Nevada 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.

Nevada Producing Plays and Basins

Nevada produces some oil, although total production is small relative to that of major oil producing states. Most of the oil has come from the Great Basin (Figure 1) in the eastern part of the state, primarily Railroad Valley (Nye and White Pine Counties) and Pine Valley (Elko and Eureka Counties). According to the Nevada Division of Minerals, there are only currently 11 producing oil fields—two in Pine Valley and nine in Railroad Valley (2022). Nevada does not have many oil targets because the state's geology has a very high heat flux, so most subsurface hydrocarbons have been cooked away.

The oil produced is a heavy crude, and most is sent to Nevada's one refinery, in Nye County, which makes it into asphalt tiles for roofs, asphalt for roads, and some diesel. More recently, the state has seen an increase in leasing in Monitor Valley and the Ruby Mountains, but there are no new plays emerging.

Nevada does not have any significant crude oil reserves, and the state produces only small amounts of crude oil. Nevada also has no significant natural gas reserves and only a limited amount of natural gas production. Almost all of the state's natural gas is produced from oil wells, and production is much less than natural gas consumption in Nevada.



Figure 1: Nevada oil and gas prospective areas outlined with historical well locations (dry and productive) shown in red Source: American Geosciences Institute

Nevada Oil and Natural Gas Statistics (EIA)

	2014	2015	2016	2017	2018	2019	2020
Crude Oil Production (Average Barrels/Day)*	866	770	759	784	708	706	597
Natural Gas Gross Withdrawals and Production (Average Mcf/Day)	8	8	8	8	8	13.7	32.7
Natural Gas Gross Withdrawals and Production (Vented and Flared) (Mcf/Day)	Gas production is extremely minor; all of the gas is utilized for infield equipment.*						
Natural Gas Gross Withdrawals and Production (Oil Wells) (Mcf/Day)	8	11	8	8	8	13.7	32.7
Natural Gas and Gas Producing Oil Wells	5	5	5	6	52	55	56

Mcf - thousand cubic feet

Ranking among 32 U.S. oil and natural gas producing states — Oil: 26 (2021) Natural Gas: 31 (2020)

^{*}Information provided by the Nevada Division of Minerals

Nevada Key Regulations Associated with Flaring and Venting

The Nevada Division of Minerals: Oil and Gas, is responsible for permitting, inspecting, and monitoring all oil, gas, and geothermal drilling activities on both public and private lands in Nevada. It also monitors production of oil, gas, and geothermal resources to ensure proper management and conservation. The Division is the state's regulatory authority for all oil and gas wells drilled in Nevada. Operators must provide daily reporting to the Division, which oversees the drilling and subsequent completion of operations; the Division also inspects the wells after completion.

Nevada Revised Statutes (NRS) and Nevada Administrative Codes (NAC) describe Nevada's oil and gas regulations. While Nevada does not have upstream flaring- and venting-specific regulations as related to natural gas, NRS 522.010 prohibits waste of oil and gas in the State of Nevada. NRS Section 522.039 defines waste as, among other things, the

inefficient, excessive, or improper use of or unnecessary dissipation of reservoir energy; or the escape of gas into the open air, from a well producing oil or gas, in excess of the amount which is reasonably necessary in the efficient production of the well.

NAC 522.345, Utilization of Gas, does not permit any gas from a gas well to escape into the air without the approval of the Nevada Division of Minerals. The exceptions are when it is required for safety; or when required for initial testing of a well; or when it is needed to lift oil artificially from a pool in cases of operational necessity if the escape is permitted for no more than 5 days within any 30-day period. Operators must report the disposition of gas produced by each gas well each month. Per the NRS 522.040, the Division may require the drilling, casing, and plugging of wells in such a manner as to prevent: the escape of oil or gas out of one stratum into another; the intrusion of water into an oil or gas stratum; the pollution of fresh water supplies by oil, gas, or salt water; and blowouts, cavings, seepages, and fires.

Nevada State Points of Contact

Nevada Commission on Mineral Resources: Division of Minerals -Oil and Gas

Contact the State of Nevada Commission on Mineral Resources for information regarding oil and gas regulations and production data.

Website: http://minerals.nv.gov/

Programs/OG/OG/

Email: cluxford@minerals.nv.gov

Phone: 775-684-7045

Nevada Division of Environmental Protection: Bureaus of Air Pollution Control and Air Quality Planning

Contact this state agency for more information about permits for emissions producing activities and air quality monitoring.

Website: https://ndep.nv.gov/air
Email: jechumacher@ndep.nv.gov

Phone: 775-687-9551

Visit <u>energy.gov/fe/state-natural-gas-flaring-and-venting-regulations</u> for a digital version of this fact sheet that includes hyperlinks to information sources.

