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As Enforcement Falls Short, Many Worry That Companies Are Flouting New Mexico's Landmark Gas Flaring Rules

In 2021, New Mexico adopted regulations that were viewed as a model for reducing methane emissions from the flaring and venting of natural gas. But on the ground, watchdogs say they don't see much of a change in oil and gas companies' practices.



By Martha Pskowski 

March 12, 2023

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A malfunctioning flare at a tank battery in the New Mexico Permian Basin, photographed on Feb. 6, 2023. Incomplete combustion in a flare, as pictured, generates more emissions. Credit: WildEarth Guardians

CARLSBAD, New Mexico—On a recent afternoon, Kayley Shoup drove southeast out of Carlsbad through an area that was once ranchland. Today it's a patchwork of compressor stations, tank batteries and drilling pads, testimony to the Permian Basin's booming oil and gas industry.

Cold wind whipped through creosote bushes lining the road. Transmission lines and flare stacks dotted the horizon. In the distance, Shoup spotted the flames of a flare from gas being burned off an oil well. And then another. And another. One flare sent off dark smoke, a sign that it wasn't burning efficiently.

Flares are designed to eliminate methane from natural gas. But unlit flares and inefficient combustion mean that flaring still emits large amounts of methane, a potent greenhouse gas, into the atmosphere. The Environmental Defense Fund's [Permian MAP project](#) found that the Permian Basin in West Texas and southeastern New Mexico was the highest methane-emitting oil and gas basin in the nation.

Shoup is an organizer with Citizens Caring for the Future, the only grassroots environmental organization in New Mexico's stretch of the Permian Basin. She first started worrying about the environmental and health impacts of the region's oil and gas boom in 2018, when Carlsbad's streets were clogged with trucks and the population swelled.

Since then, a climate-conscious governor, Michelle Lujan Grisham, has taken office and the state has adopted landmark regulations to limit flaring and venting. But Shoup is skeptical that the industry is changing its habits.

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In May 2021, New Mexico's Energy, Minerals and Natural Resources Department, or EMNRD, adopted new rules that prohibit routine flaring and venting and require operators to achieve a 98 percent gas capture rate by 2026. February 28 was the deadline for operators to certify that they were on track to comply.

But environmental advocates and lawyers say that in the absence of rigorous state field enforcement, oil and gas companies are continuing wasteful methane flaring and venting. Recent flyovers by the federal Environmental Protection Agency, independent monitoring by environmental advocates and NASA satellite imagery have documented significant methane releases. To date, only two companies have been fined for unauthorized flaring since the rules went into effect.

While operators still have time to achieve full compliance with the new rule, industry watchdogs warn that counting on operators to self-report flaring and venting is a failing strategy. Meanwhile, regulators say they are hamstrung by budget limitations.

“What we’re seeing, unfortunately, is there’s a lot of talk about protecting clean air and the climate in New Mexico, but not much follow-through.” said Jeremy Nichols, climate and energy program director at the Santa Fe-based nonprofit WildEarth Guardians. “It’s not enough to say there are good rules on the books.”

Nichols recently toured the New Mexico Permian Basin and said he observed well sites where high winds were causing flares to burn inefficiently and others where flare stacks were “belching big, black billows of smoke.”

Aggressive State Targets, but Few Inspectors

When Lujan Grisham, a Democrat, took over as governor in January 2019, one of her first actions was to issue an executive order addressing climate change and energy waste. The order set a goal of reducing New Mexico’s greenhouse gas emissions by 45 percent from 2005 levels by 2030 and

charged state agencies with developing a plan to reduce methane emissions.

EMNRD's Oil Conservation Division updated its gas capture regulations in 2021, prohibiting both routine flaring and venting. Flaring involves burning methane at the wellhead, whereas venting, which is considered more harmful, releases methane directly into the atmosphere. But the rules allow for flaring and venting during emergencies and equipment malfunctions. Any flaring and venting must be reported to EMNRD.

During Lujan Grisham's time in office, drilling in the Permian Basin has fueled rapid growth in the state's energy sector. In 2021, New Mexico surpassed North Dakota to become the second-largest crude oil-producing state in the U.S., trailing only neighboring Texas. It ranks seventh among gas-producing states.

This only made the methane rule more essential. In the first 20 years after methane reaches the atmosphere, it has more than 80 times the warming power of carbon dioxide. Oil and natural gas operations in the United States, which increasingly rely on advanced drilling techniques in rocky oil-rich basins, [trail only agriculture](#) as the leading human source of methane emissions.

In the first phase of compliance with the new state rules, companies worked with the Oil Conservation Division to establish baseline methane capture rates for their operations. In their [February filings](#), of the companies that filed gas capture rates for the first quarter of 2022, 62 percent reported 100 percent gas capture. Many operators did not file reports by the deadline.

A spokesman for EMNRD, Sidney Hill, said that the agency relies on inspections, audits and internal reviews to verify the data companies report. But its capacity for on-site

inspections is severely limited. Funds are allocated for only **14 inspectors** state-wide, with two of those positions currently vacant.

In the first phase of the regulatory period, the Oil Conservation Division identified glaring problems with the self-reported data, with some operators claiming they were capturing more than 100 percent of their natural gas, which is clearly impossible.

“Given the number of operators reporting greater than 100 percent gas capture, OCD has determined it was appropriate to invoke the third-party audit provisions,” the division reported in a press release last June. Of those reporting more than 100 percent gas capture, the division required 10 operators to conduct third-party audits and requested that another 74 operators correct their data.

Meanwhile, state records from the Oil Conservation Division from December and January show venting and flaring increasing, not decreasing. According to the division, from November to December 2022 flaring increased 39 percent and venting increased 161 percent, or more than doubled.

“A preliminary review of the data suggests that these flaring and venting increases appear to be caused primarily by abnormal weather-related incidents such as freezes and downed equipment,” Hill said. “This type of venting and flaring is not considered routine and likely would be permissible under our rule.”

The division has proposed civil penalties for Caza Operating for unauthorized natural gas venting or flaring and for Spur Energy Partners for violating a compliance order for natural gas venting or flaring.

Environmental Advocates Expose Unauthorized Emissions

With the state's limited capacity to enforce methane regulations, environmental advocates are on the frontlines in documenting emissions in the Permian Basin.

While some of the flares are unmistakable, infrared cameras are needed to track methane releases that are invisible to the naked eye. That's where Charlie Barrett, a thermographer for the environmental group Earthworks, comes in. He has documented ongoing flares across Eddy and Lea Counties and sent reports to regulators.

With help from Barrett and his organization, the nonprofit news outlet [Searchlight](#) identified 20 well sites that were releasing methane or other polluting gases last fall in New Mexico's part of the Permian. It cross-checked the field observations with monthly reports that operators submit to the Oil Conservation Division. In 13 cases out of 20, the team observed methane releases that were inconsistent with the reports.

"As far as my field observations, venting and flaring hasn't subsided at all," Barrett said. "On any given day, I may observe 80 to 100 flares."

He said that without more enforcement, oil and gas companies can continue to flare with or without authorization. "There's no incentive for the operators to do anything about it," he said.

While New Mexico's rules prohibit routine flaring and venting due to lack of pipeline capacity, Barrett said the rules are too generous on what is allowable, including flaring during freezing weather. He also questioned compliance

reports from companies claiming to capture 100 percent of natural gas at their facilities.

“It’s impossible for a facility to capture 100 percent. There is no facility that can capture everything,” Barrett said. “There are facilities where we have found emissions and filed complaints and they’re being listed at 100 percent.”

In Carlsbad, Shoup has seen the oil and gas buildout gradually encroach on homes and schools. In addition to warming the earth’s atmosphere, methane is released with the volatile organic compounds that form ground-level ozone and cause cancer and respiratory ailments.

She therefore sees the ongoing flaring as a threat to local public health, particularly because her organization has calculated a sharp increase in the number of people living within a half-mile of a well in recent years. “We continue to see folks dealing with health issues that, when you look at the literature, can be directly linked to air pollution,” Shoup said.

Air quality monitors in Carlsbad frequently record days of record ozone levels, and [the EPA is considering](#) designating the Permian Basin as an “ozone nonattainment” area—meaning that it does not meet federal standards for ambient air quality.

“It’s absolutely insane that a rural place like the Permian would be violating these big-city air quality standards,” said Nichols, the attorney for WildEarth Guardians. “What’s going on in the Permian right now is devastating for people, for communities and for the climate.”

In October, [Oxy settled](#) a lawsuit brought by WildEarth Guardians under the Clean Air Act over alleged violations at the Turkey Track Central tank battery and gas compressor near Carlsbad. The company agreed to spend \$5.5 million on

operational changes and equipment upgrades at its facilities in New Mexico's Permian Basin and pay \$500,000 in civil penalties.

Nichols contends that even if state agencies lack the resources for adequate monitoring, oil and gas companies have no excuse for not following the law.

“There's all this talk about doing the right thing in the Permian,” he said. “But at the end of the day, it's just a bunch of outlaws operating out there, from big companies to small companies.”

EPA and NASA Images Confirm Local Concerns

Optical gas imaging cameras and NASA satellite images illustrate the scope of the problem and identify emissions that companies have failed to report. In February, [Bloomberg shared NASA images](#) of a methane plume over an Exxon facility in New Mexico with the company. Exxon later acknowledged that it did not report the methane release within 24 hours, as required by state law.

EPA Region 6, which is based in Dallas and includes New Mexico, conducted [flyovers of oil and gas facilities](#) in the Permian Basin in July and August 2022 to document emissions and identify compliance problems. While some emissions recorded in the flyovers are not necessarily illegal—operators may be emitting methane during emergencies or maintenance—such monitoring helps document the ongoing extent of the problem in New Mexico despite the new state rules.

Carl Havlik, a spokesman for EPA Region 6, declined to comment on specific facilities, citing continuing investigations.

The head of the New Mexico Environment Department, Secretary James Kenney, has called attention to unreported methane emissions at oil and gas facilities. “Some operators have clearly corrected problems, and others have ignored our warnings,” he said. “But there are way more oil and gas wells and companies than there are state resources to meaningfully assure compliance.”

Kenney said the Environment Department was working with the federal Department of Justice and the EPA to reach settlements with several offending companies.

Air emissions from oil and gas facilities are also regulated under his department’s ozone rules. Those regulations, updated last year, limit the release of precursors to ozone, including methane and volatile organic compounds. “We were trying to get the industry to recognize they need to do something more than they’ve been doing, and self-governance is not going to happen, period,” Kenney said. “We know that. So we need to be firm about our rules.”

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He has called on the New Mexico Legislature to increase funding to his agency as the state enjoys a **record-setting \$9.4 billion budget this year** fueled by oil and gas revenues. The

Environment Department has estimated that it would take the current staff of the department's Air Quality Bureau 6.5 years to inspect all of the permittees in the state. But so far Kenney's pleas have fallen on deaf ears.

"We're in a dire situation this legislative session," he said.

While the Democratic-controlled Legislature in Santa Fe has passed significant environmental legislation in recent years, legislators **have not fully funded** NMED's budget requests.

A Demand for Accountability

Oil and gas operators still have time to meet the 2026 deadline to reach 98 percent natural gas capture, and they are required to report monthly venting and flaring totals and meet annual targets. While environmental advocates have raised doubts about whether companies can be taken at their word when they submit flaring and venting data, the New Mexico Oil and Gas Association argues that both operators and regulators are learning from the process.

"These rules are complex and have phase-in provisions that allow operators to manage the progression from operations pre-rules to full compliance of all rule provisions," said Joe Vigil, a spokesman for the industry association. "Both the NMED and OCD need time to evaluate effectiveness and compliance of these rules."

Vigil pointed to the Oil Conservation Division's use of third-party audits for some operators as an important safeguard. "The OCD has already invoked this provision," he noted, and the industry association "stands ready to work with operators to incorporate lessons learned from this audit process so that all operators are reporting properly under this complex rule."

Inside Climate News reached out to four companies with questions about their compliance with New Mexico's natural gas waste rule after reviewing [flyover footage from the EPA](#) and videos provided by Barrett of Earthworks.

In one case, the company acted on the methane venting identified in Barrett's videos. In October, Barrett documented venting at Contango's Kersey State #2 tank battery in Eddy County. Tank batteries store crude oil and produced water. The state Environment Department notified Contango on Dec. 13 about the emissions, and the company reported that a week later that it had replaced and cleaned the valve causing the venting.

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A video shows emissions from a vent stack on a tank battery at Contango's Kersey facility in October 2022. The company said it corrected the problems in December 2022 after they were notified by NMED. Credit: Charlie Barrett, Earthworks

Contango's chief executive, Wilkie Colyer, said in a written statement that the company had been working on improvements since it acquired the facility from a defunct operator. He said that Contango was now conducting its own flyovers to collect emissions data. "These operations are representative of our commitment to transparency, stewardship and continued improvement of our operations," he said.

Inside Climate News also reviewed an Earthworks video showing methane emissions at an Oleum Energy facility and Earthworks and EPA flyover footage of Marathon Oil facilities. Neither company responded to requests for comment.

Methane and VOC emissions can be seen coming from a vent stack at an Oleum Energy facility in New Mexico on Jan. 24, 2023. Credit: Charlie Barrett, Earthworks

The EPA documented fugitive emissions during flyovers of five tank batteries operated by the oil and gas company Oxy last July 13. A review of state records found that Oxy did not report venting or flaring at these facilities on that date.

A spokeswoman for Oxy, Jennifer Brice, said that Oxy eliminated routine flaring at its U.S. operations in 2022 and

met the 98 percent gas capture rule in New Mexico. She said Oxy relies on operator inspections, its leak detection and repair program and periodic flyovers to ensure compliance. Brice did not respond to specific questions about emissions from these facilities on July 13, 2022 but said, “We review and investigate all third-party flyover data brought to our attention regarding our operations, including those provided by regulatory agencies.”

The open question is whether most operators in the nation’s No. 2 oil state are complying with the new rule—or will even comply by 2026—as methane emissions across the globe accelerate climate change.

“We cannot rely on the companies to self-report,” said Shoup, the environmental advocate in Carlsbad. “Enforcement action that is swift and aggressive is what it’s going to take to hopefully rein them in.”

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