage, but also bring communities confidence knowing ExxonMobil's track record in safety and responsible operations will be applied to this new industry.
- We plan to build a low carbon business that is as profitable as our core businesses.

Our differentiators

- We bring a unique skill set which allows us to address a need that many others cannot: reducing emissions in the **hardest-to-decarbonize parts of the economy**, which include heavy industry, power generation, and transportation to name a few.
- **Technical expertise:** At heart, we're a technology company with over a 140-year legacy. We excel at delivering cost-effective, technically superior solutions. Our focus areas are rooted in our base business – this is something we know and something we're good at. Through rigorous techno-economic analysis and engineering, we can deliver commercially viable technologies at scale that are the right fit for emission-reduction projects.
- **Integration & scale:** We have an integrated and diversified portfolio strategy that leverages existing infrastructure and value chain expertise, supporting multiple solutions that reduce

⁶ 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 Lower 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.

emissions in our own operations and others'. We have a track record of executing large-scale complex and challenging projects on time and within budget.

PART 2: Enablers for success (collaboration, technology, policy)

Collaboration

- In any successful energy transition, collaboration is key.
- Unprecedented public-private collaboration and partnerships – including those on technology development, supportive policy, and infrastructure – will be critical in achieving a lower emissions future.
- We're not on this journey alone. By forging relationships with industry leaders, governments, and academic institutions, we're establishing ourselves as the partner of choice.

Technology

- We believe in an all-of-the-above approach because it's too early to rule out any technology.
- We are committed to advancing technologies needed to reduce emissions. We have been researching and developing low-carbon technologies for decades.
- Today, the cost to abate industry emissions requires a significant premium vs. current unabated energy sources. Cost reductions resulting from deploying technologies and driving them down their learning curves is also required.
- Our R&D (research and development) is focused on areas where we can make a unique and significant contribution, and where we have the deep capabilities to drive progress.
- We are focused on growing where we have technology advantages today and policy is supportive. A broad range of solutions is needed to reduce emissions and markets will change over time. Additional potential focus areas aligned with our competencies and competitive advantages are always being considered.
- As examples:
 - We are evaluating advanced solutions such as BECCS (Bioenergy with Carbon Capture and Storage)
 - We are working on playing a leading role in accelerating the development of cost competitive and scalable direct air capture (DAC) technology.
 - We are co-developing methane pyrolysis technology—a technology that produces low-emission hydrogen and solid carbon –with BASF.

Market-forming policy

Overview

- Greenhouse gas emissions continue to rise, and society's net zero ambitions are currently unattainable.
- Investment is not happening fast enough nor in the form required.
- McKinsey Global Institute suggests that roughly \$9T per year in capital deployment is needed to both meet energy demand and achieve Net Zero by 2050.⁷
- Climate policy to-date has been largely ineffective in driving decarbonization at scale.
- Some policies have the potential to be "market-forming", which would help transition away from project-enabling government incentives to market-driven investments, but have not yet reached a level that activate hard-to-abate sectors.

⁷ McKinsey Global Institute. [The net-zero transition: What it would cost, what it could bring](#). January 2022.

Policy principles

- Energy policy must account for security, affordability, reliability, and environmental stewardship. We advocate for policy that takes a balanced view of each category.
- Consistency in policy is necessary for capital planning to take place in the long-term energy business.
- We need to let technologies and companies compete so the best solutions can win. Government-backed, technology-agnostic subsidies can kick-start various low-emission solutions, but they should have an expiration date because no government can afford to subsidize the energy transition forever. Ultimately, an effective energy transition will require a functional, economically self-sustaining market.
- While our competitive advantages are formidable, we recognize that durable, predictable, and market-driven policy support is essential to enable new energy projects and produce the greatest emissions reductions at the lowest cost to society.
- To catalyze emissions reductions, accelerate advances in technology, and drive scale to improve costs, supporting policy remains critical at this early stage.
- Governments will play an important role in facilitating the development of markets for low-carbon products and services, encouraging consumer behavior and enabling the private sector to invest in the most effective technologies to meet demand.
- Government policy should be technology-neutral to incentivize businesses to innovate. No single technology on its own can enable society to achieve net-zero emissions. Picking winners and losers at this early stage isn't likely to be effective.
- As new emission-reduction policies are considered and implemented, it will be important to ensure energy-intensive industries can compete in markets that lack similar requirements.

Carbon-emissions accounting framework and product-level carbon intensity standards

- **SME:** Contact Simon Herbert (P&GA) for additional talking points.
- Currently, there is no global system for carbon emissions accounting. Without measurement, effective management and reduction are impossible.
- Once emissions are accounted for, carbon intensity of products and services can be calculated. This enables setting specifications for carbon intensity.
- The truth is that the GHG Protocol Accounting and Reporting Standard was never designed as an accounting framework for products.
 - It was designed as an inventory-based reporting tool for companies and is structurally incapable of providing anything approximating an accurate tracking of CO₂ as it moves through the economy.
- A carbon accounting system must be developed by a broad coalition: industry, academia, and governments. Analogous to global standards for food calories and financial accounting.
 - Product-level standards helped reduce sulfur in diesel and lead in gasoline. They can work for carbon emissions too.
- This is a rational and constructive policy that will recruit the full range of technologies to lower emissions and still meet demand.

Carbon Measures

- **SME:** Simon Herbert (P&GA), Patrick (Pat) McCarthy (P&GA)

- Carbon Measures is a new global coalition representing major businesses from diverse industries and geographies, working to establish a more accurate carbon accounting framework and drive market-based solutions to reduce emissions at the lowest cost.
- Launched in October 2025, ExxonMobil is a founding member of Carbon Measures.

Green House Gas Reporting Program [if asked]

- ~~SME:~~ Stanley (Stan) Sokul (P&GA)
- *In November 2025, ExxonMobil submitted comments on the Environmental Protection Agency's (EPA or Agency) proposed Reconsideration of the Greenhouse Gas Reporting Program (Proposal).*
- *We requested that EPA maintain the comprehensive mandatory Greenhouse Gas Reporting Program (GHGRP) as a bulwark against a proliferation of new burdens from states and localities.*

PART 3: Carbon capture, utilization, and storage

CCS overview

- **SME:** Matthew White (LCS)
- Carbon capture and storage (CCS) is the process of capturing CO₂ emissions from industrial activity or power plants at the source and injecting it into deep underground geologic formations for safe, secure, and permanent storage.
- CCS is one of the few proven and safe technologies that could enable some of the highest-emitting sectors to reduce their emissions now and at scale, such as the manufacturing, power generation, refining, petrochemical, steel, and cement industries.
 - More than two-thirds of energy-related emissions originate from single-point sources, like a refinery or manufacturing facility, where CCS can play an important role.
- The International Energy Agency (IEA) says carbon capture and storage plays a critical role and is essential to achieving net-zero emissions.⁸
- CCS is also recognized as one of the few technologies that can enable negative CO₂ emissions when combined with bioenergy or direct air capture.
- CCS is not a new technology - it was first deployed in the 1970s. CCS projects have been operating around the world for decades.
- The IPCC's sixth assessment report (2022) said "if the geological storage site is appropriately selected and managed ... the CO₂ can be permanently isolated from the atmosphere."⁹

CO₂ utilization

- Captured CO₂ can be utilized in various applications, such as in the food and beverage and chemical industries, where the CO₂ is not permanently sequestered.
- ExxonMobil is evaluating utilization opportunities to understand where we can bring value to enable utilization ideas that are technically viable and economic at scale, and where there is a material market opportunity.
 - Permanent utilization solutions are the primary objective (e.g., incorporating CO₂ into building materials like cement).

Storage

Geologic storage

- **SME:** Matthew White (LCS), Susan Blevins (LCS), Brad Crabtree (P&GA)
- We are actively developing well sites for and secure geologic carbon storage across our CO₂ pipeline system. These are typically more than one mile beneath the surface.
- Our CCS system offers flexible, safe, and secure carbon storage solutions, supporting both EOR (storage in Class II wells occurring with oil production) and dedicated geologic storage (in Class VI wells involving no additional oil production) to meet the specific preferences of our customers.
- EOR enables secure storage of the injected CO₂ deep underground, in the same geological formations that have effectively stored oil and gas for millions of years.

⁸ IEA, CCUS in Clean Energy Transitions, <https://www.iea.org/reports/ccus-in-clean-energy-transitions/ccus-in-the-transition-to-net-zero-emissions>, (2020).

⁹ IPCC_AR6_WGIII_SummaryForPolicymakers.pdf, p. SPM-37

- The EPA has recognized, “CO₂ storage associated with Class II wells is a common occurrence and CO₂ can be safely stored where injected through Class II-permitted wells for the purpose of enhanced oil or gas-related recovery.”¹⁰
- CO₂ injected into a Class II well is considered permanent storage when an appropriate monitoring, reporting, and verification (MRV) plan is in place. In the U.S., the EPA provides approval for these MRV plans.
- During the last 40 years, CO₂ EOR operations in the United States have injected more than 1 Bt of CO₂, and experience has shown that more than 99% of the CO₂ remains safely trapped underground after CO₂ injection is completed.¹¹

CCS market development

- **SME:** Matthew White (LCS)
- CCS is capital-intensive, complex, and involves long-term commercial commitments. To promote its widespread adoption, we need to stimulate demand and cost-effective supply.
 - On the demand side, we need government incentives which eventually transition to a cost of carbon that the market will bear, accompanied by product prices reflecting the added cost of carbon abatement.
 - On the supply side, we need lower-cost projects. This will come with technology improvements, scale, and network efficiencies.
 - Together, these advances will increase the confidence to invest in CCS and enable a broad and deep market to be formed.

CCS at ExxonMobil

- **SME:** Matthew White (LCS)
- Our first third-party carbon capture and storage project is now in operation [June '25]. The project uses our CO₂ transport and storage network, the world's only large-scale system, to store up to 2 million metric tons of CO₂ per year that otherwise would have been emitted to the atmosphere.
- With almost 40 years of CCS experience, we have cumulatively captured more CO₂ than any other company – almost 150 million metric tons, which is approximately 35% of all manmade CO₂ that has ever been captured.¹² That experience helps position us to lead in accelerated, safe, scale-up of CCS.
- CCS is aligned with our competitive advantages and core competencies, like subsurface expertise.
- We own and operate the first and largest integrated CCS system in the U.S. and the world¹³ with approximately 1,300 miles of pipeline connecting customers and permanent storage sites, most of which is in the U.S. Gulf Coast. Our existing system enables the potential to accelerate and scale CCS faster than anyone else.¹⁴
- The U.S. Gulf Coast is the ideal location for building our foundational CCS projects:
 - It's a major industrial area and one of the highest emitting regions in the U.S.
 - The region offers proximity to geological storage and extensive infrastructure.

¹⁰ 12 Standards of Performance for Greenhouse Gas Emissions from New, Modified, and Reconstructed Stationary Sources: Electric Generating Units, 80 Fed. Reg. 64510, at 64585 (Oct. 23, 2015).

¹¹ National Petroleum Council, [Meeting The Dual Challenge A Roadmap to At-Scale Deployment of Carbon Capture, Use, and Storage Chapter Eight – CO₂ Enhanced Oil Recovery](#), Page 5, Published December 2019, Updated March 12, 2021.

¹² Global CCS Institute 2023 Cumulative CO₂ Capture Facilities Analysis conducted for ExxonMobil

¹³ IHS Markit Energy Infrastructure Data

¹⁴ [ExxonMobil announces acquisition of Denbury](#) (July '23)

- In Texas state waters, we've secured the largest offshore CO₂ storage lease in the U.S. (271,000 acres).¹⁵
- Our advantaged infrastructure and deep experience put us in the lead to deploy CCS at scale. We estimate our U.S. Gulf Coast CCS network can ultimately remove up to 100 MTA of captured CO₂ once optimized and fully developed.
- We are part of active CCS operations today in the United States, Australia and Qatar, and are progressing plans for new projects, some of which may enable the production of low-carbon hydrogen and low-carbon electricity for data centers.

CCS customer agreements

- **SME:** Thomas Pavia (LCS)
- We have more CO₂ under contract for carbon capture and storage than any other company.
- We have grown our commitment to transport and store ~9 million MTA of CO₂ from third-party customers, with seven contracts in place with six customers. Those foundational CCS projects in the U.S. Gulf Coast include:
 - [CF Industries](#) – Donaldsonville, LA, 2 MTA, agricultural fertilizer (October '22).
 - In June '25, [CF began flowing CO₂](#) from their ammonia facility in Donaldsonville, Louisiana, into our U.S. Gulf Coast CCS System. As we ramp up to transport and permanently store up to 2 million metric tons annually, we'll enable CF to produce about 1.9 million tons of low-carbon ammonia on an annual basis.
 - The next step: EPA [issued](#) three Class VI permits to ExxonMobil for our Rose carbon storage project in Jefferson County, Texas. Upon receiving our authorization to inject, we will transition from permanently storing CO₂ through enhanced oil recovery to dedicated, permanent storage.
 - [Linde](#) – Beaumont, TX, 2.2 MTA, industrial gases (April '23)
 - [Nucor](#) – Convent, LA, 0.8 MTA, steel (June '23)
 - [CF Industries](#) – Yazoo City, MS, 0.5 MTA, agricultural fertilizer (July '24)
 - [New Generation Gas Gathering](#) "NG3" – Gillis, LA, 1.2 MTA, natural gas processing (October '24)
 - [Lake Charles Methanol II](#) – Lake Charles, LA, 1.3 MTA, blue methanol (July '25)
 - [AtmosClear](#) – Port of Greater Baton Rouge, LA, ~0.7MTA, BECCS (September '25)
- These demonstrate the confidence customers have in our offer and our ability to execute.
- We're on our way to meeting our goal to have 30 MTA of CO₂ under contract with customers for transportation and storage by 2030.

CCS safety

CO₂ storage safety

- **SME:** Matthew White (LCS)
- At ExxonMobil, we've been safely and effectively engaged in CCS for almost 40 years, capturing more human-made carbon dioxide than any other company in the world.
- CO₂ is not explosive or flammable, and is stored safely thousands of feet underground, well below any sources of drinking water, and in deep rock formations beneath the sea and onshore.

¹⁵ [ExxonMobil secures largest CO₂ offshore storage site in the U.S.](#) (October '24)

- Decades of experience with large-scale CO₂ storage have shown that the potential risks of leaks can be managed with effective site selection, facility design, operational practices and monitoring.
- The potential risks associated with secure geological storage of CO₂ have proven to be minimal if properly regulated and managed.
- ExxonMobil's potential CO₂ storage sites are carefully selected only after undergoing rigorous analysis to ensure they are geologically suitable. This analysis helps mitigate the risk of the CO₂ migrating to other formations or to the atmosphere.
- The injected CO₂ is held in place by thick, impermeable seal rocks thousands of feet underground, which are similar to the rocks that have kept oil, natural gas and naturally occurring CO₂ underground for millions of years.¹⁶
- Once stored, the storage sites are monitored to track the evolution of the CO₂ plume and pressure. We use a set of technologies to monitor sites. Examples include pressure-monitoring transponders and 4D seismic technology.

CO₂ transportation safety

- **SME:** Michael Butler (EMPCo P&GA)
- *[Note: for specific talking points about CO₂ pipeline and storage incidents (Satartia, Sulfur, Archer Daniels Midland) contact EMPCo.]*
- Industry has been safely moving CO₂ via pipelines and injecting CO₂ into subsurface formations around the world for decades.
- There are more than 5,000 miles of CO₂ pipelines in the United States alone, transporting about 80 million metric tons of CO₂ per year.
- For more than 30 years, the U.S. Pipeline and Hazardous Material Safety Administration (PHMSA) has regulated the safe transportation of CO₂ in pipelines. This includes oversight of pipeline design, construction, pressure testing, operations and maintenance.
- Current PHMSA regulations (49 CFR Part 195) set requirements for the safe construction, operation, inspection, maintenance, monitoring and incident response for CO₂ pipelines.
- As CO₂ infrastructure expands, we support enhanced regulations and standards to ensure continued safe operations, where appropriate.
- We are committed to ensuring all pipelines that we operate run safely and reliably.
- ExxonMobil operates and has a joint interest in more than 15,000 miles of pipelines in North America. ExxonMobil strives to be an industry leader in safety.
- We design systems and programs to mitigate the risks of transporting and storing CO₂ and have been operating pipeline facilities for decades.
- We monitor our (company-operated) pipelines 24/7 from a state-of-the-art Operations Control Center based at our ExxonMobil Houston Campus in Spring, Texas.
- We regularly test and maintain our facilities and pipelines using an integrated diagnostic system designed to proactively indicate potential risks and recommend the appropriate repair methods.
- In addition to our rigorous continuous improvement plans designed to help prevent incidents from occurring, we are also prepared to quickly and effectively respond if needed.
- We regularly communicate, plan, and conduct drills with local first responders to help ensure a well-coordinated response to any incident.
- In fact, ExxonMobil and the National Association of State Fire Marshalls have developed and delivered a new course to provide first responders with instruction and hands-on training on

¹⁶ [TECHNICAL REPORT TEMPLATE AND USER GUIDE \(doe.gov\)](#), p. 1

how to safely manage CO₂ releases. We provide first responders near our facilities and pipelines with the opportunity to participate in this course at no cost.¹⁷

CCS policy

CCS global policy principles

SME: Brad Crabtree (P&GA)

- The CCS opportunities we are evaluating have the potential to move forward with current technologies, but the support of well-designed policies and regulatory frameworks is critical to accelerating deployment and infrastructure development.
- Supportive policy is the most critical enabler of CCS adoption, but policy is currently fragmented across the globe and even within individual countries.
 - Important steps in the right direction have been taken in the U.S., Canada, Australia, the UK, Denmark, Norway, and the Netherlands, but incentives around the globe are insufficient to encourage broad CCS adoption.
- We support a policy and regulatory framework that would:
 - Sustain long-term government support for research and development.
 - Provide standards to ensure safe and secure CO₂ storage.
 - Allow for fit-for-purpose CO₂ injection well design standards.
 - Provide legal certainty for geologic storage ownership.
 - Ensure a streamlined permitting process for carbon capture and storage facilities.
 - Provide access to CO₂ storage capacity owned or controlled by governments.
 - Allow for high-quality offsets generated from carbon capture and storage, low-carbon, and carbon-removal projects.
- In many geographies there is a mismatch between nations that have CO₂ storage capacity and nations that are seeking solutions for their emissions. Therefore, we need cross-border collaboration and partnership, such as widespread ratification of the amendment to the London Protocol to unlock bilateral agreements to allow CO₂ transportation between countries, and other policies that facilitate partnership-driven solutions.
- “The IPCC notes that currently global rates of CCS deployment are far below those in modelled pathways limiting global warming to between 1.5°C to 2°C and stresses that enabling conditions such as policy instruments, greater public support and technological innovation are needed to scale up deployment”.¹⁸

United States

- **SME:** James Dunlap (P&GA)

45Q CCS credit

- CCS is being accelerated in the U.S. by policy support.
- Policy support increases the scope of potentially viable projects in our portfolio.

Class VI permitting

- One of the primary challenges we currently face is the timely review and approval of Class VI permits. Delays in the permitting process can hinder our ability to move forward with critical projects and the important emissions reductions those projects bring.

¹⁷ [Real-life training to keep you safe](#) (May 2024).

¹⁸ [Global CCS Institute Brief: CCS in the IPCC Sixth Assessment](#) (May 2023), p. 3

- The industry would benefit from an increased pace of Class VI well permit approvals. We are supportive of state primacy for Class VI wells for this reason.
- Delays in permitting these projects send a negative signal to the market and could slow the widespread adoption of CCS throughout the region.
- Making the permitting process more efficient will help speed up investment in the American economy.

Other U.S. CCS policies

- The Bureau of Land Management (BLM) currently authorizes pore space access via its authority under the *Federal Land Policy and Management Act*. Additional legislative clarity from BLM is needed to address injection fees, exclusive access to pore space, the ability of the federal government to enter into unitization agreements, and adjacent issues (e.g., above-ground rights of way and plume movement).
- We support the bipartisan *Simplifying Pore Access for Carbon Emissions Sequestration (SPACES) Act*, which establishes a process for applicants to obtain exclusivity for storing CO₂ in federal pore space.
- The *Transportation Infrastructure Finance and Innovation Act* provides loan and credit assistance for surface transportation projects of national or regional significance, including CCS. We believe this program should be extended beyond 2026 and enhanced to increase available funding.
- We support development of regulations for sequestration of Offshore Continental Shelf as identified in the U.S. Infrastructure Investment and Jobs Act (IIJA).

Europe CCS policy

- **SME:** Marion Wurzel (P&GA)
- CCS is critical to achieve Europe's decarbonization ambitions. To scale up this critical technology, the EU needs a policy framework that incentivizes a viable business case to attract investment, removes cross-border barriers, maximizes access to storage, and streamlines permitting.
- We welcome the recognition of CCS as a key technology in several recent EU announcements such as the Industrial Carbon Management Strategy (ICMS) and the 2040 GHG target communication, but key enabling policies are required to achieve these objectives.
- A clear business case and adequate investment are essential for scaling up the deployment of CCS technologies as required by the EU ICMS.
 - With substantial investment requirements outlined in the EU ICMS¹⁹, public financial commitment from the next EU Commission and Member States is vital to drive Europe's industrial transition towards environmental sustainability and global competitiveness.
 - It will also be crucial to revamp funding instruments at EU and national level to better recognize the challenge of operational costs (OPEX) and the complexity and capital intensity of CCS projects.
- While we welcome the recognition of CCS as a strategic technology under the EU Net Zero Industry Act, the mandate on CO₂ injection capacity in this act creates uncertainty about future EU policy and could be detrimental to the EU's energy security, further undermining the EU's industrial competitiveness.

¹⁹ EU ICMS: "Between EUR 6.2 and 9.2 billion by 2030 for transport infrastructure related to the NZIA objective" alone.

- A market-based policy would be more efficient and would reduce the cost of decarbonization to society.
- Most current CCS storage projects in the EU are currently in the pre-feasibility stage. It takes several years to develop storage sites, so it is highly unlikely that these projects will start up by 2030, even with accelerated permitting.
- We welcome the introduction of a derogation which can be sought by Member States in case of supply and demand imbalances. It is important that implementation details of this derogation maintain flexibility especially for potential investments where there is no business case, and for issues that are beyond the control of storage operators such as lack of infrastructure or critical commercial agreements with emitters.
- To reach the CCS targets in the EU's ICMS, it will be critical for the EU to leverage proximate storage space, particularly the North Sea. Given the large potential for CO₂ storage in the UK part of the North Sea, we support the connection of the EU and UK CO₂ infrastructure systems and regulations for the seamless movement of CO₂ between the EU and the UK. Regulations should also provide legal certainty that CO₂ stored in the UK is accepted under the EU ETS system.
 - CO₂ storage locations in the UK are geographically located near several large industrial emitters in the EU, such as Belgium and France, and may offer timely and cost-effective storage for CO₂ emissions.
 - Synergies in infrastructure between storage sites that are being developed in the Netherlands and the UK could reduce the cost of decarbonization for many EU emitters in the region. This would also support EU industries' efforts to restore global competitiveness – an issue of key concern to all of us.
 - Resolving this key issue in a timely manner would encourage timely investment decisions and prevent the flow of essential capital to other parts of the world.

Asia Pacific CCS policy

- **SME:** Casey Delhotal (P&GA)
- Cross-border CCS will be critical to the decarbonization efforts of the Asia Pacific region.
- Finding a flexible, practical, low-cost pathway that allows countries to capture CO₂ in one country, and store it in another, and seek financial benefits (tax breaks, avoided taxes, carbon credits, etc.) in either country is needed to encourage large scale development of CCS in Asia.
- In order for cross-border CCS projects to take place prior to 2030, it is critical that governments in the region reach bilateral agreements to enable and facilitate project development by the private sector.
- The Asia Natural Gas & Energy Association (ANGEA) sponsored a report by Boston Consulting Group (BCG).²⁰ The report identified key issues that need to be addressed to foster growth of standardized bilateral agreements that would accelerate cross-border CCS projects.

²⁰ Asia Natural Gas & Energy Association (ANGEA). [Cross-border CCS Study](#). December 4, 2024.

CCS projects

North America

U.S. – Louisiana

- **POC:** Bruce Chalton (LCS)
- Combined projects have the potential to reduce existing CO₂ emissions by up to 6 million metric tons per year.
- Why is this important? We are providing a scalable solution to reduce CO₂ emissions from major manufacturers. It supports Louisiana's plan to reduce the state's CO₂ emissions to net-zero by 2050.
- **CF Industries (October 2022):**
 - In June '25, [CF began flowing CO₂](#) from their ammonia facility in Donaldsonville, Louisiana, into our U.S. Gulf Coast CCS System. As we ramp up to transport and permanently store up to 2 million metric tons annually, we'll enable CF to produce about 1.9 million tons of low-carbon ammonia on an annual basis.
- **EnLink (October 2022):** *[We are not talking externally about the status of the Pecan Island transportation and storage agreement.]*
- **Nucor (June 2023):** ExxonMobil and Nucor Steel have entered into a definitive agreement for the capture, transport and storage of up to 0.8 million metric tons of CO₂ per year from Nucor's manufacturing site in Convent, Louisiana.
 - Under the Nucor contract, we will design, permit and install CO₂ capture facilities at Nucor's manufacturing site in Convent, Louisiana, about midway between Baton Rouge and New Orleans. We will then transport and permanently store the CO₂ deep underground. Start-up is expected in 2026.
 - The project will use much of the same infrastructure that is being developed to transport and store up to 2 million metric tons of CO₂ per year from CF Industries' facility in Donaldsonville, Louisiana.
- **NG3 (October 2024):** We have entered into a commercial agreement with NG3 (New Generation Gas Gathering project) to transport and store up to 1.2 MTA of CO₂ from their facility in Gillis, LA. NG3 will gather and treat natural gas produced in east Texas and Louisiana for delivery to U.S. Gulf Coast markets, including for LNG export. NG3 is our first natural gas processing customer — adding to our roster of industries we're serving.
- **Lake Charles Methanol II (July 2025):** We'll transport and store up to 1.3 MTA of CO₂ from Lake Charles Methanol II's (LCM II) project in Louisiana. LCM II plans to use advanced natural gas reforming and CCS solutions to produce low-carbon hydrogen. This hydrogen will be converted into blue methanol, supporting decarbonization across global chemical and energy industries.
- **AtmosClear (September 2025):** We'll transport and store ~0.7MTA of CO₂ from Fidelis AtmosClear's greenfield bio-power plant (west of Baton Rouge, Louisiana), with the potential for additional volumes. [Microsoft](#) has agreed to a 15-year carbon dioxide removal credit (CDR) offtake agreement with Fidelis AtmosClear.

U.S. – Texas

- **POC:** Bruce Chalton (LCS)
- **Linde (April 2023):** ExxonMobil will transport and permanently store up to 2.2 MTA of CO₂ from Linde's new clean hydrogen plant in Beaumont, TX.

- **Rose injection/storage project:**²¹
 - ExxonMobil has obtained the rights to approximately 13,000 acres of permanent underground storage in Jefferson County.
 - The project includes an 18-mile pipeline to connect the storage site with area industry.
 - EPA issued [three Class VI permits](#) to ExxonMobil for Rose in October 2025; We are working on next steps to receive our authorization for injection.

Canada

- **POCs:** Bryan Healey (Imperial LCS), Lisa Schmidt (Imperial P&GA)
- Imperial has identified potential CCS opportunities to help reduce greenhouse gas emissions intensity at its facilities in Canada.
- The company continues to collaborate with industry partners and government on supportive public policy and refine economics in support of a favorable project investment decision.
- Imperial also has stood up a Low Carbon Solutions organization to help customers find ways to decarbonize their businesses.
- Imperial is a founding member of the Pathways Alliance, which accounts for up to 95% of oil sands production in Canada.
- Imperial is a founding member of the Pathways Alliance, which is proposing to build a carbon capture and storage network in Alberta. The project would see CO₂ captured from approximately 20 oil sands facilities and transported nearly 400 kilometers by pipeline to the Cold Lake area, where it would be stored underground in a joint carbon storage hub.
- Pathways Alliance continues to work with federal and provincial governments to obtain sufficient levels of fiscal support and the required regulatory approvals necessary to make this project a reality.
- Imperial is working with the City of Medicine Hat (located in southeast Alberta) to explore the potential for a carbon capture and storage hub in the area. We are still very early in the assessment process.

Asia Pacific

POC: Egon Van Der Hoeven (LCS)

Australia

- Since 2022 we have been progressing the South East Australia Carbon Capture and Storage project (SEA CCS) to determine the potential for CCS in the broader Gippsland Basin and we have now completed front-end engineering and design work to evaluate the suitability of the Bream field as a suitable storage location for CO₂.
 - While we are not proceeding with the initial Bream development concept, we continue to explore alternative options for development of the SEA CCS project, including alternative ways to develop the Bream reservoir as a storage location, as well as screening other larger gas fields that are currently still producing gas.
- The Gippsland Basin Joint Venture, a 50-50 JV between Woodside Energy (Bass Strait) and Esso Australia, has entered into agreements with Air Liquide Australia, and separately with BOC, to capture and reuse CO₂ extracted from Gippsland gas.
 - Under the long-term CO₂ supply agreements, Air Liquide and BOC have built a CO₂ processing and purification facilities next to the Longford gas plants.

²¹ [Rose carbon capture and storage project](#) (EMPCo website)

- Esso will capture and send excess CO₂ from the Longford gas conditioning plant to Air Liquide and BOC, who will then process and provide CO₂ to Australian businesses for reuse.
- Construction of both facilities and modifications to the Longford gas conditioning plant are complete and commissioning has commenced.

China [if asked]

- In June 2022, we signed an MOU with CNOOC, Shell and the Guangdong Provincial Development and Reform Commission to pursue a world-class CCS project at the Dayawan Petrochemical Industrial Park. A CCS hub at Dayawan could capture up to 10 million metric tons of CO₂ per year to help reduce emissions from our operations and other partners' assets in the industrial park, subject to the joint study. It would potentially be one of the largest CCS projects in the world.
- In January 2023, we signed a Joint Study Agreement (JSA) with CNOOC, Shell, and Guangdong Provincial Development and Reform Commission to progress joint study for a potential CCS project at the Dayawan Petrochemical Industrial Park.
- The Dayawan CCS project partners progressed the joint study to better define the technical basis and regulatory and policy support framework required to activate phase 1 of the project, with the pre-feasibility study completed in early 2024.
- Upon careful consideration, in 2025 ExxonMobil decided to prioritize other competing investment opportunities in our global CCS portfolio that offer better clarity and certainty of economic viability.
- China's CCS market is important to ExxonMobil. We remain committed to enhancing our strategic collaboration with the Guangdong province by continuing to monitor and evaluate opportunities in supporting the low-carbon transition of the Guangdong province.

Indonesia

- Since the signing of an MoU between ExxonMobil and Pertamina in 2021, both parties have further committed to establishing a regional Carbon Capture and Storage (CCS) hub. This includes advancing technical and commercial study of a targeted injection site and advocating for the supportive policy and regulations with the Government of Indonesia which is essential in progressing CCS commercial development. Currently, ExxonMobil is progressing a Joint Venture (JV) agreement with Pertamina to jointly submit a carbon storage license application to the Ministry of Energy.
- We are encouraged by the issuance of the Presidential Regulation on Carbon Capture and Storage and the subsequent Ministerial Regulation. These regulations represent significant milestones in providing frameworks for Indonesia's journey toward emission reduction leadership in the region while benefiting the country's economic growth.
- We look forward to collaborating with the administration to develop further implementing regulations, including attractive fiscal policies, cross-border transport, and commercial frameworks. These measures are essential to boost this new industry, potentially positioning Indonesia as the region's leader in achieving its net-zero target.
- ExxonMobil supports Indonesia's endeavor to work with neighboring governments to progress the CCS cross-border mechanism benefiting the region and Indonesia by bringing in investments in rapidly growing sustainable industries.

- We believe the implementation of CCS technology will attract new investments for Indonesia and align with the upcoming administration's priorities in achieving the Net Zero Emission (NZE) target.

Singapore

- ExxonMobil and Shell have formed a consortium, called S-Hub, which has been selected to work with the Government of Singapore as lead developers for a cross-border carbon capture and storage (CCS) project.
- S-Hub and the Singapore Economic Development Board (EDB) signed a Memorandum of Understanding in December 2023 to coordinate the planning and development of a CCS project.
- The project is expected to be capable of capturing and permanently storing at least 2.5 million tons of CO₂ per year, by 2030.
- The S-Hub project plans to capture and securely store CO₂ emissions from Singapore deep underground or under the seabed. Storage sites will be selected after undergoing rigorous analysis to ensure their suitability.

South Korea

- In May 2024, PT Pertamina (Persero), Korea National Oil Corporation (KNOC), and ExxonMobil entered a strategic partnership to advance transboundary carbon capture and storage (CCS) initiatives between Korea and Indonesia, which is formalized in a framework agreement.
- The collaboration leverages the expertise of all three companies to accelerate the development of solutions for carbon reduction within the region by identifying potential areas for collaboration, through the value chain, for the development and commercialization of CCS projects between Indonesia and Korea.

Europe

POC: Michael Foley (LCS)

Belgium

- We are participating in a multi-stakeholder CCS project at the Port of Antwerp, Europe's largest integrated energy and chemical cluster.
- The project, known as Antwerp@C, would collect CO₂ emissions from industrial sources in the Port for storage, potentially capturing 8 million metric tons of CO₂ annually by 2030 – a 50% reduction in the area's CO₂ emissions.
- The other members of the Antwerp@C project are TotalEnergies, BASF, INEOS, Fluxys, Borealis, Air Liquide and the Port of Antwerp.
- Antwerp@C CO₂ Export Hub receives 144,6 million of EU funding for CO₂ capture infrastructure.

Netherlands

- We have signed a joint development agreement (JDA) to advance our interest in the Port of Rotterdam CO₂ Transportation Hub and Offshore Storage (Porthos) project.
- Porthos is a partnership between the Port, Gasunie and the Dutch government-owned EBN. We are a potential customer, along with Shell, Air Liquide and Air Products.

- The Porthos project aims to collect approximately 2.5 million metric tons of CO₂ emissions from industrial sources per year and transport them via pipeline to depleted natural gas fields in the North Sea.
- In June 2022, we signed a cooperation agreement with Neptune Energy, Rosewood Exploration and EBN to progress a CCS project in the depleted L10 natural gas field in the Dutch North Sea.
- The project has the potential to capture 4-5 million metric tons of CO₂ annually and is in Pre-FEED.
- We are party to a cooperation agreement with Shell as part of the Shell Offshore Carbon Storage venture (SOCS) in the Netherlands. This venture aims to develop several stores using the Aramis infrastructure offering capacity to customers from 2029/2030 onwards.

United Kingdom

- Acorn:
 - ExxonMobil, through its affiliate Esso Exploration and Production UK Limited, as a partner in the SEGAL (Shell Esso Gas & Associated Liquids) system, has signed a Memorandum of Understanding with the Acorn project in northeast Scotland.
 - The project is exploring the potential to capture CO₂ from industrial facilities, including the St. Fergus gas processing complex, and transport it to depleted offshore natural gas fields for safe, secure and permanent storage. SEGAL owns one of the three gas terminals at St. Fergus.
 - We are awaiting confirmation of next steps for Acorn and Scottish Cluster.
- The Solent Cluster **[if asked]**:
 - Due to lack of policy certainty and timelines, we will not proceed with this project at this time. Still, we're committed to reducing emissions and progressing large-scale emission reduction projects when there is supportive policy in place.

Middle East

POC: Khaled Maherzi (LCS)

- We are evaluating opportunities across the region to progress emissions reduction.

CCS public content

News releases / LinkedIn announcements

- [Lake Charles Methanol II](#) "LCM II" (July '25)
- [Bringing carbon capture and storage to scale](#) (April '25)
- [Carbon capture - A transformative business for Indonesia](#) (April '25)
- [New Generation Gas Gathering](#) "NG3" (October '24)
- [ExxonMobil secures largest CO₂ offshore storage site in the U.S.](#) (October '24)
- [Khaled bin Mohamed bin Zayed Witnesses Signing Ceremony for ADNOC and ExxonMobil Partnering in World's Largest Low-Carbon Hydrogen Facility](#) (September '24)
- [ExxonMobil signs carbon capture agreement with CF Industries in Mississippi](#) (July '24)
- [NTU Singapore, ExxonMobil and A*STAR launch S\\$60 million corporate lab for low carbon solutions](#) (April '24)
- [ExxonMobil and Shell selected to work with the Government of Singapore on a carbon capture and storage value chain](#) (March '24)

- [ExxonMobil to build CCS pilot plant with FuelCell Energy Using Carbonate Fuel Cell Technology](#) (December '23)
- [ExxonMobil completes acquisition of Denbury](#) (November '23)
- [ExxonMobil announces acquisition of Denbury](#) (July '23)
- [Scaling up carbon capture and community investments in Louisiana](#) (June '23)
- [ExxonMobil signs carbon capture agreement with Nucor Corporation, reaching 5 MTA milestone](#) (June '23)
- [Linde Signs Agreement with ExxonMobil for Carbon Dioxide Off-take](#) (April '23)
- [ExxonMobil, Mitsubishi Heavy Industries form carbon capture technology alliance](#) (November '22)
- [Landmark emissions-reduction project in Louisiana announced; CE Industries, ExxonMobil, EnLink Midstream to collaborate](#) (October '22)

ExxonMobil Articles

- [Capture it. Move it. Store it: Three steps for reducing CO2 emissions](#) (August '25)
- [How we're capturing carbon and storing it safely](#) (May '25)
- [2024: A breakout year for our carbon capture and storage business](#) (January '25)
- [Excitement in the air: insights from our direct air capture \(DAC\) pilot](#) (September '24)
- [Real-life training to keep you safe](#) (May '24)

Direct Air Capture (DAC)

Overview & Strategy

- **SME:** Matt Reeves (EMTech)
- One of the most promising emerging technologies is Direct Air Capture (DAC), which can capture CO₂ directly from the atmosphere and has the potential to offset other emissions from hard to abate sectors.
 - DAC uses adsorbent materials to remove CO₂ directly from the atmosphere. It creates a truly carbon negative solution to offset the hardest to abate sources of emissions. It is also more flexible than point source capture because it can be deployed anywhere.
- Recent IEA Net Zero and IPCC Scenarios highlight it as an important part of the solution: they estimate that the world needs around 400 MTA to up to 1 billion tons of CO₂ removal via direct air capture per year by 2050.
- But the key challenge with direct air capture technology is cost – how to efficiently capture CO₂ from dilute sources, somewhere in the range of 400 ppm – while economically scaling up the process.

DAC at ExxonMobil

- We are running a pilot at our Baytown, Texas manufacturing site.²² The focus of this prototype is to prove the technical feasibility of our unique DAC platform. Our intention is to take the information we gain and use it to improve the technology for the next iteration, to eventually build a commercial- scale and economically viable system.
- We plan to play a lead role in accelerating the development of cost competitive and scalable DAC technology.
- We have been working on DAC technology for years and have gained great insight into what is needed to advance this breakthrough solution.

²² [Excitement in the air: insights from our direct air capture \(DAC\) pilot](#) (September '24)

Low Carbon Data Centers (LCDC)

- **SME:** Leslie Sincler (LCS)
- There has been much recent conversation about the strategic importance of AI and the tech industry's tremendous need for power to enable it.
- ExxonMobil is uniquely able to address this need with a low carbon solution using natural gas power generation, abated by carbon capture and storage.
 - We are the largest producer of oil and gas in the U.S. and are working to increase our Permian basin production (to approximately 2.3 MBD) and liquified natural gas (LNG) portfolio (to 40 MTA) by the end of the decade.²³
 - We own and operate the first and largest integrated CCS system in the U.S. and the world²⁴ with approximately 1,300 miles of pipeline connecting customers and permanent storage sites, most of which is in the U.S. Gulf Coast.
- We plan to use a state-of-the art carbon capture unit to capture over 90% of the CO₂ emissions from power generation and transport it to permanent storage sites with our CCS system.
- We are closely working with potential customers, partners, and suppliers in real time with strong interest, with expectations to FID by year-end 2026²⁵.
 - We have identified two potential future sites for LCDC projects – one in Mississippi and the other in Louisiana.
- **[If asked]:** *This is not a pivot from a molecule approach to an electron approach. We don't bring a lot of value creation to the power generation step in and of itself. We bring value in our ability to provide low-carbon-intensity natural gas to that power system and the ability to capture, transport and permanently store the CO₂ associated with power generation. The value proposition for low carbon data centers is on the molecules side of the equation for us.*

²³ Powering the AI revolutions with reliable energy (July '25)

²⁴ IHS Markit Energy Infrastructure Data

²⁵ 2025 Corporate Plan: <https://investor.exxonmobil.com/news-events/ir-calendar/detail/20251209-corporate-plan-update>

PART 4: Hydrogen and hydrogen carriers

Hydrogen overview

- **SME:** Prasenjeet Ghosh (LCS)
- Hydrogen is an energy carrier that produces zero greenhouse gas emissions when used as a fuel.
- A hydrogen carrier is a substance that can store and transport hydrogen (e.g., ammonia and methanol).
- All types of low-carbon hydrogen and hydrogen carriers are needed to achieve a lower emissions future and they may be the lowest cost options to reduce emissions in hard-to-electrify end-uses.
- ExxonMobil, the U.S. Department of Energy, and institutions around the world identify low-carbon hydrogen as one of the critical tools in reducing carbon emissions and combating climate change.
- Low-carbon hydrogen and hydrogen carriers are also versatile and can replace higher-emission fuels.
 - Where electrification is not practical or cost effective, they can be a suitable solution.
 - For example, low-carbon hydrogen can be used for industrial heating and as feedstock in chemicals, refining, steel, and biofuels manufacturing. It can also be used for heavy-duty transportation, and even in power generation.
- Fuel switching from natural gas to low-carbon hydrogen (or hydrogen carriers) is a flexible solution to reduce CO₂ emissions. It is particularly advantaged when retrofitting a facility where CCS is impractical.
- Hydrogen can also be manufactured with lower carbon emissions than conventional fuels.
 - It can be produced from various energy sources, like natural gas with carbon capture and storage (CCS) through a process called steam methane reforming, natural gas through a process called methane pyrolysis, or via renewables by electrolysis of water.
 - However, producing low-carbon hydrogen today is more expensive than current energy sources, like natural gas and coal. We are working towards lowering the cost of producing low-carbon hydrogen.
- Hydrogen is odorless, and if released, rises quickly away from the ground. Hydrogen is flammable, but industry has been effectively managing this risk for decades.

Hydrogen infrastructure

- Hydrogen could be mixed with natural gas and transported using existing pipeline infrastructure.²⁶ We are working with others to better define the parameters for such mixing.
- Broad deployment of CCS technology could enable increased production of low-carbon hydrogen from hydrocarbons (e.g., natural gas) or biomass.
- The Houston area anchors the world's leading hydrogen system, producing approximately one-third of the hydrogen used in the U.S. each year. The area is also home to more than half of the country's hydrogen pipelines, and one-third of the global total.²⁷

²⁶ HyBlend: Opportunities for Hydrogen Blending in Natural Gas Pipelines (December 2022).

²⁷ <https://static1.squarespace.com/static/5bd0cda394d71a3556faeb6c/t/6022ff8c59eed438f73aeeaa/1612906382736/Houston+Hydrogen+Whitepaper+Final.pdf>, p. 4

Ammonia overview

- **SME:** Brent Novak (LCS)
- One of the main challenges for deploying low-carbon hydrogen is the cost of transporting it over long distances. Converting hydrogen to ammonia can reduce transport costs.
 - Because ammonia can be converted to a liquid at moderate cryogenic temperatures (-30°C), it can have a much lower transportation cost than hydrogen, which requires a much lower temperature (-260°C).
- Ammonia is widely used today as an industrial and agricultural chemical, particularly in fertilizer.
- Ammonia is versatile – it is expected to have a growing role in power generation, industrial heat, and marine fuels.
- The ammonia molecule (NH_3) has no carbon and generates no CO_2 when used as fuel.
- Ammonia is typically produced using natural gas – sometimes called unabated ammonia – using a safe, well-established manufacturing process, but CO_2 is a byproduct.
- Low-carbon ammonia can be made from natural gas when CCS is used to capture and securely store the associated CO_2 . Ammonia produced this way can have >90% of CO_2 emissions removed compared to unabated ammonia.²⁸
- When comparing various processes for producing low-carbon ammonia, methods using natural gas with CCS can be less costly than other low-carbon ammonia production methods, particularly in locations that have access to low-cost natural gas and nearby CCS infrastructure.
- **[If asked]:** *Ammonia is toxic and must be handled with appropriate care, using sound engineering, safety, and environmental practices. Industry has been safely managing ammonia for more than a century. When combusting ammonia, appropriate NOx management technologies will be needed.*

Hydrogen at ExxonMobil

- The hydrogen business is not new for us. Today, we are one of the largest hydrogen players in the world, producing and consuming more than 1 million tons combined each year in our refining and chemical operations.
- We are technology agnostic when it comes to how low-carbon hydrogen is produced. All types of low-carbon hydrogen are needed to help achieve a lower emissions future. Different production technologies could be advantaged depending on location-specific infrastructure, feedstock availability, and end use applications.
- We look to be a player in low-carbon hydrogen where we can add value, create a competitive advantage and meet customer demand.
- [See [Baytown-low carbon hydrogen and ammonia](#) project for additional talking points.]
- [Contact LCS marketing (Rachel Pickett) for ExxonMobil™ Low Carbon Hydrogen and ExxonMobil™ Low Carbon Ammonia brand use guidance.]
- **[If asked about white (naturally occurring) hydrogen:** *ExxonMobil is aware of recent efforts around the world to discover underground deposits of naturally-occurring hydrogen. While the geochemical formation of hydrogen in certain deep subsurface formations is well known, there have been essentially no discoveries of significant accumulations at sufficient purity that could lead to economically viable production at scale. We continue to monitor progress as multiple public and private ventures are progressed.]*

²⁸ IEA. [Carbon Capture, Utilisation and Storage – Energy System](#)

Hydrogen technology

Methane pyrolysis

- **SMEs:** Prasenjeet Ghosh (LCS), Jacob Thiar (EMTEC)
- Methane pyrolysis is an emerging technology that produces hydrogen from methane with much lower, potentially zero, CO₂ emissions versus conventional reforming technology. This makes it very attractive in locations where CCS is challenged.
- Methane pyrolysis requires significantly less energy compared to other CO₂-free hydrogen generation processes (e.g., five to seven times less energy compared to hydrogen generated via renewables by electrolysis), making it significantly cost-advantaged.
- Methane pyrolysis uniquely produces two valuable co-products (versus one) – low-carbon hydrogen and solid carbon.
- Methane pyrolysis takes advantage of existing global LNG infrastructure that can supply methane feed at scale, so it can be more quickly deployed at scale.
- Scaling this technology is aligned with the core capabilities and operating experience of ExxonMobil.

Methane pyrolysis at ExxonMobil

- In November 2025, ExxonMobil and BASF announced a strategic collaboration to jointly develop methane pyrolysis technology, complementing our hydrogen portfolio and expanding our hydrogen business²⁹.
- This is an opportunity to deliver the full integrated ExxonMobil value chain, from natural gas to low carbon hydrogen to carbon products.
- BASF brings more than a decade of methane pyrolysis experience and technical knowhow and have been operate a large pilot plant in Ludwigshafen, Germany for several years. We were a pioneer of methane pyrolysis technology in the 1960s and bring the industrial scale-up experience and capabilities.
- Together we plan to build a demonstration plant at our Baytown Complex – capable of producing up to 2,000 tons of low-emission hydrogen and 6,000 tons of solid carbon product annually – to move this technology forward to commercial readiness.

Hydrogen burners

- **SMEs:** Hector Ayala, David Spicer (EMTech)
- ExxonMobil and Zeeco have a strategic alliance to market the ZEECO® next-generation ultra-low NO_x, 100% hydrogen ready burner. The new burner can significantly lower emissions for industry as they explore fuel switching from natural gas to hydrogen.³⁰
- We've designed a next-generation hydrogen burner for steam crackers that can operate on up to 100% hydrogen fuel. We're the first to demonstrate this technology at industrial scale.³¹ At our olefins plant in Baytown, we've installed 44 pyrolysis burners.³² Our demonstration achieved a 90% reduction in direct CO₂ emissions.³³

²⁹ [ExxonMobil and BASF join forces to advance low-emission hydrogen through methane pyrolysis technology](#) (November 2025)

³⁰ [ExxonMobil and Zeeco drive emissions reduction with next-generation ultra-low NO_x, 100% hydrogen ready burners](#) (February '24)

³¹ 98% hydrogen was tested, the maximum concentration currently available at the site for commercial demonstration.

³² [Baytown breakthrough: Our next-generation hydrogen burner can help decarbonize a key industry](#) (January '25)

³³ ExxonMobil calculation based on fuel composition during testing relative to the baseline average fuel composition of the furnace.

Hydrogen policy

- **SME:** Brad Crabtree (P&GA)

Context

- Significantly reducing greenhouse gas emissions, while continuing to meet the growing demand for affordable energy is a tough challenge to solve. We are doing both and that remains our priority.
- The policies that have been pursued to date are largely focused on limiting the supply of traditional sources of energy and trying to drive more expensive alternatives that, frankly, aren't striking a balance to simultaneously progress energy security and the energy transition.
- Transitioning to less carbon-intensive systems is going to require money. That's the challenge of the transition – it's going to be more expensive.
- And so, as a company that has a responsibility to invest and generate a return, we've got to find ways to do that without the demand or the customer base that's willing to pay for it today.
- Today, if you look at the drivers to invest in the energy transition, there aren't market forces or incentives to invest, which is why government policy is either mandating or subsidizing new energy projects.
- So we're leveraging existing policies and incentives, like 45V tax credits in the U.S., as a catalyst to get started while we work on the technologies to lower the cost – we call these “project-enabling” policies.
- Ultimately, we need to transition away from “project-enabling” policies to market-driven investments – that's what's needed to successfully roll this out across every economy around the world. No government can afford to subsidize the energy transition forever.
- It's time for a thoughtful and pragmatic approach that leverages the power of the market and the expertise of the business community.

United States

- **SME:** James Dunlap (P&GA)
- Any policy definition of “clean” or “low-carbon” hydrogen should be based on carbon intensity evaluated on a full life-cycle approach basis.

45V Hydrogen tax credit

- **SME:** James Dunlap (P&GA)
- A strong U.S. hydrogen production capability is another component of energy security and puts the country in a strong position in the marketplace against foreign sources of low-carbon energy.
- The finalized 45V rules (January '25) for the hydrogen production tax credit were a key step forward.
 - We're pleased that the rules recognize the benefits of differentiated natural gas and the acknowledgment of our distinctive CCS technology that leverages excess steam for power production.
 - However, we are disappointed that under the [July '25] approved 45 tax credit, timing for startup of construction was shortened from 2033 to the beginning of 2028. With the shortened timeline, we're concerned about the pace of development of a broader market, which is critical to transition from government incentives.

United Kingdom

- **SME:** Jonathan Dredge (P&GA)
- Durable and predictable policy is needed as the foundation for investment in hydrogen production. The Hydrogen Production Business Model (HPBM) is well understood, and we welcome the private law contract approach. However, further policy clarity is needed to derisk investment, that includes:
 - Confirmation of the potential role of CCUS-enabled hydrogen in the UK, along with the approach and timing for access to the HPBM.
 - Design of the proposed Gas Shipper Obligation as a long-term and sustainable funding mechanism
- We welcome the technology agnostic carbon intensity based Low Carbon Hydrogen Standard (LCHS). Providing the option for hydrogen developers to input their actual carbon intensity based on emissions will incentivize greater emissions reductions and promote innovation.
- Confirmation is needed on the approach to upstream natural gas emission framework to support differentiation between different sources of natural gas.

Europe

- **SME:** Jonathan Dredge (P&GA)
- *[Note: EU terminology for “low-carbon hydrogen” refers to pink and blue hydrogen and excludes green hydrogen; in this document it means all forms of low-carbon hydrogen.]*
- A reset of the current EU hydrogen strategy is urgently needed as EU industry is under high competitive pressure³⁴ and needs pragmatic, low-cost solutions not offered by the current policy.
 - The reality is that despite significant funding support and an extensive regulatory framework, the current EU policy does not activate the low-carbon hydrogen market required to meet EU GHG emissions reduction targets. This is because it is not technology neutral and lacks a pragmatic approach in technical regulations (e.g., its GHG methodologies).
 - Renewable hydrogen is part of the solution but it lacks scalability and, in many regions across the EU, its current high production cost is prohibitive to large scale deployment.
 - As a result, hydrogen demand also lacks the scale to justify required infrastructure investments like the EU hydrogen backbone.
- We think that for the EU to progress towards its GHG reduction targets, all types of low-carbon hydrogen will be needed. It is in the EU interest and paramount to competitiveness of its industry to provide a level playing field between all forms of hydrogen produced locally or imported.
- The EU can benefit from openness to international trade in renewable and low-carbon hydrogen carriers which has the potential for huge societal benefits as demonstrated in a recent joint report by the Hydrogen Council and the International Hydrogen Trade Forum.³⁵ It highlights the opportunity (blue) hydrogen or ammonia exports from the U.S. to the EU can bring, specifically for some of the current major hydrogen consuming countries where domestic renewable hydrogen is currently very expensive.

³⁴ See Draghi report on ‘The future of European competitiveness’: [part A](#) / [part B](#)

³⁵ ‘[Emerging trade corridors for hydrogen and its derivatives](#)’ 13/5/24. Note: the IHTF is a forum of governments co-operating on international H2 and derivatives trades including key EU countries

Hydrogen issues and advocacy

Hydrogen Emissions [if asked]

- **SMEs:** Steve Kellogg (LCS)
- *An area of emerging attention is the effect that hydrogen emissions have on climate change.*
- *The primary mechanisms by which hydrogen indirectly affects climate are fairly well understood. For example, more hydrogen in the atmosphere prolongs the life of methane, as it reacts with molecules (hydroxyl radicals) that would otherwise breakdown methane, which is a potent greenhouse gas.*
- *Most of the world's new hydrogen value chains have yet to be designed and built, which provides an opportunity to address hydrogen emissions from the outset.*
- *We support the development of infrastructure design standards and emissions detection technologies that would help identify, quantify, and address hydrogen emissions.*
- *We will continue to monitor the atmospheric science and the global warming potential ("GWP") estimates of hydrogen, and will work with academics and other stakeholders to develop technology solutions.*
- *ExxonMobil believes that policy should rely on sound science in quantifying the climate benefits of abatement technologies through lifecycle assessment methodologies, with preference for international technical standards.*
- *International standards for lifecycle assessment methodologies, such as ISO TS 19870-2023, rely on GWP values for greenhouse gases published by the most recent IPCC assessment report. As a short-lived indirect climate forcer, hydrogen emissions are therefore currently excluded from GHG considerations under these methodologies and guidelines.*
-

EDF Hydrogen Study [if asked]

- **SME:** Steve Kellogg (LCS)
- **Background (for internal use):** *Establishing routine and accurate hydrogen emission measurements requires further research and development. Environmental Defense Fund (EDF) is collaborating with Aerodyne Research to develop a mobile hydrogen emissions measurement technology. ExxonMobil scientists are working with the EDF-Aerodyne team to learn more about their technology due to the limited information in the public domain. Many organizations - including the U.S. Department of Energy and ExxonMobil - have active hydrogen sensor research programs to advance emissions measurement technologies.*
- **Response [if asked] (for external use):**
 - *We are aware of the Environmental Defense Fund's publication on hydrogen emissions [Feb. 21, 2024]³⁶.*
 - *We agree with EDF on the need for robust assessment methods and data to ensure that hydrogen's potential is achieved in practice, and that it is important to get emissions measurements and reporting "right."*
 - *ExxonMobil supports development of infrastructure design standards, emissions detection technologies and sound government policies that would help identify, quantify, and address hydrogen emissions.*

³⁶ <https://www.edf.org/media/hydrogen-could-have-much-bigger-climate-impact-most-estimates-study-shows>

- *Hydrogen emissions sensing is still a nascent technology. In contrast to methane, there are no current technologies for remote hydrogen emission detection over large areas (e.g., via satellite).*
- *We look forward to working collaboratively with policymakers, and other interested parties to increase understanding of hydrogen emissions and to develop additional solutions to progress a safe, environmentally beneficial hydrogen economy.*

Hydrogen & ammonia projects

North America

Baytown low-carbon hydrogen and ammonia project

- **POC:** Chris Duffy (LCS)
- **Project Status:** In November 2025, we made the decision to pause spending on the Baytown Blue Hydrogen Project (BBHP) and wait for the market and global policies to catch up.
 - From the beginning, we said BBHP would be possible if we had supportive public policy, the necessary technology and a marketplace of buyers willing to pay a premium for low carbon products.
 - We've proven the technology works and that an advantaged project is possible.
 - But while U.S. policy has been supportive, things are less certain in other regions.
 - Most importantly, we have not yet found firm buyers for virtually carbon free hydrogen willing to pay the premium.
 - We expect to return to this project when the timing is right and we can do it profitably.
 - We continue to pursue opportunities to build a global, advantaged hydrogen business, exemplified by our [strategic collaboration](#) agreement with BASF to advance methane pyrolysis technology.
- **Project Profile:** BBHP was planned to produce up to 1 billion cubic feet daily of virtually carbon-free hydrogen, with nearly 98% of CO₂ removed, and more than 1 million tons of low-carbon ammonia per year. These products would be used to reduce our own greenhouse gas emissions and made available for third-party customers.
 - **Customers:** We confirmed a supply and purchase agreement with Marubeni for offtake of low-carbon ammonia and were working to firm up agreements with Mitsubishi and Trammo, among others.
 - **Equity Partners:** ADNOC (Abu Dhabi National Oil Company) and Marubeni agreed to acquire an equity stake in the project, and we signed a project framework agreement with Mitsubishi Corporation to explore their participation in the facility.
 - **Competitive advantages:** We have made advantaged investments, which enable access to low-cost, differentiated natural gas – a critical resource for hydrogen production. Baytown is a strategic location, a major demand center, where we're positioned to build at scale and meet the growing appetite for low-carbon energy. Our facility benefits from the largest CO₂ pipeline network in the U.S. (and the world) and proximate pore space for safe and permanent storage of captured CO₂.

Hydrogen public content

News Releases

- [Marubeni and ExxonMobil's low-carbon ammonia deal marks major step in unleashing new energy supply](#) (May '25)
- [ExxonMobil and Trammo sign HOA for low-carbon ammonia offtake, advancing the world's largest low-carbon hydrogen project](#) (January '25)
- [Mitsubishi Corporation and ExxonMobil sign Project Framework Agreement to advance world's largest low-carbon hydrogen project](#) (September '24)
- [Khaled bin Mohamed bin Zayed Witnesses Signing Ceremony for ADNOC and ExxonMobil Partnering in World's Largest Low-Carbon Hydrogen Facility](#) (September '24)
- [ExxonMobil add Air Liquide to world's largest low-carbon hydrogen project](#) (June '24)
- [ExxonMobil awards FEED for world's largest low-carbon hydrogen facility](#) (January '23)
- [JERA and ExxonMobil to develop low carbon hydrogen and ammonia production project](#) (March '24) [Internal note: we are no longer talking externally about the ExxonMobil and JERA PFA]

ExxonMobil Articles

- [Low-carbon ammonia: Reducing emissions, energizing industry](#) (May '25)
- [Baytown breakthrough: Our next-generation hydrogen burner can help decarbonize a key industry](#) (January '25)
- [Got 2 minutes? Learn why a new hydrogen burner could be a game-changer for industry](#) (November '24)
- [The heat is on: Getting industry hydrogen-ready](#) (February '24)
- [The hydrogen highway](#) (October '23)

NPC Hydrogen Study

- **SMEs:** Mike Kerby (CSP) or Steve Kellogg (LCS)
- Link to [Executive Summary](#)
- [Link to Full Report](#)
- [Newsroom](#) story on ExxonMobil corporate website regarding our involvement

PART 5: Lithium

- **SME:** Patrick Howarth (LCS)
- See [Lithium FAQ](#) for additional Q&A
- [Lithium Fact Sheet](#) (handout)
- *[Contact LCS marketing for Mobil™ Lithium brand guidance]*

Lithium markets

Global

- Lithium demand is forecast to triple between 2023 and 2030 and keep rising through 2050.³⁷
 - To date the majority of growth has been driven by the demand for EVs and is expected to expand with new energy storage solutions to reliably power AI data centers, the grid, and defense (such as drones).
 - AI data centers count on battery energy storage systems for uninterrupted power – essential not only for operational reliability but also for safeguarding national security (protecting cyber defenses, intelligence operations).
- The vast majority of the world's lithium comes from China, Western Australia, and South America.³⁸
- Most raw lithium ore produced from hard rock mining is shipped to China, which holds nearly all the world's lithium ore refining capacity.
- Currently, the global lithium market is under pressure, largely due to oversupply stemming from China's substantial investments in battery supply chains.
 - Lithium prices are significantly down.
 - The global lithium market is expected to remain oversupplied for the next several years with a gradual rebalancing.³⁹
 - The demand outlook is encouraging - driven by EVs and energy storage – but the short-term imbalances are challenging.
- Those that can produce at the absolute lowest costs will be well positioned as the market rebalances.
- All markets experience price volatility and lithium is no exception. Although the lithium market is currently soft, we take a long-term view when we invest in a project and remain optimistic about our lithium business.

United States

- In the United States, we see a critical need to develop a **domestic source** of lithium and critical minerals. Current domestic production of lithium is very low [$<1\%$] compared to the rest of the world.⁴⁰ Our work can support U.S. energy security and global competitiveness.
- The U.S. Geological Survey (USGS) study confirms the known lithium potential in the Smackover Formation, which spans 6 states (AR, TX, LA, MS, AL, FL).⁴¹ There is theoretical potential for substantial lithium resources but only a small fraction is currently developable (similar to oil and gas resources).

³⁷ IEA. [Global Critical Minerals Outlook 2024](#) (pgs. 125-127). May 2024.

³⁸ USGS. [Mineral Commodity Summaries 2025](#) (pg. 111). January 31, 2025.

³⁹ Benchmark Minerals. [Lithium Forecast Report Q2 2025](#).

⁴⁰ Energy Institute. [2024 Statistical Review of World Energy](#) (pg. 67).

⁴¹ USGS. [Unlocking Arkansas's Hidden Treasure: USGS Uses Machine Learning to Show Large Lithium Potential in the Smackover Formation](#). October 21, 2024.

- Key hurdles must be overcome to unlock the economically developable potential of the Smackover Formation (DLE technology, exploration, production, fiscal aspects).
- For these reasons, Arkansas is one of several locations we are considering for our global lithium portfolio.

Lithium at ExxonMobil

- For more than 140 years, ExxonMobil has been driving innovation and evolving our business to meet the world's demand for reliable, affordable energy and other essential products. Today, we're focused on delivering those products while also scaling up emission solutions that align with our skills and capabilities and can make a big impact. These include carbon capture and storage (CCS), hydrogen, and lithium.
- We're focused on opportunities where we can apply our skills and capabilities to create a competitive advantage. That's why lithium makes sense: it combines our upstream skills like geoscience and reservoir management, plus our downstream skills like chemical processing, and relationships with automakers from our fuels and automotive business.
- Our plan is to develop a large-scale lithium business and become a leading supplier of lithium – a key component of electric vehicles and energy storage technologies.
- We have the capabilities and resources and are uniquely qualified to be a leader in lithium production. We possess more than a century of industry-leading upstream skills like geoscience and reservoir management, downstream skills like chemical processing, and relationships with automakers from our fuels and automotive materials business. We know what we do well, and that's molecule management.
- We set out to reinvent lithium production by leveraging Direct Lithium Extraction (DLE), which is expected to have a significantly lower environmental impact than current production methods.
- Our planned project in the Smackover formation [Arkansas] will help expand domestic supplies of a critical mineral and support the expansion of battery manufacturing industries in the U.S.
- We'll also use a modern manufacturing process which in simplistic terms is a three-step process:
 - First, we'll use conventional drilling methods to extract lithium-rich brine from deep underground – about 10,000 feet down, far below any drinking water supplies.
 - Above ground, we'll use a process called Direct Lithium Extraction, or "DLE", to separate the lithium ions from the brine. This lithium will be converted onsite to battery-grade materials that can be shipped to customers.
 - Lastly, the leftover brine is safely injected back underground.
- Our process is designed to yield lithium carbonate on-site that can be sold straight to customers, eliminating the need for refining in China.
- *[If asked: In the first half of the 2030s, ExxonMobil aims to produce enough lithium to supply the manufacturing needs of about a million EVs per year.]*
- We've continued to expand our brine acreage holdings and believe we hold the largest position in the Smackover with over 300,000 net acres.

Lithium technology

- Our DLE process is expected to have significantly less environmental impact, including approximately 2/3 less carbon intensity than hard rock mining – the predominant source of lithium supply today.⁴²
 - While we're still in the early stage of project design, we're confident our operations will need much less land than current lithium production methods.
- We're sponsoring research at Southern Arkansas University (SAU) to advance direct lithium extraction technology. By providing funding, lab equipment and ongoing technical expertise, we're supporting development that strengthens American innovation, builds local research capacity and helps prepare talent for the emerging lithium industry in the Smackover.
- *[If asked about which company we've selected as our DLE provider:]*
 - *We're actively evaluating multiple technology providers for projects across our portfolio.*
 - *That said, the team is learning a lot about the overall process flow and brine chemistry.*
 - *At the end of the day, it's less about one specific technology. What's most important is how you build a scalable end-to-end process that maximizes lithium recovery and delivers a consistent, high-quality product.*
- We also have a deep connection to lithium-ion battery technology. Our own Dr. Stanley Whittingham led groundbreaking research in an ExxonMobil lab in the 1970s that paved the way for the world's first lithium-ion battery. In 2019, he won a Nobel Prize in chemistry for this work.⁴³

Lithium projects

North America

Smackover Formation – Pine Unit, Arkansas

- We've made significant strides and built a powerful foundation in Arkansas.
 - We now hold what we believe is the largest brine acreage position in the Smackover formation (over 300,000 net acres).
 - We've completed appraisal drilling and seismic programs, produced lithium-rich brine, demonstrated battery-grade processing at our Texas lab, secured key regulatory approvals, and signed agreements with two potential customers.
 - We remain one of the most active drillers across the Smackover, continuing to appraise and de-risk our leasehold.
- We are now advancing our first commercial project in Arkansas, called "Pine", to extract lithium from deep brine water and use DLE to convert it into battery grade product.
 - We are finalizing designs for the first phase of Pine, which will deliver what matters most right now – maximizing learnings, further validating the technology and reducing costs.
 - Insights from this first phase will help optimize future development across our portfolio and set the stage for the industry's broader build-out.
- From a community standpoint, we are a proud partner in LiTHIUMLEARNS and LiTHIUMWORKS - two workforce development initiatives funded by Arkansas' HIRED Grant Program. We support these programs by contributing industry expertise and collaborating with

⁴² See ExxonMobil [substantiation deck](#)

⁴³ [Making History: Lithium and a Nobel Laureate](#) (December 2023)

local stakeholders to build a robust talent pipeline for the emerging lithium industry in Southwest Arkansas.

- LiTHIUMLEARNS enhances STEM education and skill development in K–12 schools.
- LiTHIUMWORKS focuses on upskilling the local workforce and connecting job seekers and small businesses to opportunities in the lithium supply chain.
- Together, these efforts are preparing students, workers, and communities for the future.

- **Next Steps:**

- All markets experience price volatility and lithium is no exception. We take a long-term view when we invest in a project. Given that AI-driven data centers are projected to require significant energy storage solutions, and today only a small portion of the world's cars are electric, these markets represent a big opportunity for long-term growth.
- Pacing our investments and project development now positions us for long-term success.
 - Technology improvements: Lithium extraction and processing technologies are advancing rapidly. By pacing development, we ensure we deploy the best available solutions at each stage.
 - Infrastructure needs: Power, sour gas handling and other critical infrastructure required to support the buildout of entire industry will need to be developed over time.
 - Market dynamics: The global lithium market is in a temporary oversupply, largely driven by China's rapid expansion of battery supply chains. We expect demand to strengthen, fueled by EVs, AI, and grid-scale storage, but continued price volatility underscores the need to build a business that's resilient to market swings.
 - All that said, Pine has the potential to ultimately represent a significant share of U.S. lithium supply.
- We're taking the time to get it right because we're not just building a project — we're building an entirely new industry for Arkansas and the United States.
 - Building a new industry requires discipline: delivering competitive costs, scalable technology, the right infrastructure, and the workforce to support long-term growth.
 - We're taking those steps now to ensure a long-term globally competitive business that can withstand even the most volatile market cycles.
 - ExxonMobil plans in decades, not years. The more care and testing goes into the early stages of a project, the longer-term and more stable that business's success is positioned to be, both for ExxonMobil and for the community where the business operates.
- As importantly, our work in Arkansas communities is strong and growing.
 - Alongside our operations activity, we continue to invest in Arkansas communities through education partnerships (Southern Arkansas University), workforce development programs (LiTHIUMLEARNS, LiTHIUMWORKS), and charitable giving.
 - We continue to build a comprehensive database of local suppliers, vendors, and interested stakeholders so that over time we can share potential opportunities that can be fulfilled by local businesses.

- We're pushing our lithium business forward and working with communities and our partners to bring it to life.

Europe

Germany

- We applied for exploration licenses in Lower Saxony, an early step to evaluate lithium concentrations in the reservoirs.

Lithium policy

United States

- **SMEs:** Jim Dunlap, Toby Short (P&GA)
- China currently dominates global supply chains for key battery materials.
- As global market demand continues to grow for critical minerals (lithium and graphite), new sources of supply need to come online, including from the U.S.
- The U.S. has a tremendous opportunity to meet this demand, resulting in significant economic development, increased jobs and the ability to create a regional supply chain.
- Strong policy support is essential to boost U.S. competitiveness in critical minerals. A comprehensive approach is needed to build out the full supply chain from raw materials like lithium and graphite to cathodes, anodes, gigafactories, and end-use applications such as grid energy storage and EVs.
 - The National Energy Dominance Council (NEDC) [created in February '25] is a step in the right direction, as it recognizes the importance of critical minerals and innovation to enhance domestic energy supplies.
 - The [March '25] White House executive order requiring federal agencies to make recommendations to the NEDC Chair, Secretary Burgum, and solicit industry feedback on regulatory bottlenecks and other recommended strategies for expediting U.S. mineral production, is a good start to leveling the playing field of global battery and critical mineral supply chains.
- Additionally, the U.S. government has recently demonstrated a willingness to deploy a range of support mechanisms to advance strategic projects, including:
 - Equity investment to provide foundational capital
 - Loan support to enhance financial flexibility
 - Long-term price guarantees to reduce market risk/ensure project viability, given Chinese control of supply chains and market dominance
 - Offtake agreements to drive demand and attract private sector partnerships
- We believe we hold one of the largest lithium brine positions (>300,000 net acres) in the Smackover, which is the largest brine resource in the United States.
- We have capabilities that could support delivering on this national security imperative –we have expertise in project development, subsurface, chemicals processing.

45X tax credit

- 45X, the Advanced Manufacturing Production Credit, is one of many tools to incentivize domestic lithium production by providing a 10% credit on the production of lithium.
- While 45X provides helpful support, it's broad and not targeted to the unique needs of each critical mineral or stage of the supply chain.

- The 45X tax credit for critical minerals [as signed into law July '25] will phase out by 2034.
- By the time many lithium and battery projects start commercial production in the early 2030s, 45X will already be phasing out.
- To achieve a truly domestic value chain, we need more durable, targeted policy tools that support the supply and demand sides of the equation.

Lithium public content

News releases

- [LG Chem and ExxonMobil sign MOU for lithium offtake](#) (November '24)
- [ExxonMobil and EV battery maker SK On sign MOU regarding U.S. produced Mobil Lithium](#) (June '24)
- [ExxonMobil drilling first lithium well in Arkansas, aims to be a leading supplier for electric vehicles by 2030](#) (November '23)
- [Imperial and E3 Lithium form strategic agreement on lithium pilot project in Alberta](#) (June '23)
[Note: we are no longer talking about E3 alliance externally]

ExxonMobil articles

- [Driving the automobile evolution for EVs and beyond](#) (February '25)
- [Got 2 minutes? See how we're turning brine into battery-grade lithium](#) (January '25)
- [Sneak preview: our new lithium business](#) (March '24)
- [Rock on, Jen! How a geoscientist looks for lithium](#) (February '24)
- [Making progress on lithium... and making a difference](#) (February '24)
- [Our first lithium well – but “not our first rodeo”](#) (January '24)
- [Making history: lithium and a Nobel laureate](#) (December '23)

Third-party content

- Fastmarket's Fast Forward podcast with Dan Holton, "[Black gold: How big oil is fueling change in the global EV market](#)" (May '25)

Carbon Materials Venture (CM)

- **SME:** Margot Armentor (P&GA)

ExxonMobil Carbon Materials Business:

- Carbon Materials, a venture launched by ExxonMobil in 2022, leverages ExxonMobil's scale and core technology capabilities to explore new markets and stand-up new businesses for carbon products.
- This venture leverages ExxonMobil's existing refineries and assets, including carbon-rich feedstock available in its current businesses, to create high-performance, high-value carbon products.
- Carbon Materials aims to supply high-performance carbon products to multiple growing market sectors, including synthetic graphite for electric vehicle and stationary energy storage applications.
- Other opportunities include carbon nanotubes that can enable higher cathode conductivity and anode durability, and hard carbon for grid-scale energy storage applications.
- The aspiration is to become a leading global supplier of high-performance battery materials.

Technology

- Using proprietary technology, the venture's operations modify the molecular structure of low-value carbon feedstocks to produce an advanced synthetic graphite that can deliver superior battery performance.
- The result is a broader battery operating envelope, encompassing higher usable capacity (or driving range for EV applications), faster charging performance and longer battery life.

Market Growth and Opportunity

- Carbon Materials is currently working with global automotive OEMs and battery cell manufacturers to validate the performance attributes of our graphite.
- ExxonMobil is planning to start up pilot plant facilities in 2026 to support commercial product qualification for advanced coke. Full scale commercial production is targeted for 2029.

Superior Graphite Acquisition:

- We have [acquired](#) key assets and technology from Superior Graphite to complement our planned entry into the battery anode graphite market.
- Superior Graphite's assets and capabilities are a great fit with our equity feedstock, proprietary technology and development of high-performance graphite products for electric vehicles and battery energy storage applications.
- ExxonMobil will build upon Superior Graphite's established record of manufacturing success and innovation, bringing enhanced project execution capability and unmatched ability to scale the business.
- The acquisition positions us to quickly develop a differentiated graphite product with an advantaged process that uses less energy than other technologies utilized in industry today.
- In addition to the assets and technology, the people of Superior Graphite make this acquisition very attractive. Their expertise in graphitization is recognized as best in industry, and we look forward to working with them to grow this business.

U.S. Graphite and Battery Material Supply:

- Synthetic graphite is a critical component of lithium batteries used in electric vehicles, electrical grid energy storage solutions, data centers, consumer electronics, aerospace and military applications. Demand for synthetic graphite is expected to grow at rates significantly greater than GDP.
- China is currently the dominant market leader for synthetic graphite and other critical minerals used in lithium batteries.
- The U.S. has an opportunity to catalyze domestic supplies of critical minerals, including synthetic graphite, and build a U.S. supply chain, creating quality domestic jobs and reducing its reliance on China.

PART 6: Additional content

Investor Events

- [ExxonMobil raises its 2030 Plan – transformation delivering higher earnings, stronger cash flow, and greater returns.](#) (December '25)
- [2025 Annual Shareholder Meeting](#) (May '25)
- [Low Carbon Solutions Spotlight](#) (April '23)

Websites

- [Low Carbon Solutions](#) external home page

LCS Pitch Deck

- **SME:** Miguel Castillo (P&GA)
- [LCS Pitch Deck](#)

2025 Advancing Climate Solutions Report

- **SME:** Loan Tran (CSP)
- [2025 Advancing Climate Solutions Progress Report](#) (pp. 13-22 Growing Low Carbon Solutions)

2025 Sustainability Report

- **SME:** Kate Gilbert (GO&S)
- [2025 Sustainability Report](#) (April '25)
- [Supporting a Just Transition](#) (April '25)
- [2024 Investing in people report](#) (February '25)

2025 ExxonMobil Global Outlook

- **SME:** Nicholas Austin (CSP)
- [2025 Global Outlook](#)