

August 2026

Burning Billions:

A Decade of Wasted Natural Gas and Lost Taxpayer Revenue on Federal Lands



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Methane, the primary component of natural gas, is a valuable energy resource. When methane is lost during production and distribution, American taxpayers, consumers, and local communities all pay the price.

Every year, oil and gas companies waste billions of cubic feet of natural gas extracted from federal lands. Much of that gas is vented into the atmosphere or flared instead of being captured and sold, and much of it is never subject to royalties. The result is a double loss for taxpayers. A publicly owned resource is wasted, and taxpayers often do not receive a fair return for its development.

A dozen years after our first report on methane waste, the underlying story remains remarkably consistent. Although oil and gas operators reported less wasted gas over time, the total losses of natural gas from federal leases remain significant, with most of it through routine flaring associated with oil production. Although the reported volumes have changed over time, the policies governing waste and royalty collection continue to leave taxpayers shortchanged.

The United States is home to vast onshore mineral estates owned by the American public. The Bureau of Land Management (BLM), within the Department of the Interior (DOI), manages the development of these taxpayer-owned oil and gas resources. To facilitate this development, BLM auctions leases to private entities. BLM has both the authority and the responsibility to prevent the waste of publicly owned natural resources and ensure taxpayers receive a fair return from oil and gas development on federal lands. Yet for decades, government watchdogs have identified weaknesses in how federal agencies verify production and lost gas volumes and determine when royalties should be collected. The persistence of methane waste is not simply an operational issue. It reflects a longstanding failure to responsibly steward taxpayer-owned natural resources.

Using the most recent data reported by operators to the Office of Natural Resources Revenue (ONRR), this report examines how much natural gas has been lost from federal leases over the last decade, where those losses occurred, how much taxpayers may have lost in royalty revenue, and why routine methane waste continues despite decades of oversight and repeated recommendations for reform.

Key Findings:

Over the last 10 years, **209 billion cubic feet** of natural gas, **worth an estimated \$658 million**, were lost on federal lands. Had a fair market royalty been assessed on all of this lost gas at a rate of 18.75%, taxpayers would have received an additional \$70 million in royalty revenue.

These estimates are based on Oil and Gas Operations Report part B (OGOR-B) data, which is self-reported by oil and gas operators.¹ Independently collected emissions data suggest actual losses are significantly higher. Although DOI has recently implemented leak detection requirements, such requirements are not in effect yet and the agency does not require reporting of natural gas volumes leaked from equipment used on well sites. Abandoned wells that have not been properly or promptly cleaned up can also be a significant source of methane waste.

¹ Companies operating on federal lands are required to file reports monthly to the Office of Natural Resources Revenue (ONRR). The reports include the volumes of oil and natural gas the companies produce and their disposition – e.g. how much was sold, sent to a processing facility, used on lease, injected into a well, vented, flared, etc. These reports are the only data the Department of the Interior (DOI) collects on how much gas is lost from oil and gas drilling on federal lands. Our analysis uses the “Production Disposition Volumes, January 2016 - March 2026” and “Historical Production Disposition Volumes, January 2003 - December 2015” datasets, both accessed August 5, 2026, and product disposition codes 21, 22, 23, 33, 61, 62, and 63.

For the oil and gas industry, this waste has become business as usual. Flaring accounted for 94% of all reported gas losses on federal lands over the past decade. Most of this flaring occurs when operators rush to produce oil before infrastructure is in place to capture the associated natural gas, typically because oil is more profitable than natural gas. Until 2024, outdated rules did not require this associated gas to be captured and operators had been able to request royalty-free flaring based on individual economic circumstances. From 2016 to 2025, 71% of all flared gas was not subject to a royalty.

Technologies to detect and reduce methane waste, such as satellite monitoring, infrared cameras, and drones, have become more cost-effective and are already used by many oil and gas operators. Yet years of regulatory uncertainty have discouraged investment by rewarding operators that continue routine waste while providing little advantage to those that invest in reducing emissions.

How is Gas Lost During Oil and Gas Development?

The oil and gas industry is one of the largest sources of methane emissions in the U.S.,² wasting natural gas through three primary pathways: flaring, venting, and leakage. Although these practices differ, they all result in the loss of a valuable public resource that could otherwise be brought to market.

- **Flaring:** The practice of burning natural gas during oil and gas extraction instead of capturing and marketing it. Flaring is also used to burn gases that pose a safety risk. Over the last decade, 94% of all reported gas losses on federal lands were flared, 71% of which did not incur a royalty.
- **Venting:** The intentional release of natural gas from equipment into the atmosphere. Over the last decade, 4% of reported lost gas was vented, 99% of which did not incur a royalty.
- **Leakage:** The unintentional release of natural gas due to improperly sealed or malfunctioning equipment, often referred to as “fugitive” emissions. Over the last decade, 3% of reported gas losses were spilled or otherwise unavoidably lost, all of which did not incur a royalty.

While all three pathways contribute to methane waste, the data shows that routine flaring is by far the most significant source of reported gas losses on federal lands. Understanding that distinction is important because efforts to reduce routine flaring represents the greatest opportunity to reduce waste and increase returns to taxpayers.

² Environmental Protection Agency (EPA), “Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2022,” https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf.

Decades of Wasted Gas on Federal Land

BLM manages more than 245 million acres of public land and 700 million acres of subsurface mineral estate on behalf of the American people,³ and has clear authority and, in fact, a statutory obligation “to prevent waste of oil or gas developed in the land” and to assess and collect royalties on the produced resources.⁴ The data presented in this report suggest the agency has failed to fulfill this statutory responsibility for many decades. Operators continue to report losing billions of cubic feet of taxpayer-owned natural gas every year, much of it through routine flaring that often occurs without incurring a royalty.

For over 40 years, federal policy on methane waste was informed by the 1979 *Notice to Lessees and Operators of Onshore Federal and Indian Oil and Gas Leases Regarding Royalty or Compensation for Oil and Gas Lost* (NTL-4A). Although NTL-4A required operators to pay royalties on “avoidably lost” gas,⁵ the lack of clear requirements as to whether a specific practice results in avoidable or unavoidable loss incentivized operators to flare associated gasses in order to maximize short-term profits from immediate oil production, even after accounting for the loss of revenue from gas. NTL-4A also expressly authorized royalty-free venting and flaring “on a short-term basis.”⁶

In 2010, the GAO estimated that 126 billion cubic feet of natural gas was vented or flared from onshore federal leases in 2008.⁷ The agency also concluded that at least some of those losses were preventable, estimating that “... about 40 percent of natural gas estimated to be vented and flared on federal onshore leases could be economically captured with currently available control technologies.”⁸ The GAO also repeatedly reported on BLM’s continued failure to accurately track and monitor the volume of natural gas that operators vent, flare, or leak during operations, which led to under-collection of royalties and unauthorized venting and flaring.

NTL-4A also proved increasingly outdated and insufficient to address the rapid expansion of hydraulic fracturing and horizontal drilling in recent decades. Large volumes of flaring

³ Bureau of Land Management (BLM), “What We Manage Nationally,” accessed August 19, 2026, <https://www.blm.gov/about/what-we-manage/national>.

⁴ 30 U.S.C. 225, 226

⁵ BLM, “Waste Prevention, Production Subject to Royalties, and Resource Conservation,” November 30, 2022, <https://www.federalregister.gov/d/2022-25345/p-125>.

⁶ Ibid

⁷ Government Accountability Office (GAO), “Federal Oil And Gas Leases: Opportunities Exist to Capture Vented and Flared Natural Gas, Which Would Increase Royalty Payments and Reduce Greenhouse Gases,” GAO-11-34, October 2010, <https://www.gao.gov/assets/a311829.html>.

⁸ Ibid

became more prevalent to access the unconventional “tight” oil and gas formation,⁹ and the amount of gas lost on federal lands more than doubled between 2010 and 2015. Technologies that reduce gas losses from storage tanks, pneumatic controllers, and equipment leaks also advanced substantially while the underlying guidance remained largely unchanged.

BLM sought to address these shortcomings and issued the *Waste Prevention, Production Subject to Royalties, and Resource Conservation Rule* in 2016 to clarify when royalties should be assessed on lost gas and to establish standards intended to reduce waste. In 2018, the agency issued another rule that rescinded much of the 2016 rule. In 2020, separate federal district court decisions vacated both the 2016 rule and the 2018 rescission. As a result, the regulatory framework overseeing methane waste on federal land largely returned to the older NTL-4A’s standards.¹⁰

BLM promulgated another reform effort and issued the *Waste Prevention, Production Subject to Royalties, and Resource Conservation Rule* (2024 rule), which is the current regulatory framework on methane waste on federal lands. The rule requires that oil and gas operators “use all reasonable precautions to prevent the waste of oil or gas” from federal leases.¹¹ Key components implementing this charge include waste minimization plans and “leak detection and repair” programs. The rule also provides limits on the scenarios under which oil and gas operators can vent or flare (e.g. an emergency or technical issue) and how that waste must be reported. At the end of 2025, however, BLM delayed enforcement of portions of that rule and in 2026 proposed another revision that would roll back many of the core provisions of the 2024 rule.

Gas Lost on Federal Lands Today

Till this day, the underlying problem leading to methane waste remains unresolved. As regulatory requirements flip-flop, operators continue to report significant volumes of lost gas, and taxpayers continue to lose both a valuable public resource and associated royalty revenue.

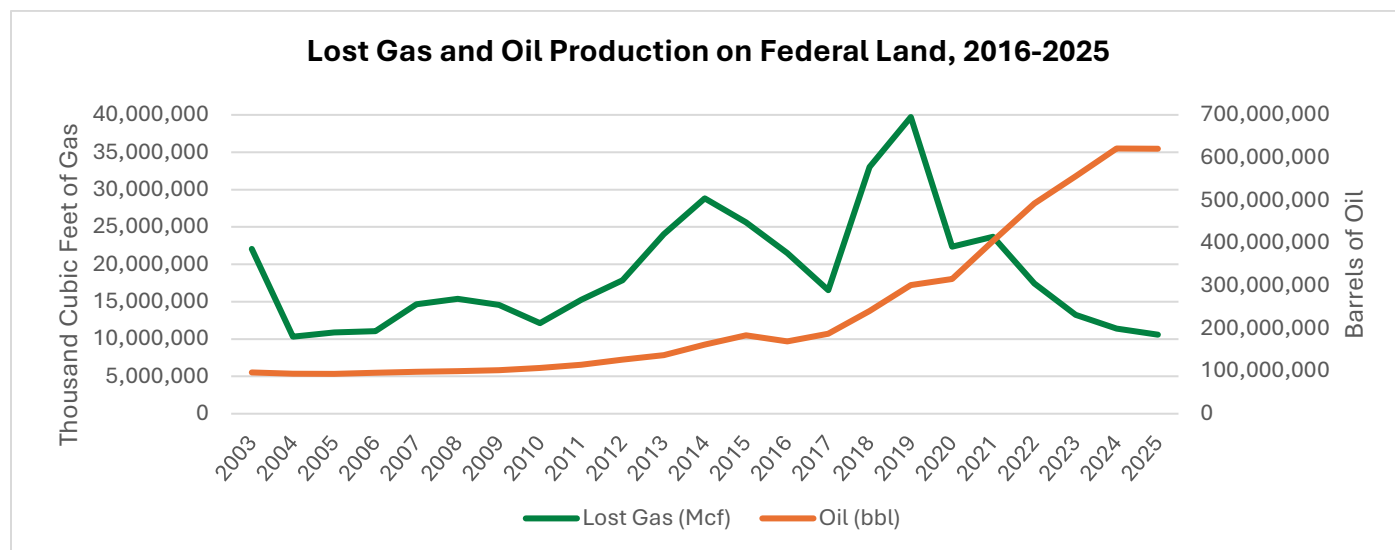
In the ten-year period from 2016 through 2025, operators reported venting, flaring, or otherwise losing 209 billion cubic feet (bcf) of natural gas from leases on federal lands —

⁹ Michael Ratner and Mark Tiemann, “An Overview of Unconventional Oil and Natural Gas: Resources and Federal Actions,” Congressional Research Service, April 22, 2015, <https://www.congress.gov/crs-product/R43148>.

¹⁰ See Taxpayers for Common Sense’s analysis on the 2018 rule for more detail: <https://taxpayer.net/energy-natural-resources/the-new-interior-methane-rule-breakdown-and-analysis/>.

¹¹ BLM, “Waste Prevention, Production Subject to Royalties, and Resource Conservation,” April 10, 2024, <https://www.federalregister.gov/d/2024-06827/p-648>.

enough to meet the annual energy needs of 2.8 million households.¹² Using average monthly Henry Hub natural gas spot prices, this gas had an estimated value of \$658 million.¹³ The largest volume of reported waste occurred in 2019, when operators lost roughly 40 billion cubic feet of natural gas. The total volume of lost gas has decreased steadily over the past few years while federal oil production skyrocketed, meaning that oil and gas operators are venting and flaring less while producing more.



Although reported volumes of lost gas have generally declined since then, the total value of lost gas has remained substantial. Because natural gas prices spiked in 2022, the estimated value of lost gas that year, \$109 million, was nearly as high as in 2019. As reforms that helped reduce waste are once again at risk of being rolled back, operators might once again revert to routine venting and flaring practices that have wasted billions of cubic feet of taxpayer-owned natural gas every year throughout the decades.

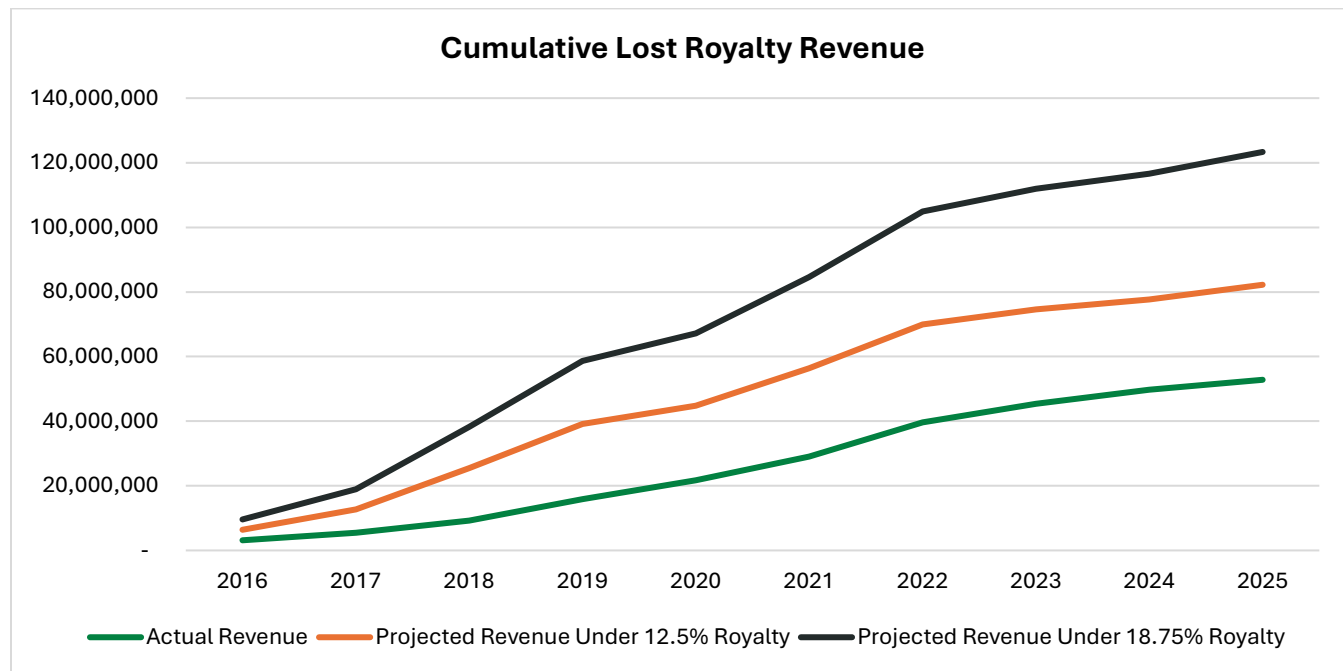
If royalties had been collected at the current federal onshore rate of 12.5% on all reported lost gas over the last decade, taxpayers would have received approximately \$82 million in royalty revenue, split between the federal government and the states. Instead, ONRR collected approximately \$53 million, leaving nearly \$29 million in unrealized revenue under the existing royalty rate.

¹² All natural gas was assumed to have a heat value of 1,037 Btu per cubic foot. The U.S. Energy Information Administration (EIA) reports that the average American household consumed 76.8 million Btu of energy in 2020. Source: EIA, "2020 RECS Survey Data," accessed August 19, 2026.

<https://www.eia.gov/consumption/residential/data/2020/index.php?view=consumption#summary>.

¹³ All natural gas was assumed to have a heat value of 1,037 Btu per cubic foot. Calculations used monthly average Henry Hub Natural Gas Spot Prices obtained from the EIA.

The gap is even larger when compared to royalty rates commonly charged on state and private lands. Had DOI collected royalties on all reported lost gas at 18.75%, consistent with many state leasing programs and federal offshore production,¹⁴ taxpayers would have received approximately \$123 million or \$70 million more than ONRR actually collected.



These estimates are almost certainly conservative. Operators self-report the volume of lost gas, and there is little incentive to estimate those losses accurately or consistent federal oversight to independently verify them. DOI does not comprehensively measure several important sources of methane waste, meaning the actual volume of lost gas, and the foregone royalties associated with it, are likely higher than reported.

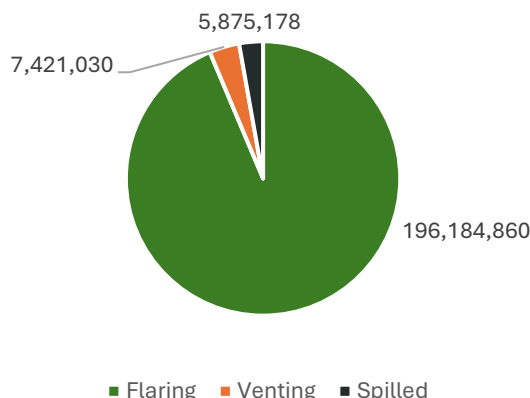
Routine Flaring Practices Drive Gas Waste and Revenue Losses

According to self-reported data, 94% of gas lost by drilling operators during the past decade was flared. Most flaring occurs at oil wells. In its analysis of ONRR data, BLM found that flaring of associated gas from development wells was the primary source of oil-well flaring.¹⁵

¹⁴ The One Big Beautiful Bill Act (OBBBA, P.L. 119-21) lowered royalty rates for new offshore leases to between 12.5% and 16.67%, down from a minimum of 16.67% and a maximum of 18.75%.

¹⁵ BLM, "Waste Prevention, Production Subject to Royalties, and Resource Conservation," November 18, 2016, <https://www.federalregister.gov/d/2016-27637/p-139>.

Volume of Gas Flared, Vented, and Leaked (Mcf) 2016-2025



Operators are choosing to flare gas that comes to the surface with oil rather than capture it because there is often little incentive to do otherwise. This flaring of associated gas represents a clear waste of a valuable taxpayer-owned resource. Furthermore, 71% of all flared gas over the last decade was not subject to a royalty.

Routine flaring is therefore responsible for the vast majority of both reported gas waste and lost royalty revenue. Reducing routine flaring represents the single greatest opportunity to reduce methane waste on federal lands while increasing returns to taxpayers.

States with the Highest Waste

Gas waste on federal lands over the last decade was highly concentrated in New Mexico and North Dakota, which together accounted for nearly four out of every five cubic feet of reported lost gas.

New Mexico is the country's largest producer of federal oil and gas. Over the last decade, operators in the state reported losing 75.9 billion cubic feet of natural gas, representing 36% of all reported gas lost on federal lands. Like the rest of the country, the vast majority (95%) of this gas was flared, while only 4% was vented and less than 1% was spilled or otherwise lost. Only 31% of the reported lost gas incurred a royalty.

North Dakota is the country's third-largest producer of federal oil and the fifth-largest producer of federal natural gas, yet it reported the greatest volume of gas waste. Over the last decade, operators reported losing 89.7 billion cubic feet of natural gas, representing 43% of all reported gas lost on federal lands. Nearly all of this gas (99%) was flared, most of it (78%) from oil wells. Had all of the reported lost gas been subject to the current 12.5% royalty rate, ONRR would have collected approximately \$36 million instead of the \$17 million it actually received.

Together, New Mexico and North Dakota illustrate that reported methane waste is concentrated in a small number of high oil-producing regions, suggesting that targeted reforms could significantly reduce waste and improve returns to taxpayers.

Conclusion

Oil and gas companies continue to waste billions of cubic feet of natural gas extracted from federal lands every year through venting, leaking, and flaring. This waste denies consumers access to a valuable energy resource while depriving taxpayers of royalty revenue from resources they own. Methane emissions also pose significant public health and safety risks, especially for the more than 10 million Americans living within half a mile of active oil and gas operations,¹⁶ and contribute to growing taxpayer costs associated with climate-related disasters.¹⁷

The data presented in this report shows that routine methane waste has persisted for decades despite changing administrations and repeated efforts to revise federal policy. Although reported losses have declined from their peak, operators continue to waste significant volumes of taxpayer-owned natural gas, much of it without paying a royalty.

BLM has both the authority and the responsibility to prevent unnecessary waste of publicly owned resources. Yet government watchdogs have spent decades reporting on many of the same underlying problems. Federal agencies still rely heavily on operator-reported data, conduct limited independent verification, and cannot always ensure taxpayers receive the royalties they are owed. Those shortcomings continue to undermine taxpayers' ability to receive a fair return from federal oil and gas development. Any successful policy should, to the maximum extent, prohibit routine methane waste and ensure taxpayers receive fair compensation when publicly owned resources are lost. Until underlying problems are addressed, routine methane waste will remain a recurring feature of federal oil and gas development rather than an exception.

Protecting taxpayer-owned resources means more than collecting royalties after gas has already been lost. It means expecting operators to bring natural gas to market whenever practicable and holding them accountable when they unnecessarily waste a publicly owned resource. After decades of warnings from government watchdogs, the question is no longer whether the problem exists. The question is whether policymakers will finally address it.

¹⁶ Environmental Defense Fund, Study Explores the Demographics of Communities Living Near Oil and Gas Wells, January 2024, <https://www.edf.org/media/study-explores-demographics-communities-living-near-oil-and-gas-wells>.

¹⁷ Taxpayers for Common Sense, "Paying the Price of Climate Change," June 7, 2023. <https://www.taxpayer.net/disaster/paying-the-price/>