U.S. DEPARTMENT OF ENERGY | Fossil Energy and Carbon Management

New Mexico Natural Gas Flaring and Venting Regulations

The U.S. Department of Energy's Office of Fossil Energy and Carbon Management (FECM) supports research and development of technologies that can reduce the volume of natural gas (e.g., methane) flared or vented (released) into the atmosphere during crude oil and natural gas production, processing, transportation, and storage operations. Methane is a potent greenhouse gas (GHG) and minimizing its release across the oil and natural gas supply chain is critical to the realization of a net GHG benefit and reducing climate and environmental impacts of carbon-based fuels. This fact sheet was created by FECM to inform stakeholders on state-level production and regulatory activities, as they relate to natural gas flaring and venting. FECM's research portfolio includes efforts to reduce natural gas flaring through the application of improved technologies to capture and utilize small volumes of natural gas at remote locations, as well as technologies to reduce methane release during upstream production operations, as well as midstream natural gas processing and transportation. While flaring activities in the prolific unconventional shale plays have steadily increased between 2011-2019 due to higher oil production levels and natural gas pipeline takeaway capacity constraints, this trend took a sharp downturn since 2020 as a result of significant decline in demand for oil. Other factors include federal and state regulatory efforts to reduce methane emissions, companies taking voluntary actions and measures to minimize flaring of associated natural gas, and additional pipeline projects connecting sources of supply and consumption.

New Mexico Producing Plays and Basins

There are two major oil and gas producing regions in the state: the oil- and gas-prone Permian Basin in the southeast and the more gas-prone San Juan Basin in the northwest (Figure 1). Smaller volumes of production come from the Raton Basin in the northeast. Oil and gas are produced on private, state, federal, and tribal lands in New Mexico. The Permian Basin in southeastern New Mexico and western Texas is the major oil-producing region in the state. It covers all or parts of Lea, Eddy, Chaves, and Roosevelt Counties. Since 1920, 20 major oil plays have been exploited in the basin. Advancements in horizontal drilling and completion techniques have expanded development of unconventional plays within the Permian Basin. These plays include producing zones within the formations of the Delaware Mountain Group, the Avalon Shale, the Bone Spring Formation, the Wolfcamp (Hueco) Formation, and the formations of the Yeso Group. The San Juan Basin houses one of the largest concentrations of proved natural gas reserves in the United States; however, gas production there has been declining since 2006. Oil and gas companies are exploring the Mancos Shale (analogous to the Lewis Shale) and the Niobrara (Gallup) sand in the San Juan Basin for oil resources development. In the Raton Basin, the Niobrara is also prospective area for natural gas.

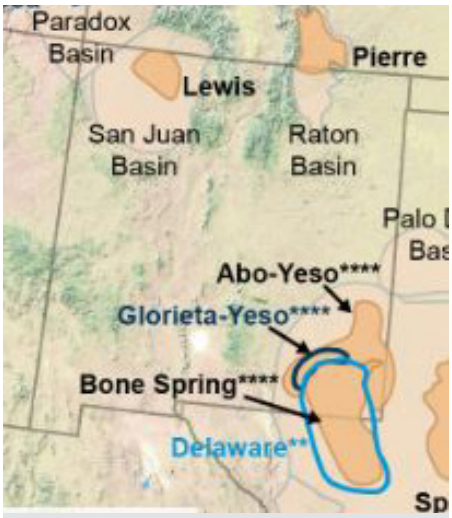

Figure 1: New Mexico basins and major unconventional oil and gas plays outlined. *Source: EIA*

New Mexico Oil and Natural Gas Statistics (EIA)

	2015	2016	2017	2018	2019	2020	2021
Crude Oil Production (Average Thousand Barrels/Day)	405	400	470	683	910	1,012	1,260
Natural Gas Gross Withdrawals and Production (Average MMcf/Day)	3,553	3,504	3,625	4,222	4,981	5,432	6,508
Natural Gas Gross Withdrawals and Production (Vented and Flared) (MMcf/Day)	68	70	48	102.5	102	59.5	43.6*
Natural Gas Gross Withdrawals and Production (Oil Wells) (MMcf/Day)	688	698	614	216	208	208	N/A
Natural Gas and Gas Producing Oil Wells (Thousands)	55.2	54.4	53.7	56.2	49.2	48.3	N/A

MMcf – million cubic feet

* As reported by the New Mexico Oil Conservation Division

2021 ranking among 32 U.S. oil and natural gas producing states — Oil: 2 Natural Gas: 7

In 2002, the U.S. Geological Survey (USGS) estimated a mean of 50.6 trillion cubic feet (Tcf) of undiscovered natural gas, a mean of 19 million barrels of undiscovered oil, and a mean of 148 million barrels of natural gas liquids in the San Juan Basin. In 2018, the USGS estimated the oil and gas resources for the Wolfcamp and Bone Springs plays in the Permian Basin (both New Mexico and Texas) at 46.3 billion barrels of oil, 281 Tcf of gas, and 20 billion barrels of natural gas liquids. The Potential Gas Committee's 2016 Report estimated a "most likely" technically recoverable gas resource total of 13.1 Tcf for the San Juan Basin. According to the U.S. Energy Information Administration (EIA), New Mexico's proved reserves are 3.54 billion barrels of oil and 26.1 Tcf of natural gas (2020).

New Mexico Key Regulations Associated with Flaring and Venting

The New Mexico Oil Conservation Division (OCD) is the primary regulator of oil and gas development and production in New Mexico. The OCD gathers oil and gas well production data, permits new wells, enforces New Mexico's oil and gas laws and rules, and ensures oil and gas development is conducted in a way that protects human health and the environment. OCD also administers oil- and gas-related aspects of the Water Quality Act and regulates development and production of geothermal resources under the Geothermal Resources Conservation Act.

The New Mexico Environment Department's Air Quality Bureau (AQB) oversees odors and air contaminants through the Air Quality Control Act. This state regulatory agency ensures air quality standards are met, enforces regulations, and monitors relevant emissions data. The AQB maintains and updates the New Mexico Environment Department's Emissions Analysis Tool that reports emission data from each currently active oil and natural gas facility. A variety of emissions are measured and monitored in order to enforce state and federal regulatory compliance.

The New Mexico Administrative Code (NMAC) delineates the official, current rules that have been filed by all of the state's agencies. Guidance for venting and flaring regulations is found under Chapter 15, Title 19, Subsection 18: Production Operating Practices. These rules state that an operator shall not flare or vent casinghead gas produced from a well after 60 days following the completion of a well. Exemptions to the rule exist and can be enacted by obtaining a permit. These exemptions include mechanical difficulties, associated gas having no commercial value, and other factors causing undue hardships to the applicant. This same subsection of the rules states that casinghead gas must be metered and any sold or transported away from the facility must be reported—with the exception of the small amounts of flare gas.

The AQB enforces air pollution through the Air Quality Control Act of New Mexico. This limits excess greenhouse gas emissions from production. Chapter 74 of the New Mexico Statutes Annotated 1978 defines limits and details permit requirements for emissions contributing to air pollution. These regulations are less related to specific venting and flaring requirements but more to overall facility compliance.

In March, 2021 the Oil Conservation Commission updated its gas capture regulation that calls on upstream and midstream operators to reduce routine natural gas flaring and venting by 98% by 2026. Operators may still vent or flare natural gas during emergencies or equipment malfunctions. All flaring and venting must be reported to the Commission regardless of the reason.

New Mexico State Points of Contact

New Mexico Oil Conservation Division (OCD)

Contact the OCD for more information about production data, regulations, and enforcement.

Website: www.emnrd.state.nm.us/OCD/

Email: florene.davidson@state.nm.us

Phone: 505-476-3441

New Mexico Environment Department: Air Quality Bureau (AQB)

The AQB has authority over air quality in most of New Mexico. Contact this organization for information regarding operating permits, compliance and air quality modeling.

Website: www.env.nm.gov/air-quality/

Email: Rhonda.Romero@state.nm.us

Phone: 505-476-4300

Visit https://www.energy.gov/fecm/findyourstate-natural-gas-flaring-and-venting-regulations-fact-sheets-state for a digital version of this fact sheet that includes hyperlinks to information sources.