



# Investor Guidance on EPA Proposed Standards for Oil and Natural Gas Methane Emissions

**ESG BY EDF: INVESTOR INSIGHTS FOR A LOW-CARBON WORLD**

*ESG By EDF is a suite of investor-oriented research products providing insights on transition issues in carbon-intensive sectors informed by EDF expertise in science, policy and industry.*



## Highlights

- **New EPA rules would significantly reduce methane emissions from oil and gas facilities.** The proposed rules, open for public comment now through January 31<sup>st</sup>, would tighten emissions requirements for new facilities and set emission limits for older facilities.
- **The proposal is supported by a wide range of stakeholders.** Diverse oil and gas companies, trade associations, investors, public health organizations, and environmental groups support the rule.
- **Addressing methane is the “low-hanging fruit” to improve climate performance for the oil and gas industry.** EPA estimates that in 2030, the proposed rule would reduce methane emissions from covered sources by 74 percent compared with 2005 levels. Compliance costs are estimated at \$0.10 per barrel annually.
- **Investors should comment in support of the proposal.** By providing supportive feedback, investors can strengthen the foundations of the rule in a manner that increases regulatory certainty.
- **The final rule should go further on three key points.** The proposal misses significant emissions-reduction opportunities to address leaks from small wells, eliminate routine natural gas flaring, and improve emissions data collection.

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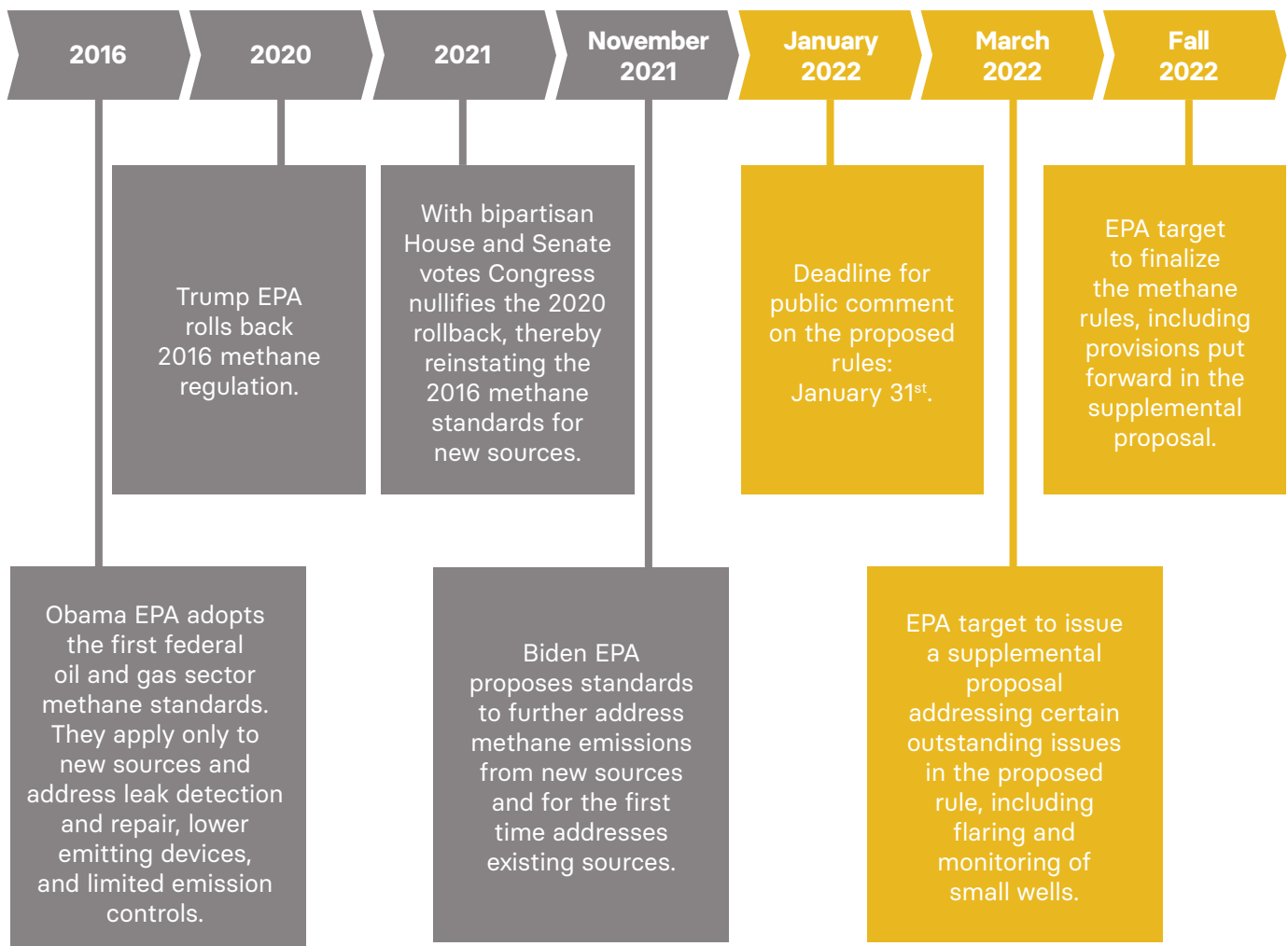
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# Introduction

In early November, the U.S. Environmental Protection Agency released proposed rules to reduce methane and other harmful air pollution from both new and existing sources in the oil and natural gas industry. The regulations would update the emission performance standards for newly built wells and, for the first time, extend regulation to nearly one million older wells by directing states to develop mitigation plans for existing sources based on EPA's emission guidelines.

The proposed rules would cost-effectively raise the bar on environmental performance for all operators and help to address one of the most environmentally damaging aspects of oil and gas production – methane emissions. Investors should seize the opportunity to support these proposals and advocate in favor of key aspects that should be further strengthened.



# Why Methane Matters for Investors

Methane, the main component of natural gas, is a potent climate pollutant more than 80 times more powerful than CO<sub>2</sub>. Human-caused methane emissions are responsible for at least 25% of the warming we are experiencing today. Cutting global methane emissions is increasingly a focus of national, corporate and investor strategies to reach net zero targets.

- **Global competitiveness:** At the recently-concluded COP26 in Glasgow, more than 100 countries, including the U.S. and other top natural gas producers and buyers, signed onto the [Global Methane Pledge](#) – a commitment to reduce methane emissions 30 percent by 2030. Many energy companies have established climate action plans that require methane emission reductions. With both the supply and demand sides of the market adopting methane reduction targets, oil and gas operators that do not address methane risk falling behind their peers.
- **Export market risk:** U.S. natural gas exports could face escalating regulatory and market risks as the European Union and other regions signal demand for cleaner energy. As a case in point, in October 2020, the French government blocked a multibillion-dollar LNG supply deal between the utility Engie and project developer NextDecade because of concerns about flaring and methane emissions from US oil and gas production in the Permian Basin.
- **Level playing field:** Federal methane regulations provide consistency and certainty across the thousands of individual U.S. producers. For environmental leaders, more protective industry-wide standards prevent competitors from benefiting financially from delaying investments in methane control.
- **Portfolio-wide climate impacts:** For the growing number of net-zero-committed investors and lenders, methane policy offers among the most [immediate](#) and [cost-effective](#) opportunity to reduce the climate rate of warming now. Supporting national-level policies such as the proposed EPA rule is a cost-effective means to reduce portfolio emissions and to create space for sectors that are more difficult to decarbonize, like steel, chemicals and cement. Notably, EPA estimates the rules will only cost \$2-\$3 per ton of CO<sub>2</sub>e abated from 2026-2035.<sup>1</sup>
- **A broadly supported, low-cost climate opportunity.** EPA estimates that the net cost of the rules to industry would range from \$750 million to \$1.2 billion on an annualized basis over the time period from 2026-2035, amounting to around \$0.10 per barrel of oil equivalent annually. EPA further estimates that net compliance costs would only account for 0.2% of industry revenues and capital costs would amount to 0.3% of industry-level capital expenditures.<sup>2</sup> [Environmental groups](#), [public health experts](#), [members of the oil and gas industry](#) and [investors](#) representing more than \$5 trillion in assets under management, have made public statements of support for federal methane regulations.<sup>3</sup>

<sup>1</sup> EDF analysis; EPA, Regulatory Impact Analysis for the Proposed Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, Table 2-9 and 2-6 (October 2021)

<sup>2</sup> Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, 86 Fed. Reg. 63,110, 63,157 (Proposed Nov. 15, 2021).

<sup>3</sup> See appendix.

# Overview of the Proposed Rule

Current federal standards do not address methane leakage from facilities built before 2015, so the EPA proposal is a significant improvement in coverage that the agency estimates will slash 41 million tons of methane pollution cumulatively by 2035.<sup>4</sup> On an annualized basis, in 2030 the rules are [expected to result](#) in a 74% reduction in methane emissions below 2005 levels from sources covered by the rule.<sup>5</sup>

The agency is proposing to build on approaches in use at the state level and leverage new technology developments. The standards would cover newly built and existing facilities under separate but largely parallel frameworks, requiring the use of certain zero-emission technologies and regular monitoring for leaks.

EPA has highlighted certain issues as requiring further consideration, most notably natural gas flaring and monitoring at smaller but still high emitting well sites. EPA has said it will address those through a supplemental proposal in March 2022 that will also offer a public comment period. It is critical that those issues are addressed in a manner that helps to deliver significant emissions reductions before the rule is finalized.



<sup>4</sup> EPA, Regulatory Impact Analysis for the Proposed Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, Table 1-3 (October 2021)

<sup>5</sup> Some types of oil and gas wells are exempted from coverage in the current proposal, see the “Opportunities to Strengthen the Proposed Regulations” section below for more.

# Key Features of the Proposal

EPA's current proposal includes highly impactful provisions that will:

## 1. Deploy zero-emitting pneumatic controllers

### Overview

Building on regulations used in [Colorado](#) and [New Mexico](#), EPA's proposal requires the use of non-polluting pneumatic controllers. Pneumatic controllers, which use gas pressure to control or power mechanical devices in the field, can release methane into the atmosphere through the course of their normal operation. Replacing these with electrical or air-powered devices can [eliminate these emissions](#). Leading operators including [EQT](#), [Diamondback](#) and [Jonah Energy](#), are in the midst of transitioning their controllers and have committed to completing that process over the next few years.

### Emissions Reduction Potential

Pneumatic controllers are estimated to be one of the largest sources of methane emissions but can be replaced cost-effectively with readily available zero-emitting technologies. EPA estimates that the transition to zero-emitting controllers as proposed will decrease methane emissions by [19 million tons by 2035](#), the climate equivalent of taking over 300 million cars off the road for a year.

## 2. Strengthen leak monitoring and repair and enable advanced screening

### Overview

Seizing on recent technology developments, the EPA is proposing to allow operators to survey sites using advanced screening methods [already widely in use by the industry](#). Under the proposal, operators could opt in to using advanced technologies — including aerial and potentially continuous sensor-based monitoring — to screen for leaks rather than relying solely on traditional ground-based hand-held camera approaches.

### Emissions Reduction Potential

Advanced leak detection methods are highly cost-effective, allowing surveys across broad areas to quickly detect so-called "super-emitters" – a small number of large leaks that are responsible for an outsized share of emissions. Operators have testified to EPA that fugitive emissions can be reduced at a given site by [80-90% using advanced screening methods](#). EDF estimates that fugitive emissions can account for up to two thirds of well-site emissions across the U.S.

# Opportunities to Further Strengthen the Proposed Regulations

While the current proposal is an important step forward, there are key opportunities to further strengthen certain provisions, some of which EPA has committed to addressing in a supplemental proposal. EDF supports expanding the proposed rules to include the following additional components:

## 1. Regular monitoring at potentially significant sources of methane emissions, including smaller wells

### Overview

Hundreds of thousands of wells across the country generate just a trickle of salable product. Despite their low production volumes, these smaller wells can be disproportionately large emitters of methane. In the Permian Basin, the nation's largest oil field, [nearly half of observable production site methane emissions](#) are from such small well sites. Research from around the country has found similarly outsized [emissions profiles](#) from small wells. Leading states like New Mexico and Colorado are in the process of finalizing leak inspection regimes that ensure all wells receive frequent checks for problems.

Lack of federal oversight has [enabled companies](#) to keep these small, often declining, wells emitting pollution for years beyond their useful lives and contributing to the [orphan well problem](#). Most of these companies are not small “mom and pop” operations—[EDF analysis](#) shows that more than 3/4 of these small wells are owned by companies that operate more than 100 wells.

### Emissions Reduction Potential

By not requiring regular monitoring at these small wells, EPA's proposal as currently drafted would exempt a significant percentage of active wells in the U.S., as well as an important percentage of emissions, from regular monitoring. Instead, these facilities would only be required to undergo a one-time survey, meaning subsequent malfunctions could go permanently undetected. EPA has recognized the importance of this issue and is seeking comment on how to ensure all high-polluting sites are subject to regular monitoring.<sup>7</sup>

## 2. End the practice of routine natural gas flaring

### Overview

Flaring is a wasteful practice that is [widespread across U.S. oil and gas operations](#), and drives significant emissions of methane, carbon dioxide, and other health-harming pollutants. It is also a flagrant waste of energy resources and a highly visible reputational “black eye” for the industry.

<sup>7</sup> EPA, Technical Support Document for the Proposed Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review, Table 2-4 (October 2021)

[AllianceBernstein](#), [CalSTRS](#) and [Legal & General Investment Management](#) have endorsed ending routine flaring in Texas, while Blackrock has called for nearly eliminating flaring by 2025. A number of U.S. operators including [Apache](#), [Shell](#) and [EOG](#) have similarly committed to eliminating routine flaring, while companies like bp have pledged to not drill a well in Texas without gas gathering in place. Leading states like Colorado and New Mexico have already moved to ban flaring except in emergency situations.<sup>8</sup> EPA should likewise move to [eliminate routine flaring](#), ensuring well operators maximize gas capture wherever possible.<sup>9</sup>

## Emissions Reduction Potential

EDF surveys covering over a thousand flare stacks in the Permian basin, the largest oil field in the U.S., consistently found approximately 10% of flares surveyed to be either entirely unlit (venting methane directly into the atmosphere) or burning only part of the gas they were releasing, making flaring one of the [largest sources of methane emissions in the basin](#).

However in an analysis commissioned by EDF, [Rystad Energy](#) found that 84% of routine flaring volumes – accounting for around 40% of all flares – in the Texas Permian could be mitigated without cost. EPA action to address routine flaring can be a cost-effective first step to address flaring uniformly across the U.S., including high flaring states such as Texas and North Dakota where no meaningful limits on routine flaring are in place.

## 3. A transparent, credible and empirically based methane emissions reporting framework

### Overview

Comprehensive field studies have shown that EPA's current methodology, which relies largely on emissions factors for estimating methane, undercounts emissions from U.S. oil and gas operations by [60% or more](#). In certain basins, studies have found emission rates to be [3 times higher than EPA's national average](#).

By moving to an empirically founded, measurement-based approach EPA can improve the accuracy and the credibility of reported methane emissions data, enabling investors to clearly differentiate between leaders and laggards and allowing operators to more effectively target emissions. Initiatives such as the [Oil and Gas Methane Partnership](#), which will inform the design of methane policy under consideration in the European Union, could provide a model for EPA to follow.

<sup>8</sup> For an overview of U.S. flaring policies, see page 25 "The Burning Question: How to Fix Flaring." EDF, Oct 2021. <https://business.edf.org/files/The-Burning-Question-How-to-Fix-Flaring.pdf#page=25>

<sup>9</sup> For discussion of flaring reduction policies, see page 29 "The Burning Question: How to Fix Flaring." EDF, Oct 2021. <https://business.edf.org/files/The-Burning-Question-How-to-Fix-Flaring.pdf#page=29>



# Public Comment Process

The EPA proposal is open for public comment through January 31<sup>st</sup>, including submissions in writing and via a [public hearing](#) on November 30<sup>th</sup> through December 2<sup>nd</sup>.

EDF encourages investors and other members of the financial industry indicate their support for strong methane emission performance standards by urging EPA to swiftly move forward with final regulation that:

- Maintains strong provisions for the deployment of zero-emitting pneumatic controllers
- Maintains or expands strong leak monitoring and repair standards, including through expanded use of advanced leak detection technologies
- Includes all potentially significant sources of methane emissions, including smaller leak prone wells, under emission standards
- End the routine flaring of natural gas
- Establishes a transparent, credible, and empirically based methane emissions reporting framework

EPA's overview of how to comment on the rule can be found [here](#). The regulatory docket, including submitted public comments, can be found [here](#).

## Further Reading

- [The Burning Question: How to Fix Flaring](#) - A review of the flaring performance of 20 major oil and gas companies and presents recommendations for investors and other stakeholders to reduce the associated environmental, social and financial risks.
- [OGMP Investor Guide](#) - Guidance from EDF and UNEP on the Oil and Gas Methane Partnership (OGMP), a first-of-its-kind reporting framework designed to improve the clarity and credibility of oil and gas industry methane emissions data.
- [Emission Omission](#) - Shareholder engagement guidance from EDF and Rockefeller Asset Management highlighting investment risks from a vast portfolio of oil and gas production assets, which have largely been excluded from ESG oversight because they are operated by third parties.
- [Private Equity Methane Solutions Site](#) - EDF's landing page for private equity and operators offering tools, resources, and readings on methane management.
- [Methane Action at National Oil Companies](#) - Research from Carbon Limits examining the essential role of NOCs to accelerate global methane reductions.

# Appendix: Select Investor and Industry Statements of Support for Federal Methane Regulation

## Investors

### ICCR and Ceres Coordinated Joint Statement with \$5 trillion in assets under management

“To help meet the goals of the Paris Climate Agreement, we [...] call on the Biden administration to rapidly advance methane regulations for the U.S. oil and gas sector. [...]By taking action on methane emissions, government can achieve valuable greenhouse gas reductions while helping American industry become cleaner and more competitive.”

[Ceres and ICCR, 5/13/21](#)

## Legal & General

“In the absence of industry-wide action, we investors must also speak up in favor of policies that will drive emissions reductions. Engaging directly with governments — participating in policy and regulatory discussions — is the next step, and COP26 and the EPA’s methane public comment period are two timely venues where the investment community should make its case.”

[John Hoepfner, Head of U.S. stewardship and sustainable investing, LGIM America, 11/3/21](#)

## Majors

### bp

“We applaud the @EPA for developing new rules aimed at strengthening methane regulations. We’re taking action to drive down emissions by actively improving our methane detection and monitoring program.”

[@bp\\_America, 11/02/21](#)

“Direct federal regulation of methane is key to preventing leaks throughout industry and protecting the environment – and gets us closer to #netzero. That’s why we support the Congressional Review Act methane resolution.”

[@bp\\_America, 4/13/21](#)

“There is a clear business case for [direct federal regulation of methane]. Simply, the more gas we keep in our pipes and equipment, the more we can provide to the market.”

[Houston Chronicle, 3/27/19](#)

## Equinor

"Equinor welcomes @EPA's efforts to develop regulations to further reduce methane emissions. Climate action is needed now more than ever. This proposal wisely addresses natural gas production & will help decarbonization efforts in hard-to-reach sectors of the economy."

[@Equinor\\_NA, 11/02/21](#)

"The EPA has proposed a new rule aimed at reducing #methane emissions, including from the energy industry. This is an important and positive step forward. [...] Equinor has consistently supported the direct regulation of methane at the federal level in the US."

[Chris Golden, SVP, U.S. Upstream, Equinor, 11/02/21](#)

## ExxonMobil

"We support the administration's efforts on methane reductions, and we welcome the @EPA's proposed methane regulations. Looking forward to supporting the Global Methane Pledge and working with U.S., EU and other nations."

[@exxonmobil, 11/02/21](#)

## Shell

"Strong #methaneregulation is essential. I applaud the US Environmental Protection Agency (EPA) leadership for proposing new regulations to tackle methane emissions from existing sources and improve controls on new ones. Shell looks forward to continuing this conversation and providing constructive input toward a comprehensive solutions."

[Gretchen Watkins LinkedIn, 11/02/21](#)

"Sound policy surrounding natural gas is critical to its role in the energy transition. We need to restore the direct federal regulation of #methane emissions—and we urge Congress to approve the methane resolution under the Congressional Review Act."

[@Shell US, 4/7/21](#)

"Our view is that any methane emissions across the industry hurt both the environment and our business. [...] We've complied with [federal methane regulations] for four years and found compliance reasonable. The rule works."

[LinkedIn, 10/2/20](#)

## Total

"Curbing methane emissions with bold policies is imperative to get to #NetZero2050. We welcome direct federal regulation of #methane emissions and support resolution via the Congressional Review Act #cutmethane."

[@TOTALUSA, 4/14/21](#)

"We believe EPA should seize the opportunity to align U.S. regulations with proven, reasonable strategies to reduce methane emissions."

[Total, EPA-HQ-OAR-2017-0757-1825, 11/27/19](#)

## Independents

### ConocoPhillips

"ConocoPhillips has actively supported the direct federal regulation of methane emissions from both new and existing sources and believes that the right regulation can help raise the performance floor for the entire energy industry."

[Conoco Statement, 11/02/21](#)

### Devon Energy

"We believe a meaningful reduction in methane emissions is essential to managing the risks of climate change. While the Congressional Review Act is an extraordinary legislative tool that should be used judiciously and with caution, we support the ongoing effort in Congress to chart a path toward a durable framework for regulating methane at the federal level that encourages innovation and operational flexibility."

[@DevonEnergy, 4/27/21](#)

### EQT Corporation

"We embrace having clear rules of the game. I think it will ultimately bring more trust back to our industry."

[CNBC, Toby Rice, CEO, EQT, 11/5/21](#)

"As an industry leader in reducing methane emissions, we support reinstating NSPS OOOOa as a uniform federal standard."

[@EQTCorp, 4/15/21](#)

### Equitrans Midstream

"Equitrans supports the U.S. oil and gas industry's ongoing efforts to reduce methane emissions and; therefore, respectfully oppose the EPA's proposed rollback of methane regulations."

[Equitrans, EPA-HQ-OAR-2017-0757, 11/22/19](#)

### Jonah Energy

"The regulations are common sense, cost effective and help continue to reduce fugitive methane emissions across the nation."

[Jonah Energy, EPA-HQ-OAR-2017-0757-1825, 12/3/19](#)

"Jonah Energy believes in common sense federal regulation of methane emissions to reduce impacts and achieve climate goals. We support Congressional Review Act measure S.J. Res. 14 (<https://lnkd.in/ebHbACW>) that will reverse prior rulemaking and allow reasonable federal oversight of methane. In fact, we opposed the rollback by the last administration."

[Jonah Energy LinkedIn, April 2021](#)

### Occidental Petroleum

"We support the direct regulation of methane [...] we need to have regulation in place to have adequate controls throughout the industry [...] we support [the resolution to restore the direct regulation of methane.]"

[Vicki Hollub, President and CEO, Oxy, 4/27/21](#)

## Pioneer Natural Resources

"Pioneer does not support EPA's Policy Rule proposal to rescind the methane-specific performance standards for the oil and gas sector. Pioneer supports reasonable federal regulation of methane."

[Pioneer, EPA-HQ-OAR-2017-0757-1125, 11/27/19](#)

## Downstream

### Cheniere

"Finding, measuring and reducing methane emissions across the U.S. natural gas supply chain are vital to ensure that natural gas and LNG continue to help speed the energy transition away from more polluting fuels and towards a lower-carbon world. Federal regulations on methane emissions can drive reductions and ensure that U.S. LNG has verifiably low methane emissions -- something Cheniere supports and has been working to advance."

[Christopher Smith, SVP, Policy, Government, and Public Affairs, Cheniere, 11/02/21](#)

### Austin Energy, Calpine, ConEd, Exelon, National Grid, NW Natural, PG&E, VGS (Joint Comments)

"As companies that deliver natural gas to customers and use natural gas as a fuel source in electric power generation, we have long supported efforts by EPA to ensure meaningful regulation of methane emissions from new and existing oil and gas sources. With effective regulation, natural gas infrastructure can safely, reliably, and affordably deliver natural gas while reducing methane emissions. Strong federal methane regulations are an important component of U.S. efforts to address climate change and protect public health, and can complement and support industry efforts to measure and mitigate methane emissions."

[@MJBandAssoc, 11/02/21](#)

## Trade Associations and Industry Groups

### American Exploration and Production Council

"AXPC companies are focused on reducing methane emissions from their operations and support effective and reasonable regulation of methane"

[Press Release, 1/5/21](#)

### American Gas Association

"Karen Harbert, president of the American Gas Association, which represents some of the country's largest gas utilities, said her group supported new federal regulations. Ms. Harbert [...] called regulation 'the best possible approach' to creating standard rules across the industry."

[The New York Times, 11/02/21](#)

### American Petroleum Institute

"We support the direct regulation of methane from new and existing sources and are committed to building on the progress we have achieved in reducing methane emissions."

[API Statement, 11/02/21](#)

## Center for Liquefied Natural Gas

"The Center for Liquefied Natural Gas (CLNG) and its members support the proposed resolution of disapproval under the Congressional Review Act (CRA) and the reinstatement of regulations of methane emissions from the natural gas sector."

[Charlie Riedl, Executive Director, Center for LNG, 4/27/21](#)

## Edison Electric Institute

"EEI supports Congress using the Congressional Review Act to enable @EPA to develop strong and cost-effective federal regulations on methane emissions throughout the natural gas supply chain for new and existing sources. #CutMethane #Committed2Clean"

[@Edison\\_Electric, 4/26/21](#)

## Interstate Natural Gas Association of America

"We support federal methane standards, including reinstating NSPS OOOOa. [...] A stable regulatory framework will allow the industry to invest in the critical infrastructure necessary to reduce emissions and meet increasing demand for cleaner and more affordable energy."

[Press Release, 3/26/21](#)