METHANE MITIGATION AMERICA

Dissecting the U.S. Methane Regulation Landscape: Key Policies and Future Direction

Exclusive Insights for the Oil and Gas Industry

METHANE MITIGATION SUMMIT SERIES

INDUSTRIAL DECARBONIZATION network

INTRODUCTION

According to a recent report by the National Centers for Environmental Information, July 2024 was the warmest July ever on record globally, with the Earth's surface temperature being 1.21°C (2.18°F) above the 20th-century average of 15.8°C (60.4°F), and 0.03°C (0.05°F) warmer than the previous July record set last year. In 2015, 196 parties at the UN Climate Convention in Paris adopted the Paris Agreement, an international treaty formed to curb global warming. The main tenet of the Paris Agreement is to cap the rise in global average temperatures to below 2°C above levels present before the industrial era.

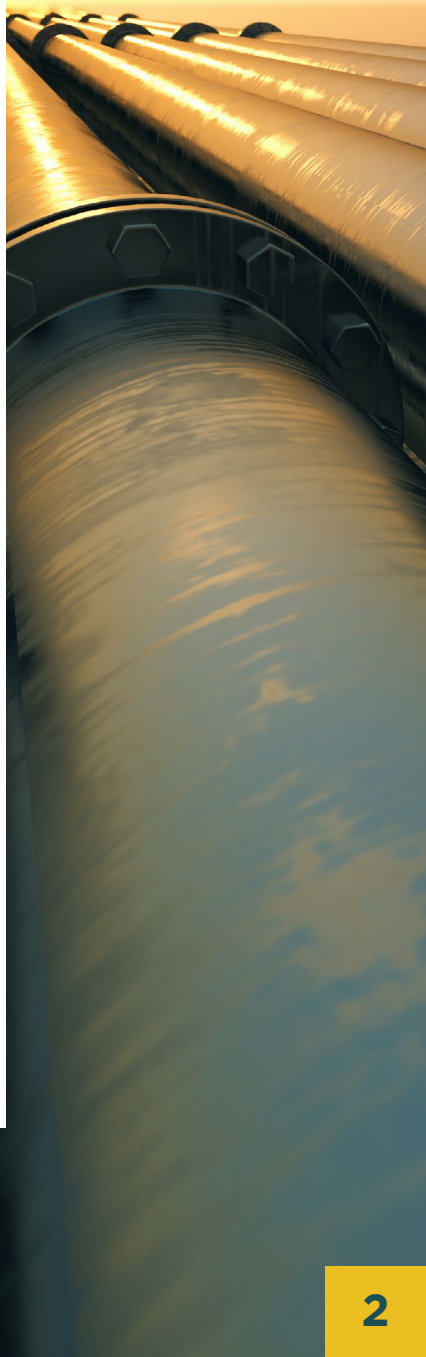
"As the world gathers to tackle the climate crisis, the U.S. now has the most protective methane pollution limits on the books. EPA's limits on oil and gas methane pollution are a vital win for the climate and public health, dramatically reducing warming pollution and providing vital clean air protections to millions of Americans." - Fred Krupp, President of the Environmental Defense Fund

As one of the parties to the Paris Agreement, the U.S. has invested tens of billions of dollars under President Biden's Bipartisan Infrastructure Law and the Inflation Reduction Act (IRA), to enable it to achieve its ambitious NDC. The country's goal is to cut greenhouse gas (GHG) emissions by 50-52% by 2030, as compared to 2005 levels. The U.S. is also driving international participation in methane mitigation as a co-convener of the Global Methane Pledge, which has 150 countries as members. This is especially important as methane is 80 times more potent than carbon dioxide and is responsible for around 33% of the global warming that has impacted American lives in 2023. It is also the second largest cause of global warming.

2023 proved to be a landmark year for America's methane mitigation efforts with the federal agencies implementing almost 100 additional actions under the U.S. Methane Emissions Reduction Action Plan. Among them was the first-ever Methane Summit that witnessed participation from academic, governmental, technical, and civil society representatives. Other major U.S. actions to address methane emissions in 2023 include the final Clean Air Act rule, detecting and repairing leaks from oil and gas pipelines, reducing methane from orphaned oil and gas wells, eliminating food waste, finding value from landfill and agricultural methane, reclaiming abandoned coal mines, developing and deploying advanced methane detection technologies, reducing food waste to avoid methane emissions altogether, and supporting climate-smart agriculture to manage methane emissions.

Building on the momentum from previous years, the U.S. remains focused on implementing its ambitious climate policies under the Bipartisan Infrastructure Law and the Inflation Reduction Act. Early 2024 saw further regulatory advancements, including new methane pollution standards and additional funding for renewable energy infrastructure. With ongoing international climate efforts and growing pressure to meet the Paris Agreement targets, 2025 is expected to be a crucial year for evaluating global progress in curbing emissions and mitigating the effects of climate change.

This report delves into the regulatory and policy frameworks that will shape the future of climate mitigation in the U.S. and beyond, highlighting the critical role that continued innovation, and collaboration will play in meeting national and global climate goals.



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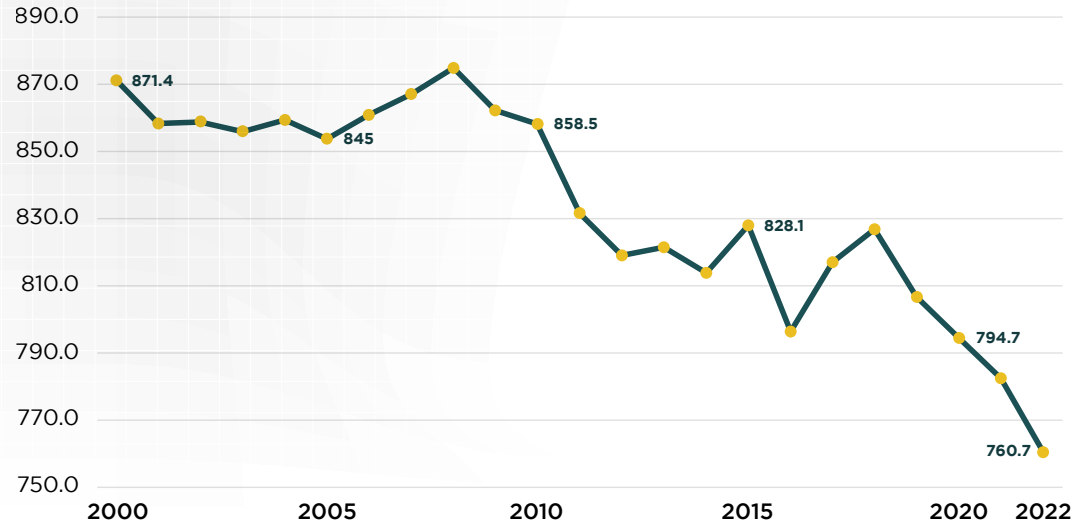
DISSECTING THE U.S. REGULATORY LANDSCAPE

The Environmental Protection Agency (EPA) has identified methane as a major air pollutant that makes up around 11% of all greenhouse gas (GHG) emissions in the U.S. The oil and gas sector, including production, transportation, and storage, accounts for around 32% of methane emissions in the country.

Figure 1: Methane emissions in the U.S. in MMT of CO2 equivalent



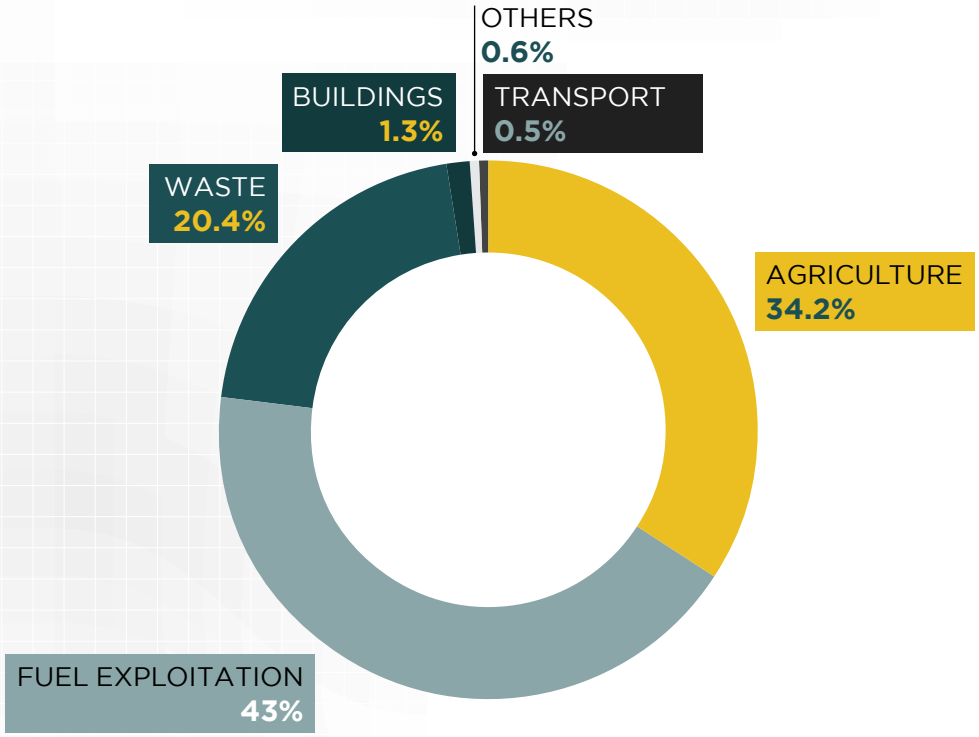
Source: U.S. EPA

The Federally regulated Clean Air Act (CAA), which was first formed in 1963, has evolved over the years. Its latest amendment directs the EPA to curb methane emissions mainly from oil and gas companies, transportation and storage facilities, and municipal solid waste landfills. This is done through the EPA-developed New Source Performance Standards (NSPS) that regulate emissions from newly made, modified, or reconstructed sources in each category. The NSPS for the oil and gas sector were first released by the EPA in November 2021, followed by various supplemental rules that now form a legal framework for Federal methane regulation.

The first of these rules required onshore oil and gas production facilities to:

- Cease venting and flaring methane as a waste byproduct, and instead opt to capture and use the gas for commercial purposes or onsite as a fuel source
- Continue flaring of methane with a 95% reduction in emissions and additional monitoring and reporting requirements, only if the above requirements are not available
- Add more stringent methane leak detection standards on oil and gas production equipment and compressor stations by expanding the number of components checked for leaks and conducting more frequent monitoring
- Identify the cause of a leak within five days and plug it within 10 days, in the event of emissions of 100kg/hr or more

Figure 2: Methane emissions in the U.S. by sector in 2022



Source: EDGAR - Emissions Database for Global Atmospheric Research

In August 2022, the Biden administration signed the Inflation Reduction Act (IRA) into law, and the Methane Emissions Reduction Program (MERP) was created soon after. The MERP requires all oil and gas companies to pay royalties on natural gas produced on federal land and the outer continental shelf, including gas lost due to venting, flaring, or negligence.

CLEAN AIR ACT – FINAL RULE

In March 2024, the EPA announced a final rule under its Greenhouse Gas Reporting Program (GHGRP), to cut around 58 million short tons of methane emissions from oil and gas operations over the period 2024 – 2038, as well as 16 million tons of Volatile Organic Compounds (VOCs), and 590 thousand tons of hazardous air pollutants. This will be an 80% reduction as compared to the estimated emissions that would occur if the rule wasn't implemented. The agency believes that around 50% of all methane emissions are caused by just a few sources. Therefore, the rule encourages owners and operators to use advanced methane leak detection technologies such as satellite monitoring, aerial surveys, and continuous emission monitors, to track these super-emitters. These include fugitive emissions or unintended methane emission leaks from oil and natural gas equipment.

Historically, oil and gas companies have addressed fugitive emissions by deploying ground-based component-level monitoring such as optical gas imaging (OGI) or Method 21. While the final rule continues to advocate the use of these technologies, it also allows the use of advanced remote monitoring technologies provided they can be deployed at desired frequencies.

CLEAN AIR ACT – FINAL RULE

Flaring restrictions	Phases out routine gas flaring from new sources, categorizing them based on construction date. New wells constructed after specified dates must route gas to sales lines, use it on-site, reinject it, or meet specific criteria for flaring.
Super-emitter program	Allows third parties to detect and report events where emissions exceed 100kgs or more of methane per hour. The EPA will then verify the validity of the notifications and then contact operators, who will be required to investigate and report back to the EPA on their findings.
Storage vessels	These will now include not only single facilities but also groups of adjacent tanks called 'tank batteries.'
Methane leak requirements	Revised leak detection and repair standards, which will encourage oil and gas companies to use advanced measurement technologies and alternative inspection frequencies.
Fugitive emissions	Stakeholders are now required to monitor their fugitive emissions using final optical gas imaging surveys, until well closure. Results are to be reported to the EPA, and detected emissions are to be eliminated.
Pneumatic pumps and controllers	All facilities influenced by pneumatic pumps must have zero emissions, with certain exceptions. Pneumatic controllers outside Alaska must also have zero methane and VOC emissions.
Well liquids unloading	Venting needs to be controlled during well liquids unloading, and well completions, including the routing of flowback and the utilization of salable gas.
Compressors	Centrifugal compressors with wet seals are required to cut emissions, while reciprocating compressors should adhere to a performance-based emissions standard.
Vents and control devices	Covers and closed vent systems are first-time inclusions in the monitoring process. Additionally, combustion control devices are required to undergo performance tests every five years.
Equipment leaks	Equipment at onshore natural gas processing plants, including pumps, pressure relief devices, open-ended valves and flanges, are to be closely monitored.
Sweetening units	Facilities that produce a minimum of five long tons of sulfur per day, are required to reduce sulfur dioxide emissions by 99.9%.

STATE VS. FEDERAL REGULATIONS – WHERE'S THE CONFLICT?

In the U.S., overall policymaking is shared by the Federal and state governments, with the Congress and the Executive Branch having federal authority and states, counties, and cities holding sub-national authority. While federal regulations define the overarching standards, states usually form regulations that address their unique needs or in some cases build on the framework already set by the federal government. For methane mitigation, the government-run Environmental Protection Agency (EPA) governs and leads the Methane Action Plan, while state governments regulate areas such as agriculture, landfills, and gas pipelines.

Table 1: Methane emissions by leading states in the U.S. in billion cubic meters

Leading States	2015	2016	2017	2018	2019	2020	2021
Texas	125.8	107.6	109.0	110.4	116.6	109.6	108.6
California	53.1	48.5	49.3	49.4	47.5	53.5	55.7
Pennsylvania	38.8	38.4	47.5	49.0	45.9	40.9	38.9
Ohio	21.6	20.1	20.7	24.6	21.4	23.4	23.7
Louisiana	25.8	26.6	26.6	28.1	31.4	27.3	23.6
Florida	20.7	20.9	21.6	21.9	22.4	21.3	21.1
Illinois	21.9	22.1	20.3	19.3	18.6	18.2	17.6
Michigan	16.6	16.5	16.6	16.8	16.4	16.3	16.4
New York	15.2	15.0	16.2	16.4	15.7	15.9	15.3
Indiana	15.1	14.4	14.1	14.5	14.6	13.8	13.6
U.S. Total	**828.1**	**796.5**	**817.2**	**827.1**	**806.9**	**794.7**	**782.6**

Source: U.S. EPA

Effective methane mitigation requires strong coordination and support between the federal and state governments, especially due to significant differences in regulatory approaches between the two. For example, Texas and Utah are more focused on restricting the volume and instances of flaring and venting by introducing permits while the Federal government and states like Colorado and New Mexico impose strict restrictions or bans on routine flaring and venting. The Texas Railroad Commission, the controlling authority for the oil and gas companies, authorized as many as 3,600 venting and flaring exceptions in 2022, and 3,351 exceptions in 2021.

The Federal Government's final rule also requires operators to regularly check for methane leaks and fix them, something that is not part of state laws. Abandonment of oil and gas wells is another area with different regulations among different states. Colorado's Orphaned Well Program which is funded by oil and gas operators stands out in this area, with the state having spent over US$10 million in 2023 to remediate as many as 61 wells.

The coexistence of federal and state regulations can, at times, lead to conflicts.

CONFLICT TIMELINE AND COURT DIRECTIVES

Sep 2018:	The states of California and New Mexico filed a suit against the Trump administration to block the rolling back of a rule that bans methane flaring, and mandates owners and operators of oil and gas wells to upgrade equipment and undertake leak detection and repair programs.
Mar 2024:	25 states, including Texas, filed a lawsuit against the Biden administration to limit methane emissions from the oil and gas sector. Apart from regulatory overreach by the EPA, the suit also claims that methane emissions in the states have already been reduced significantly, and this rule will place undue pressure on regulators and stakeholders of the oil and gas industry.
Mar 2024:	Texas filed a second lawsuit against the EPA to block its endeavor to alter the National Ambient Air Quality Standard (NAAQS) for particulate matter.
Feb 2024:	A federal court temporarily halted the EPA's investigation into a cluster of polluted Louisiana communities called Cancer Alley. The agency was preparing to negotiate reforms with the Louisiana Department of Environmental Quality but dropped the case due to a lawsuit filed by the state contesting EPA's Title VI authority.
Apr 2024:	North Dakota, along with Montana, Wyoming, and Texas, sued federal agency Bureau of Land Management (BLM), over its decision to impose royalties on wasted gas. The BLMs new rule also requires owners and operators of oil wells to reduce flaring and venting and take action to find and fix gas leaks. Additionally, it cuts down the situations under which oil and gas producers can undertake flaring without having to pay royalties to the federal government and tribal mineral owners
June 2024:	The U.S. Supreme Court decided to block the EPA's environmental rule that aims to curb air pollution and harmful smog that drifts across many states. The court stated that the EPA failed to explain its federal implementation plan for controlling ozone pollution clearly.

EXCLUSIVE: THE ROLE OF NEW MEXICO WITHIN THE U.S. REGULATORY LANDSCAPE

With Insights from **Michelle Miano,** Environmental Protection Division Director at the **New Mexico Environment Department**

The New Mexico Environment Department is the leading air quality regulator in the State of New Mexico. Its mission is to protect and restore the environment and to foster a healthy and prosperous New Mexico for present and future generations. NMED achieved this mission using science, innovation, collaboration, and compliance. The number of permitted oil and gas industry facilities that NMED's Air Quality Bureau receives each year has grown by over 2,235% from 34 permits in 2012 to 794 permits in 2023. On average, New Mexico receives 84 new oil and gas construction permit applications annually.

Read Michelle's insights on New Mexico's Ozone Precursor Rules, its impact on the oil and gas industry, and how smart regulation can foster economic growth through the energy transition.

Industrial Decarbonization Network: Can you share the key themes and specific compliance requirements proposed by the new regulations in New Mexico, particularly in terms of reporting obligations, emissions targets, and implementation timelines?

Michelle Miano: I want to start by noting that New Mexico is the second-largest oil and gas producer in the United States. This fact has greatly influenced our approach to developing these regulations, as we aim to make a significant and positive impact on both the environment and the health of New Mexicans, while also considering the industry. Many entities within the oil and gas industry here in New Mexico are already setting their own goals, and we believe these regulations will help move all of us forward together.

There are two main components to our rule. In the New Mexico Environment Department, our regulation is known as the Ozone Precursor Rule. Additionally, our sister agency, the Energy, Minerals and Natural Resources Department, has implemented a methane capture rule to ensure that no product is wasted from oil and gas operations.

The Ozone Precursor Rule was implemented in August 2022, and we are phasing it in over time. Starting in August 2022, requirements immediately went into effect for new sources. By August 2024, we will begin phasing in requirements for existing oil and gas sources. This rule applies to oil and gas operations on private, state, and federal land within certain counties in New Mexico that are either exceeding or close to exceeding the national ozone limits for healthy air quality.

To summarize the key phases: since August 2022, oil and gas operators are required to operate and maintain their equipment in line with manufacturer specifications, good engineering practices, and maintenance standards to reduce emissions. They must also conduct sensory leak detection and repair efforts. Moving into the August 2024 phase, operators will be required to calculate the potential emissions from their equipment, including tanks, compressors, pig launchers and receivers, and glycol dehydrators.

Industrial Decarbonization Network: How do you anticipate these regulatory updates impacting the day-to-day operations of companies in the oil and gas sector in New Mexico?

Michelle Miano: A lot of what we require is already being done by many oil and gas operators in New Mexico, if not all! So, in that sense, we see ourselves as working together to achieve not only the government's goals but also the sustainability goals of these companies - whether those goals involve net-zero targets or transitioning their equipment to electric power instead of using natural gas.

We hope that these regulations will benefit oil and gas companies by aligning with their current practices and preventing the waste of valuable products. Ultimately, we see this as a win-win situation.

Additionally, we've seen a lot of movement in the oil and gas industry with consolidations, joint ventures, and companies buying out other companies. Regardless of their form, our expectation for all these companies is clear: to do business in New Mexico, they must adhere to our requirements. These regulations are designed to benefit everyone - promoting the health of our residents while helping the oil and gas industry capture as much product as possible and advance their own goals. I believe this sets the tone for how business should be conducted here in the state.

Industrial Decarbonization Network: What resources or guidance is the state providing to help companies navigate and comply with these regulations?

Michelle Miano: We have been working closely with the industry throughout this process. During the rulemaking phase, we received over 570 comments from various stakeholders, including industry professionals, scientists, and engineers, as well as a significant number of public comments. Given that our rules are quite cutting-edge, there are naturally many questions about implementation and our expectations in that regard.

To address these concerns, our team has been providing periodic presentations and guidance to the regulated community as different aspects of the rule are phased in. We've been receiving questions from various entities within the regulated community, and we're carefully reviewing those, providing answers, and then posting them online in a frequently asked questions document. This ensures that we're delivering a consistent message across the board regarding how these rules will be implemented as they reach their different milestones along the timeline.

THE UPCOMING U.S. ELECTION AND IMPACT ON POLICY

Donald Trump has been quite vocal about wiping out restrictions on GHG emissions were he to come into power. He has also identified boosting oil and gas output as a priority. In fact, during a few public appearances, he has expressed a desire to be "a dictator for one day" to address two issues: "for drilling and for closing the border." In May 2024, he urged oil industry executives to donate US$1 billion towards his campaign considering his plans to roll back the current administration's new regulations. His words, "We are going to drill, baby, drill" once elected, after the January 2024 Iowa primary election, have gained much attention throughout the country.

"Government has a lousy record – not just this administration, any government – of picking winners and losers in the private sector. And that's basically what the Inflation Reduction Act, and these other bills passed by President Biden, have done. They've created these huge slush funds, and in the unfettered discretion of some politicians and bureaucrats, private companies are being given billions of dollars. Some will spend it well. Some will waste it. Our job – I say, I'm a Republican – if we're back in power, is to try to go through and to do this in a more rational, realistic way that's guided by science, as opposed to purely politics." Senator John Kennedy - a Republican from Louisiana

However, the Trump campaign has avoided answering any questions on the new leak detection and repair rule, which requires oil and gas companies to use commercially available technologies such as aerial surveys, handheld detection devices, and continuous monitoring sensors to detect and repair methane leaks from pipelines and other facilities. This is particularly interesting as the previous Trump government had rolled back a similar Obama-era climate rule in 2021, that required oil and gas companies to find and fix methane leaks. At the time the EPA had estimated this reversal to yield annual economic benefits of around US$100 million through 2030, along with 850,000 tons of methane emissions over the same period.

Interestingly, Congress ordered the Pipeline and Hazardous Materials Safety Administration (PHMSA), the agency responsible for the detection and repair of methane leaks, to begin monitoring methane emissions aggressively as part of a huge spending bill passed in 2020. This was just after Joe Biden defeated the incumbent Donald Trump in the 2020 elections. If Trump were to become president after the November 2024 elections, the PHMSA stands to lose its budgetary allocations through the Congressional Review Act process, including the US$600 million it has asked for in the FY2025 budget.

According to a study conducted by UK-based climate change platform Carbon Brief, a Donald Trump victory could result in an additional 4 billion tons of U.S. emissions by 2030, compared to the current administration's target. Based on the latest government valuations, these extra emissions would cause global climate damages worth over US$900 billion, and result in the U.S. missing its global climate pledge by a wide margin.

In an interview with the editor at the Industrial Decarbonization Network, Dr. Aaron Padilla, Vice President of Corporate Policy at American Petroleum Institute (API) said that "if current Vice President Harris is the Democratic nominee and she wins, we can expect the finalization of the methane regulations, leading to further developments in our industry, with changing expectations among regulators possibly introducing new policies during another four years of a Harris-led administration."

"On the other hand, if former President Trump wins, his administration will likely take a hard look at all these regulations and potentially change them, the extent of which is still in question. API's view is that some degree of modification and reduced stringency would be welcome to make the regulations more cost-effective and accurate in prompting our industry to reduce methane emissions."

Whether there is a Republican or Democratic president 2025-2029, the industry will continue to advocate for a balanced approach to policymaking. Regardless of the political landscape, operators in the U.S. have made public commitments and are on the pathway to net-zero methane emissions. The most important thing to realize is that it is possible for the U.S. to remain the world's largest producer of oil and natural gas while also significantly reducing methane emissions associated with that production.

REGULATORY IMPACT ON STAKEHOLDERS

EPA's new methane regulations have evoked mixed responses from industry players and government agencies. The Independent Petroleum Association of America (IPAA) has unsurprisingly come down hard on them with the CEO Jeff Eshelman saying that they would increase energy supply costs, lead to the shutdown of 300,000 oil wells, and adversely affect the overall economy. The agency also feels that the Waste Emission Charge (WEC) affects the industry's ability to comply with EPA's new regulations since it was implemented without any committee hearings, expert testimony, or impact analysis on prices to consumers, impact on domestic production, or impact on industrial manufacturing.

Representatives from the Center for Strategic and International Studies (CSIS) feel that while the larger oil and gas producers will not bear the brunt of the new regulations as they are mostly already compliant, small firms with limited technology and other resources will struggle to adapt. According to Ben Cahill, Senior Fellow at CSIS, even though the Inflation Reduction Act (IRA) has budgeted around US$1.6 billion in grants and training for smaller companies, the money has not yet been allocated properly. Unsurprisingly, this dissatisfaction has resulted in 24 states suing the EPA citing high costs due to new technology, storage, transportation, and monitoring requirements. The private sector has also raised concerns about the potential benefits saying that the estimated costs for industry monitoring and control requirements might outweigh the still-uncertain projected benefits.

British Petroleum welcomes the finalization of a federal methane rule for new, modified and – for the first time – existing sources. A well-designed rule will help drive material methane emission reductions this decade and beyond.

However, there are others who hail the new regulations as pivotal to achieving long-term climate change goals. One among them is environmental groups. Andrew Klooster, field advocate for Earthworks feels that the final rule will enable states and communities to hold the oil and gas industry accountable. According to the World Resources Institute (WRI), this move by the EPA is likely to galvanize global momentum on methane mitigation. In fact, several new countries joined the Global Methane Pledge right after the EPA's final rule was announced during the UN climate conference in Dubai (COP28) in December 2023. This was followed by 50 oil and gas companies (who represent 40% of global oil and gas production) joining the Oil and Gas Decarbonization Charter, also launched during COP28.

The Environmental Defense Fund (EDF) has also debunked arguments from the oil and gas industry that the rules will harm operators, especially smaller ones. EDF's economics department found that the new regulations have low compliance costs, which are further expected to be offset by profits from captured gas. They also found that marginal wells, run mostly by smaller operators, will be exempted from these rules, because only newly drilled sources are subject to them in the first few years.

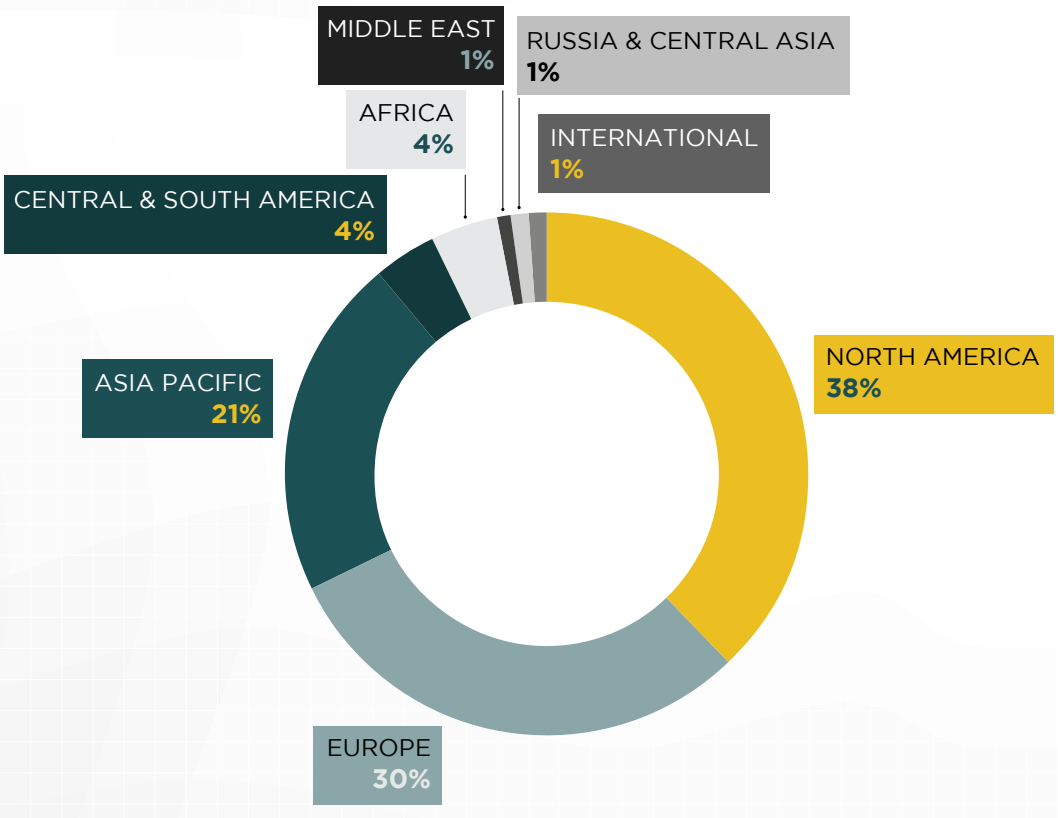
Large oil and gas companies like British Petroleum, Equinor, Occidental Petroleum Corporation, and PureWest Energy have also been effusive in their praise for the Biden administration's latest clampdown on methane emissions. Another group supporting the regulations is investors such as BMO Global Asset Management, Legal and General Investment Management (LGIM), and Nordea Asset Management. In fact, according to LGIM, the new regulations "will set a viable baseline for performance across the industry."

A LOOK AT REPORTING FRAMEWORKS: WHAT'S MISSING?

When multiple agencies operate in the same space, regulatory incoherence becomes a real risk, if they are moving in the same direction. The different offices with the EPA as well as the Department of Transportation under PHMSA all seek to regulate methane emissions, which can create situations where one EPA office might not be fully aware of what another office, or PHMSA is doing. In an interview with the Industrial Decarbonization Network, **Ryan Steadly, Senior Policy Advisor in API's Upstream Policy Division** pointed out that "from a practical perspective, it's not necessarily the EPA's or PHMSA's job to know what the other is doing, but at a higher level, coordination is crucial."

For instance, the EPA's methane rule uses a detection metric for alternative technologies in kilograms per hour, whereas PHMSA developed a standard that requires detection in parts per million, a completely different method that limits the scope of technologies that can be used. This disconnect creates challenges, particularly for midstream operators who may need to perform EPA surveys on compressors while also complying with PHMSA regulations. Harmonizing these requirements would allow operators to, for instance, use a flyover with a sensitive detection instrument that measures in kilograms per hour, rather than having to employ different methods for different rules.

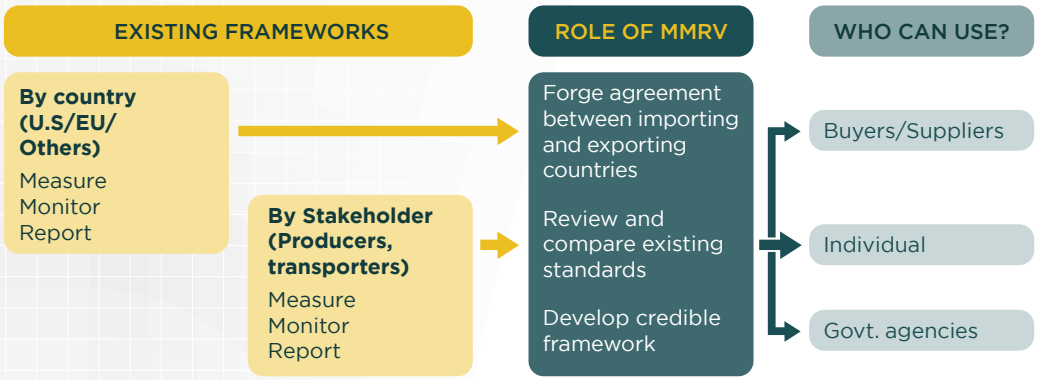
Figure 3: Share of methane policies applicable by region



Source: One Ear

In December 2023, the U.S. Department of Energy's (DOE) Office of Fossil Energy and Carbon Management (FECM), announced the formation of an international working group called the **GHG Supply Chain Emissions Measurement, Monitoring, Reporting, and Verification (MMRV)** framework. This was formed to develop comparable, shared, and credible data on GHG emissions across the natural gas supply chain, from production through delivery. Various importing and exporting countries, and other domestic stakeholders have partnered with the DOE to develop this framework. Importantly, it includes a process to confirm the use of consistent protocols including the independent supervision and verification of the accreditation process. Additionally, the FECM also provides funding to develop and deploy advanced technology solutions to increase efficiency, reliability, and methane mitigation across the oil and natural gas infrastructure.

Figure 4: Measurement, monitoring, reporting, and verification (MMRV) process mapping



Source: Energy.Gov

Moreover, as methane reduction becomes central to most global warming mitigation initiatives, there is an urgent need for emissions reporting and technical frameworks to establish consistent standards across the oil and gas industry. This is particularly important as various countries have different policy approaches which makes some standardization imperative.

International-level initiatives are crucial to create conditions that support and incentivize methane mitigation at a scale. Here, we look at three international-level frameworks, highlighting their importance in emissions reporting along with the gaps to be aware of.

#1 GLOBAL METHANE PLEDGE (GMP):

One example of such a framework is the Global Methane Pledge (GMP), which supports countries to collectively reduce methane emissions by 30% by 2030, as compared to 2020 levels. Launched in 2021 by the U.S. and the European Commission, the GMP works across six areas including energy, waste, food and agriculture, methane policies, emissions data, and financial assistance.

What's missing?

According to a 2023 study by the Environmental Investigation Agency (EIA), the framework is currently unable to deliver the desired results due to inadequate funding and shortcomings in its governance framework. In fact, the funding for methane mitigation stands at less than two percent of the overall funding made available to fight climate change. Moreover, the Pledge's funding is project-based and unpredictable, thereby restricting countries to addressing only some parts of their methane emissions, which creates gaps in their efforts.

#2 OIL AND GAS METHANE PARTNERSHIP (OGMP 2.0):

Another is the Oil and Gas Methane Partnership (OGMP 2.0), a voluntary international oil and gas methane emissions reporting framework launched by the United Nations Environment Program (UNEP). Its members include over 140 companies with assets in over 70 countries, accounting for almost 40% of the global oil and gas production. They provide annual corporate-wide reporting of methane emissions from all operated and non-operated assets, at a granular level.

What's missing?
The OGMP 2.0 was not conceptualized and designed as a regulatory compliance framework but as an investment standard. It also doesn't track emissions across natural gas supply chains, including shipment-level data, and therefore might not be able to give a complete picture of the existing scenario. Additionally, asset-level data needed to derive a methane intensity assessment for Liquid Natural Gas (LNG) cargoes or discrete pipeline volumes is classified and available only to the UNEP OGMP 2.0 team, creating bottlenecks.

#3 INTERNATIONAL METHANE EMISSIONS OBSERVATORY (IMEO):

Another emissions reporting framework is the International Methane Emissions Observatory (IMEO), formed by the United Nations Environment Program (UNEP) and the European Commission (EC). It collects and publishes data from its Methane Science Studies, from satellites via the Methane Alert and Response System (MARS), through the Oil and Gas Methane Partnership 2.0 (OGMP 2.0), and from national emissions inventories.

What's missing?
The database is currently still under development and companies need to wait for around five years to get level 5 designations for their material operated and non-operated assets.

ADDRESSING INCONSISTENCIES

The process of promulgating regulations in the U.S. is a lengthy one, which allows for multiple phases of interaction between regulators and the regulated entities. For instance, the EPA can have ongoing conversations with the oil and natural gas industry as the regulated entity, which is a positive aspect.

During a recent interview with the Industrial Decarbonization Network, Dr. Aaron Padilla shared that even after the EPA issues final rules, the Clean Air Act allows regulated entities like the oil and gas industry to petition the EPA to reconsider aspects of the regulations that we believe may be inaccurate or impractical to implement. He further shared that the API has taken advantage of this opportunity to request reconsideration on certain items. Currently, they are in the middle of that dialogue and reconsideration process for two of the three main methane regulations in the United States. The third regulation, the waste emissions charge, is still to be finalized, which will complete the picture for the industry.

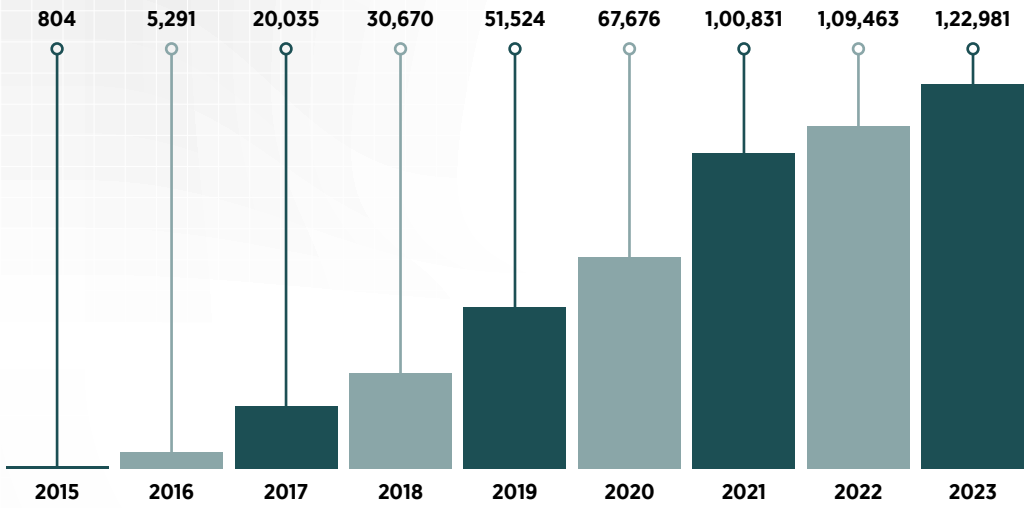
The best way to achieve effective coordination is through a dialogue that delves deeply into the technical substance of the rulemaking. The U.S. onshore industry is highly complex, producing significant quantities of oil and natural gas across various basins, each with different characteristics, such as oil versus gas production, conventional versus unconventional methods, and other variables that impact methane emissions. Therefore, it requires a detailed technical dialogue, underpinned by a mutual recognition that both regulators and regulated bodies are striving for the same goal. Fortunately, according to Dr. Aaron Padilla, the U.S. has reached a point where the industry has expressed support for the direct federal regulation of methane from oil and gas operations, both for new and existing sources. This has provided a platform of common ground with the EPA for these discussions.

"We don't always see eye to eye! The regulators sometimes propose measures that are too stringent, lack a cost-benefit balance, or are impractical for us to implement. When this happens, we point out the issues and engage in a regular back-and-forth. Thankfully, we are still in the midst of that process and are working to get it right here in the U.S." - **Dr. Aaron Padilla, Vice President of Corporate Policy at American Petroleum Institute (API)**

THE EUROPEAN UNION SITUATION

The EU imports around 90% of its natural gas with most of it coming from the U.S. The region is now looking to leverage its purchasing power by compelling its gas suppliers to monitor, release, and curb their methane emissions, and undertake leak detection and repair activities. In fact, according to the latest regulations, the EU requires its suppliers to adhere to the same methane measurement, reporting, and verification (MRV) standards as indigenous producers by January 2027. By 2030, the EU is expected to lay out a 'maximum methane intensity value' for natural gas, which will attract penalties for suppliers and long-term suspension in case they fail to meet the desired standard. The new regulations, which came into force in July 2024, also include standards for imported oil, gas, and coal from 2027.

Figure 5: LNG exports from the U.S. in billion cubic meters



Source: EIA as of July 31, 2024

The suppliers that come under these standards will need to act to comply with the new requirements. Among the first imperatives will be the establishment of internal methane reporting processes and the adoption of international frameworks such as the OGMP 2.0. Other compliance measures may include the setting up of internal cross-functional methane governance structures, procedures to acquire, store, and analyze data for methane reporting, and developing employee competencies. Additionally, new and revised import contracts will have to be signed between the parties based on the data collected from the suppliers. If U.S. exporters cannot provide upstream monitoring, reporting, and verification (MRV) information to the EU importers and have this MRV information independently verified through certification frameworks like MiQ and Equitable Origin, they will not be able to sell throughout the EU. This is significant as the region weans itself off Russian oil and gas and opens to global imports.

Table 2: EU methane legislation: Timeline of key requirements

IMPLEMENTATION TIMELINE	DESCRIPTION
MRV for EU Operators (Article 12)	
Within 12 months (June 30, 2025)	Source-level reporting will be required, using generic emissions factors.
Within 18 months (Dec. 31, 2025)	Source-level reporting will be required for operated assets, using more specific emissions factors based on source-level quantification or sampling (the same requirement will take effect within 30 months for non-operated assets). Annual reports will be required each May 31 thereafter.
Within 30 months (Dec. 31, 2026)	Reports will be required that include site-level measurement as well as source-level quantification for operated assets (the same requirement will take effect within 48 months for non-operated assets). Annual reports will be required each May 31 thereafter.
Importer Rules (Article 27, 27a, 27b, and Annex VIII)	
Within nine months (Mar. 30, 2025)	Importers must provide data required under Annex VIII to member states to support a methane transparency index. Annual reports will be required each May 31 thereafter.

While there is definite overlap between EU and US regulation, it is worth noting that EU methane regulation is extraterritorial by nature, meaning they impose requirements on importers that extend beyond the EU, reaching back up the supply chain to US production. This creates overlap with the regulations that operators must comply with here in the United States at the state level and with various federal agencies, such as the EPA and the Department of Transportation.

According to **Dr. Aaron Padilla,** the **API's** view is that "the significant and stringent policymaking in the United States should ideally be recognized by the EU as equivalent, even if there are slight differences in the prescriptive and technical details".

This is because U.S. Regulations is strong, and backed by numerous check and balances ensure that agencies are obtaining accurate data and effectively overseeing and enforcing compliance, which should be sufficient for the EU to recognize the U.S. regulatory regime as equivalent.

Additionally, in an interview conducted by the **Industrial Decarbonization Network** in February 2024, **Henry Winckle, International Relations Officer at DG ENER, European Commission** shared that by January 1, 2027, all importers into the European Union will be required to demonstrate compliance with equivalent measurement, reporting, and verification standards as those within the EU. Non-compliant importers will face penalties, with provisions for older contracts, but a requirement for compliance upon renewal or signing of new contracts.

Moving forward, the European Commission will review the legislation to assess its effectiveness and potentially implement additional requirements, such as companies reporting their own methane intensity profiles. By late 2030, they hope to implement a methane performance standard for all oil, gas, and coal importers within the EU, with specifics outlined in subsequent delegated acts.

JOIN US IN THE U.S.

Discuss the changing regulations in detail this December! This report has highlighted the importance for every level of your organization to have a clear understanding of their role in addressing the multifaceted challenges that methane reduction brings.

Whether you are an executive looking to gain insights into strategic planning and risk management or operational personnel seeking practical solutions and best practices that enhance efficiency and compliance, don't miss the opportunity to join over 250 of your peers in **Houston this December 3-5, 2024.**

Be prepared to learn from and collaborate with some of the leading minds in the industry and leave the event equipped with the vital knowledge needed to successfully integrate improved methane management practices within your organization.

Learn more

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