

Anne Bradbury
President and CEO of the American Exploration & Production Council
Congressional Testimony

House Energy and Commerce Committee
Energy, Climate, and Grid Security Subcommittee

December 5, 2023

Hearing:
“America’s Future: Leading a New Era of
Energy Dominance, Security, and Environmental Stewardship”

Industry’s Leading Role

Chairman Duncan, Ranking Member DeGette, and distinguished members of the committee:

Thank you for the invitation to speak here today on behalf of the American Exploration & Production Council (AXPC).

AXPC’s member companies represent the leading independent producers of oil and natural gas, who brought this country from a place of energy scarcity to energy abundance, shepherding in the last decade of American energy leadership on the global stage. Our 34 members are responsible for over half of all domestic production.

Put another way, we represent the innovators, the scientists, and the workers who sustain America’s energy advantage, which translates to an economic and a security advantage for our nation.

You’ve chosen an important topic for today’s hearing: How can America, building on our past energy achievements, lead a new era of energy dominance, security, and environmental stewardship?

I would suggest we are well-poised to do so. Our nation already has the incredible strategic advantage of an abundance of the natural resources, the human resources, the innovation, the know-how, and the grit and determination to build that future.

The American oil and natural gas industry looks forward to continuing to play our part in the creation of a cleaner and more secure energy future. It’s not a small part. It’s a leading role.

We are already leading the way, globally, in the development and deployment of new emissions reduction technologies and innovative approaches—not because Washington instructed us to, but because it is the right thing and the smart thing to do.

In the past decade, we have also dramatically increased the efficiency of our operations. Today companies are able to produce exponentially more from a single location, and do so in less time, with less footprint and less impact on the environment. That's good for everyone—for the producer, the consumer, for the planet, and for the economy.

Improving efficiency and reducing emissions is critically important, in part, because the need for oil and natural gas is not going away, as we've seen from all credible forecasts. The question is not *whether* we will use oil and natural gas, but rather *whose* oil and natural gas will we be using? And how clean will it be?

Will America be self-reliant and energy secure, or will we be under the thumb and held to the whims of other nations? Will America—one of the world's cleanest producers of fossil fuels—help supply the world's continually growing need for energy? Or will we leave that to Russia, Iran, Venezuela, and others?

These are environmental questions, security questions, economic questions, and strategic questions. Climate policy, energy policy, and foreign policy are inextricably linked. I applaud you for tackling these issues, and I thank you for the opportunity to share our industry's perspective.

Two Commonly Overlooked Variables

In order to answer the questions before us, it is important to understand all of the variables in the complex energy and emissions equation. Many in the media and the public tend to focus on the *supply* of energy – such as renewables, coal, nuclear, or oil and natural gas. It feels like a simple solution to simply target the elimination of “dirty” supplies of energy.

But our energy systems are more complicated than supply alone. Equally vital are two other often overlooked variables: demand and emission sources.

I will start with demand. Global demand for energy is skyrocketing. Since 2000, it has grown by a staggering 46%.

If you are one of the lucky ones who live in the United States with domestic and affordable energy readily available to you every day, you may have never considered the struggles of the almost 7 billion people on the planet who still live without this luxury.

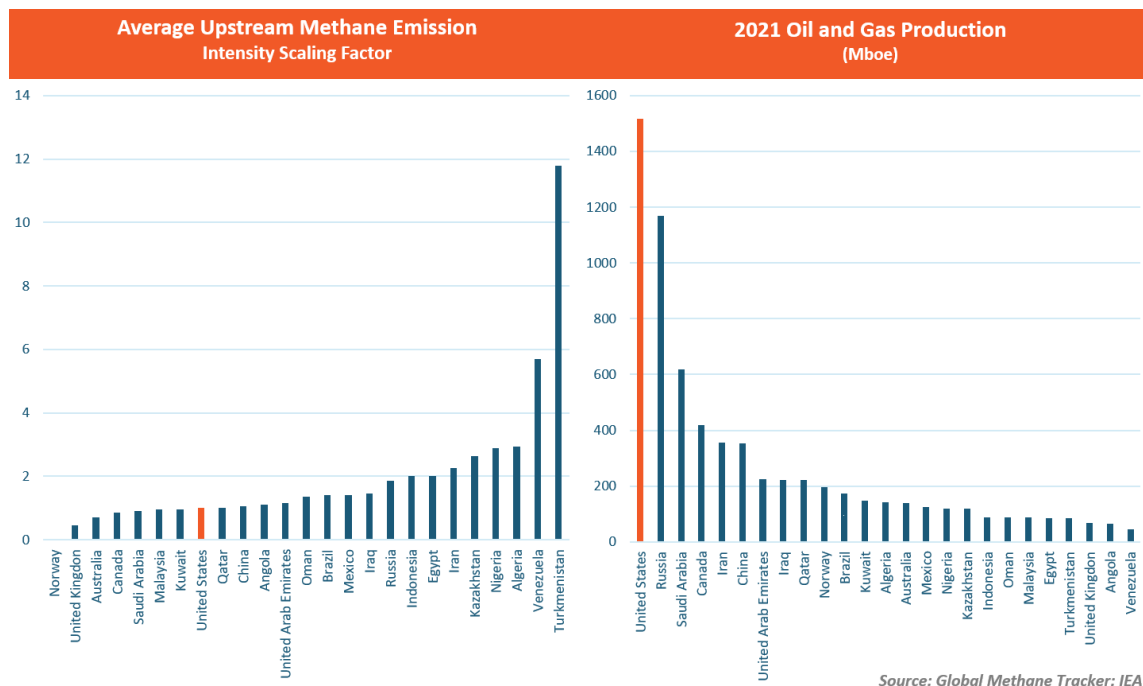
Access to reliable, secure, accessible, safe energy is the number one indicator of human progress. We can expect that the emerging economies in Asia, Africa, and South America will lay out policies, programs, and energy development to accelerate the progress of their countries – and while we may hope that these energy needs are all met by carbon-free options, the reality is that those options cannot yet compete at scale or cost, and they cannot keep pace with the incredible growth of these economies.

Projected increases in demand from these places dwarf forecasted capacity additions we have seen from newer forms of energy. For example – renewable energy has dramatically increased since the turn of the century – almost tripling in generation capacity since 2000. But this incredible increase in renewable energy doesn’t even account for a quarter of the increase in demand that has occurred in the same time period.¹

This is why the International Energy Agency’s (IEA) most recent Stated Policies Scenarios, which models climate policies and energy demand projections from around the globe, projects that demand for oil and natural gas will peak in 2030 but will stay high well beyond mid-century.²

In a world where demand for energy is only going up, and this demand for 24/7 energy cannot be met by renewables alone, we must ask ourselves: How can this growing demand be met by the cleanest, most affordable, and most reliable sources of energy?

If the world gets that fuel from Russia, China, Venezuela, Iran, or other nations, it will be far less environmentally friendly than if they get it from us. America is one of the world’s cleanest producers of fossil fuels by far, especially at scale.



natural gas than all seven of those countries combined. If the U.S. winds down production, another country will fill the supply gap – and likely with a much higher emissions intensity. Growing global demand will be met by someone, we must decide whether it will be with our resources or our adversaries. The U.S. contribution is arguably the best supply of responsible energy available today at the scale required to meet global demand.

This is why providing these resources is an environmental, economic, and security opportunity for America. We must lead the way in producing and exporting clean oil and natural gas, and also the technologies that make it possible.

After demand, the second variable often overlooked in the energy/emissions equation is the *source* of the emissions.

If you were to ask people on the street where the majority of emissions come from, many would likely say from cars. In reality, cars and light trucks account for only 10% of energy-related CO₂ emissions. Instead, more than 80% of emissions come from commercial transportation, heavy industry, and power generation.

These sectors have something in common – they are very difficult to decarbonize. The recent advances that have been made in wind and solar are outstanding, but they aren't going to power commercial airplanes or freight ships anytime soon.

To meet the world's energy needs in an ever-cleaner way, we need to consider a broader set of solutions than most sustainability advocates are currently discussing. I'll speak more about those solutions and how our industry is contributing to them in a moment.

The other reality about emissions sources is their global nature. America is responsible for less than 15% of global emissions⁴ and both our total emissions and our share of global emissions are decreasing- mostly thanks to the vast amounts of natural gas the Shale Revolution unlocked. China and India alone are responsible for over a third of all global emissions—and that is increasing. Energy is a global commodity, and emissions are a global problem, and it is critical policies recognize the interconnectedness of both.

If we want to make a difference, we need to work together to satisfy global demand with cleaner fuel sources that are affordable and abundantly available.

Innovation for a Cleaner Future

Given the fact that oil and natural gas will remain an integral part of a global energy future, it is also imperative that we must continue to innovate to drive down emissions from these products. On that front, our industry excels. The pace and scale of innovations to reduce emissions happening in the U.S. are unparalleled at any other time in history, and our industry is driving these innovations.

⁴ <https://www.iea.org/data-and-statistics/data-product/global-energy-review-co2-emissions-in-2021#co2-emission-in-2021>

The U.S. oil and natural gas industry is one of the most high-tech industries in the world and thrives on a culture of chasing continuous improvement and tackling the unknown.

Whether it is discovering new frontiers like the Shale Revolution, developing longer laterals to increase efficiency while minimizing surface impacts, or centralizing water infrastructure to enable reuse and recycling, the engineering and technology advancements we've championed are responsible for the vast amounts of energy that have underpinned the American economy and quality of life. And, more recently has helped the U.S. lead the world in reducing greenhouse gas emissions.

The same innovation that made America the global leader in oil and natural gas production is now leading the way in developing and deploying critical advances in emissions reduction technologies, from the wellhead to the end user. The reality is that the U.S. oil and natural gas industry has been, and likely will be, the primary investor in the development and commercial deployment of many new emissions reducing technologies.

Every single climate model has made clear that new technologies will be needed to meet global climate goals. Today's U.S. oil and natural gas companies have the expertise, experience, business model, and capabilities needed to develop these conceptual solutions and bring them to the world at scale. If the desire to demonstrate climate leadership results in trying to stifle oil and gas producers, it will also stifle the U.S.'s role in innovation that can continue to lead the way in showing the world the technologies that can be used in driving down emissions.

The first step in reducing emissions is being aware of where they come from. Effective reduction strategies require an understanding down to the level of equipment and operating practices. To meet this need, the United States built one of the most sophisticated and transparent emissions accounting systems in the world.

This step enabled and fueled an ecosystem dedicated to studying emissions – exploring methods for monitoring, detection, and repair. As a consequence, the U.S. became a unique test bed to evaluate methods for emissions accounting and try to understand how to better reconcile observations with estimations to improve the accuracy of our emissions inventories.

Concurrently, while industry recognized the need to be able to rapidly detect and mitigate emissions across the supply chain, industry yet again met the moment through innovation. A decade ago, the available technology and approaches to do this were inefficient and costly. So, to increase the options and drive down the emissions intensity of U.S. production, innovators in industry developed new methods of emissions detection and mitigation well ahead of the rest of the world.

This included innovations such as fixed sensors, lasers, or specialized cameras mounted to drones, aircraft, and satellites; all of which are enabling companies today to monitor emissions over broader areas, finding bigger leaks faster so they can be eliminated. As a result, while producing less than 20% of global production, North America is projected to account for nearly 60% of the advanced methane detection market by mid-century,

largely driven by companies operating here.⁵ The majority of the world still lacks a comparable ecosystem of cost-effective detection and measurement technologies.

Methane Measurement

The U.S. industry is now racing to develop technology and techniques to better measure methane emissions. We are all persistently driving towards the goal of generating the most accurate greenhouse gas (GHG) inventory possible, as it serves not only to inform the industry's stakeholders, but also to inform our best opportunities for further emission mitigation. However, there is no "silver bullet" technology to quantify emissions.

The complexity and diversity of oil and natural gas facilities call for an equally complex and diverse set of measurement solutions, and it is critical to understand that the cocktail of solutions is not one-size-fits-all. Each technique has its limits and range of accuracy, and it is our goal to narrow those error bars as tightly as possible as we develop new ways to measure emissions under a variety of conditions.

It is also important to note that no technology readily available today is capable of generating a precise accounting of *annual* methane emissions for *an entire site*. This is for several reasons. One, most sources at oil and natural gas facilities are very small and occur infrequently. And two, many of the emergent technologies take measurements over short timescales, from seconds to minutes. You have to then deduce from these snapshots in time what they could add up to over a longer period of time. Still, these techniques, especially when combined with operational knowledge, can help improve the accuracy of emissions accounting. This is why we have supported the notion that regulations should allow industry to utilize empirical data sources where such data is available.

Continued progress is going to require a combination of many technologies and industry practices, and the landscape is consistently and rapidly evolving. Policymakers must strive for policies and regulations that allow for industry to continue to innovate and improve.

Unfortunately, the Administration's newest methane regulations released this past weekend will instead disincentivize the use of many of these advances in technology and approaches in favor of the older, less efficient approaches. The rules *appear* to be creating a pathway to technology adoption, but in reality, the criteria for being able to use these emerging screening technologies are so unrealistically and unnecessarily stringent that it effectively precludes the business case for using them to satisfy monitoring obligations.

The consequences of this missed opportunity will be a chilling effect on the broader deployment of these technologies and further investments to improve upon them. Broad support to have this rule embrace these new technologies and incentivize greater use came from stakeholders on all sides. This is an area where I would encourage the

⁵ https://www.jpmorgan.com/content/dam/jpm/cib/complex/content/redesign-custom-builds/carbon-compass/JPMC_methane.pdf

Environmental Protection Agency (EPA) to be open to reconsideration and for policymakers to support that option.

Frustratingly, the rule creates a pathway for third parties to use those same technologies to remotely monitor our facilities, but at the same time they are making it burdensome for us to be able to utilize them at our sites for compliance.

And finally, in the current proposed Subpart W revisions to the greenhouse gas reporting rule, that are meant to provide for more accurate reporting and be the basis of assessing the newly created methane fees, EPA piled on.

These provisions EPA has proposed will lead to overestimates and double counting of emissions, undermining efforts to improve the accuracy of the inventory and ultimately be counterproductive to the goal of incentivizing greater emissions reduction.

It is to everyone's best interest to have an emissions inventory that is the most accurate it can be with the current available technology, which is why we need to avoid regulations that lead to an artificially inflated inventory of emissions, which ultimately undermines American energy on the global stage.

For a similar reason, this is why we originally opposed the methane tax when it was being considered in Congress. We believe there are more efficient ways to reduce methane than a tax on the industry, in part because it reduces the funds a company has on hand to invest in these technologies to accelerate emission reduction. And taxing the U.S. industry, who is already leading the world with the lowest methane intensity at scale, only further disadvantages American energy competitiveness in worldwide market.

Now combined with the revisions of Subpart W – which are on a track to artificially inflate emissions for a larger number of producers – the impact of the methane fee regulation will be that even leading companies who are going above and beyond methane regulations will be taxed – not because their emissions have gone up, but because EPA has changed the underlying math. This is not at all the scope of what Congress intended.

The U.S. oil and natural gas industry is the most capable of creating and advancing these technologies and innovative approaches, and we need a regulatory system that allows for, and incentivizes, that continued progress.

CCUS, Geothermal, and Hydrogen

American oil and natural gas companies are not stopping at looking for ways to reduce emissions from within our operations. The resources and skills of this industry are likely going to be essential to tackle emissions from some of the hardest-to-abate sectors. This includes the development of carbon capture storage and utilization (CCUS), low-carbon hydrogen, geothermal, and others. Scaling up these technologies and driving down their costs will rely on a scale of engineering, capital, and project management capabilities that match those of large oil and natural gas companies. We are also looking on the horizon at what more is needed, and how U.S. oil and natural gas companies can, and likely will, play a role.

I'd like to offer three examples of technologies our industry is investing in today.

First is carbon sequestration—the process of capturing carbon dioxide (CO₂) either before or after it is emitted into the atmosphere and storing it safely. As the world moves toward a lower-carbon energy system, the United States is uniquely positioned to lead widespread CCUS deployment because of our expertise, capability, infrastructure, and natural resources.

Going forward, widespread CCUS deployment is vital to satisfying the world's growing demand for energy, while meeting the goals of climate progress.

The U.S. Department of Energy's (DOE) non-partisan National Petroleum Council (NPC) found that “widespread CCUS deployment is essential to meeting the dual challenge of climate and affordable energy at the lowest cost.” Currently, however, the process is expensive, and these technologies face multiple impediments to scale.

U.S. oil and natural gas companies are investing billions to try and overcome those challenges. But to achieve CCUS deployment at scale before 2050, the U.S. will need substantially increased support from both the public and policymakers, including for projects being developed in conjunction with oil and natural gas. This includes making timely decisions on state primacy applications and ensuring that regulators have the resources needed for a qualified, efficient permitting framework that also allows proponents to choose the best approach for their business, avoiding prescriptive directives.

Second, our industry is a premier investor in hydrogen technologies. One of the many benefits of using hydrogen is that it produces zero emissions at the point of use. Hydrogen is also a versatile, clean, and safe energy carrier that can be used to power vehicles, generate electricity, power industry, and heat our homes and businesses. It can be produced from America's affordable, abundant, low-emission natural gas and, when paired with CCUS technology, meet clean energy standards that advance us toward a lower-carbon future.

Even more critical, though, is the role hydrogen from natural gas can play in reducing the carbon footprint of hard-to-abate industries such as steel production, ammonia production, and aviation. The affordability of natural gas as a feedstock for hydrogen production provides an accessible option for industries to take steps today toward real emissions reduction – and at a price point that will enable their business to transition without passing exorbitant expenses to their downstream customers, further impacting our fragile economy.

But for hydrogen to achieve its potential, there are technological challenges that need to be surmounted, including the buildout of production, storage, and pure hydrogen distribution infrastructure. We're helping to drive that innovation forward.

Third, we are investing in geothermal energy. Geothermal power plants typically tap into subsurface reservoirs of hot water or steam to produce electricity through turbines and generators.

The potential of geothermal energy to lower emissions is substantial. Geothermal energy produces minimal greenhouse gas emissions and can provide a continuous and reliable source of power, making it a valuable contributor to a low-carbon energy mix. And it is yet another solution that will require leveraging the knowledge, technology, skill, and experience of the oil and natural gas sector to tackle the barriers to geothermal deployment.

In some cases, geothermal opportunities are quite literally entwined with oil and natural gas development and made possible because of processes like hydraulic fracturing, often commonly referred to as “fracking”. According to the DOE’s Geothermal Technologies Office (GTO), “a key step to unlocking the full potential of geothermal—one of the cleanest and most dependable forms of renewable energy—may lie inside millions of American oil and natural gas wells.”⁶

This is because geothermal requires advanced drilling and completion techniques as well as breakthrough technologies for efficiently converting geothermal heat into electricity, among other innovations. There are even co-production possibilities being explored in existing oil and natural gas basins. We’re investing in solving many of those challenges.

American Energy: A Force for Good in the World

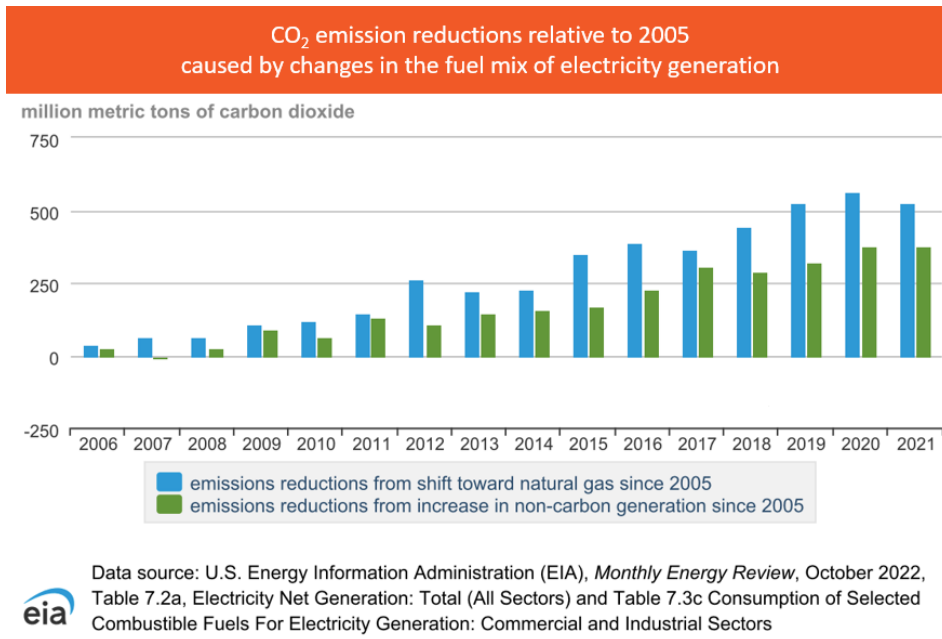
The critical role of U.S. LNG

These emerging fuel technologies are exciting, but we should not overlook the incredible impact our industry is having today in lowering emissions and making the world a safer place.

The fact is that natural gas is responsible for the majority of our country’s emission reductions since 2005. The historic reductions in U.S. greenhouse gas emissions over the last decade have been driven by the emergence of U.S. natural gas production as a low cost, low emissions source of reliable energy. The Energy Information Agency (EIA) estimates that the majority (58%) of all emission reductions since 2005 were due to increased natural gas electricity generation.⁷

⁶ <https://www.energy.gov/eere/geothermal/wells-opportunity#:~:text=Co%2Dproduction%20creates%20geothermal%20energy,that%20heat%20to%20generate%20electricity.>

⁷ <https://www.eia.gov/environment/emissions/carbon/archive/2021/>



Natural gas, made plentiful by the Shale Revolution, liquefied and exported around the globe, may be one of the greatest environmental breakthroughs of the last century. Over 85% of global emissions come from sources outside of the United States, the largest of which is international coal.⁸ Greenhouse gas emissions do not have borders. If we want to help make a dent in global emissions, exporting U.S. LNG should be a top priority.

Unfortunately, under this administration, the U.S. Department of Energy reviews for liquefied natural gas export permits have lengthened to an average 500 days or more,⁹ locking American companies and much-needed energy resources in a

All Forms of American Energy Need Permitting Reform

For traditional energy, renewable energy, and the energy systems of the future, a critical piece of the puzzle will be building the infrastructure needed to keep up with today's energy demand while meeting growing demand in an ever-cleaner way. Policymakers on both sides of aisle have recognized the need to incentivize new resilient American infrastructure and clean energy technologies. But there is increasing recognition that this progress will not be achievable without meaningful permit reform. The process is too complicated, takes too long, and allows for endless lawsuits.

According to a recent study at Stanford, pipelines, transmission, and wind energy projects face high rates of these challenges, and solar energy projects actually face the highest,

⁸ <https://www.iea.org/data-and-statistics/data-product/global-energy-review-co2-emissions-in-2021#co2-emission-in-2021>

⁹ <https://www.reuters.com/business/energy/us-reviews-gas-export-permits-slow-under-biden-administration-2023-10-30/>

with nearly two-thirds of them facing National Environmental Policy Act (NEPA) litigation.¹⁰

Unfortunately, new regulations by this administration to revise NEPA are taking us in the wrong direction. They would add even more subjective permitting requirements and lead to more litigation and delay.

Without further action from Congress to reverse the slow and uncertain permitting process that discourages private sector investment, the U.S. will not meet its energy or climate goals.

U.S. National Security

As this committee well knows, climate isn't the only domain in which the world stands to benefit from American energy leadership. American-made energy is an enormous security advantage for us and our allies. That's particularly true during this time of geopolitical chaos.

The Obama administration recognized the importance of America's energy leadership in their 2015 National Security Strategy, saying "America's energy revival is not only good for growth, it also offers new buffers against the coercive use of energy" by other nations. It went on to recognize "the need for an expanded view of energy security that recognizes the collective needs of the United States, our allies, and trading partners as well as the importance of competitive energy markets."

When Russia invaded Ukraine and held Europe's energy supply hostage, the United States stepped in to provide the resources our allies needed. The U.S. more than doubled the number of cargoes sent to Europe last year, becoming the single largest source of LNG to Europe and overtaking Russia as the largest supplier of natural gas to Europe—a feat that never could have been possible without the Shale Revolution.

Now, the world faces a new war. So far, the conflict in Israel and Gaza remains contained, as does its impact on global energy markets. But the risks are high, and hoping for the best is not a strategy. We've seen the risks play out before, such as back in the 1970s, a time with eerie similarities to today.

In 1973, war broke out in Israel and the U.S. rushed to its aid—prompting OPEC to retaliate by blocking all oil exports to the United States. Prices soared. Gasoline lines stretched for blocks. It was a wakeup call for both parties.

It led to the creation of the DOE, and a decades-long stretch in which every president of every party—in their own way—invested in U.S. energy capabilities of all potential forms of energy—a contrast to many of the policies we see today.

¹⁰ Bennon, Michael and Wilson, Devon, NEPA Litigation Over Large Energy and Transport Infrastructure Projects (October 2, 2023). Environmental Law Reporter, Available at SSRN: <https://ssrn.com/abstract=4498938>

Climate policy, energy policy, and foreign policy are inextricably linked, and we must work collectively to make sure that we get each right. America's independent oil and natural gas producers have critical expertise to contribute to the national conversation about reducing emissions and meeting American, and global, energy demands.

American-made energy is an essential part of the solution to meeting U.S. climate, economic, and geopolitical goals, and we need policies that support continued American energy dominance.

The American Exploration & Production Council and our members join you in a commitment to strengthening America's energy security and environmental leadership. We've been hard at work on that mission for years, and we've only just begun.

I look forward to your questions.

###