



The U.S. Department of Energy's Office of Fossil Energy (FE) 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 exploration, production, processing, transportation, and storage operations. This fact sheet was created by FE to inform stakeholders on state-level production and regulatory activity regarding natural gas flaring and venting. FE's research portfolio includes efforts to reduce methane (and other hydrocarbon) 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 (primarily) methane release during midstream gas processing and transportation. Intermittent flaring that occurs as a result of routine well testing, production facility process shutdowns, or facility and pipeline infrastructure maintenance, are normal aspects of safe oil and natural gas production. Increases in domestic oil and natural gas production have resulted in significant infrastructure buildouts, however, natural gas pipeline capacity constraints have led to regional increases in the flaring of associated gas in some unconventional plays (e.g., Permian Basin in Texas and New Mexico and Bakken Shale in North Dakota) in order to enable oil production.

Wyoming Producing Basins and Plays

Wyoming has 16 of the nation's largest natural gas fields, including the Pinedale and Jonah Fields, which rank among the top 10. The state is home to Bighorn, Denver, Greater Green River, Hanna, Laramie, Powder River, Wind River, and Shirley Basins ([Figure 1](#)). As of 2017, crude oil and/or natural gas are produced in 22 of Wyoming's 23 counties. According to the [Wyoming Oil and Gas Conservation Commission](#) (WOGCC), 7 fields of the top 10 cumulative oil-producing fields in the state are located within the Bighorn, which also has 2 additional fields ranking within the state's top 25 highest-producing fields. According to the U.S. Energy



Figure 1: Producing basins in Wyoming with major unconventional oil and gas plays outlined. Source: EIA

Information Administration (EIA), proved reserves are 1.12 billion barrels of oil and 22.35 Tcf of natural gas (2017).

Wyoming Key Regulations Associated with Flaring and Venting

The [WOGCC](#) is the state agency authorized to regulate oil and gas drilling and production on state-owned and private land. The U.S. Bureau of Land Management or the U.S. Forest Service regulates drilling on federal land. The Wyoming Department of Environmental Quality is not involved with flaring or venting; it only has requirements related to Tank Flashing Controls if a well operation surpasses an uncontrolled emissions threshold.

Authorization for Flaring and Venting of Gas is included within WOGCC's Rules

Wyoming [Oil](#) and [Natural Gas](#) Statistics (EIA)

	2013	2014	2015	2016	2017	2018
Crude Oil Production (Average Thousand Barrels/Day)	174	208	237	198	207	239
Natural Gas Gross Withdrawals and Production (Average MMcf/Day)	5,610	5,475	5,468	5,065	4,944	4,715
Natural Gas Gross Withdrawals and Production (Vented and Flared) (MMcf/Day)	95.9	74.6	9.5	31.8	25.0	N/A
Natural Gas Gross Withdrawals and Production (Oil Wells) (MMcf/Day)	80	109	160	146	160	N/A
Natural Gas and Gas Producing Oil Wells (Thousands)	31.5	30.6	29.9	28.1	27.7	N/A

MMcf - million cubic feet

2017 ranking among 32 U.S. oil and natural gas producing states — [Oil: 8](#) [Natural Gas: 5](#)

and Regulations under [Chapter 3, Section 39](#). Effective in April 2016, this guidance allows for flaring and venting during the following situations:

1. Emergencies or upset conditions that result in unavoidable short-term venting or flaring
2. Well purging and evaluation tests
3. Production tests (maximum of 15 days)
4. Low-rate casing head gas from individual oil wells (less than 60 thousand cubic feet/day).

The WOGCC requires that well owners/operators apply for authorization for flaring or venting in any other situation the rule outlines the application components. Special approval is also necessary for venting gas that contains a hydrogen sulfide content in excess of 50 parts per million. This is specifically related

to venting in controlled environments as a necessary safety measure and does not apply to fugitive emissions from production equipment, which the [Department of Environmental Quality](#) regulates.

Wyoming's Taxation and Revenue Statute, Title 39, also impacts natural gas flaring in the state. Section §39-14-205 exempts flared gas from the state's

6 percent natural gas extraction severance tax. As a result, operators extracting oil can dispose of natural gas by burning it off free of charge.

Wyoming Agency Points of Contact

Wyoming Oil and Gas Conservation Commission

Contact WOGCC for information about Wyoming's natural gas flaring and venting regulations.

Website: wogcc.wyo.gov/

Email: mark.watson@wyo.gov

Phone: 307-234-7147

Wyoming Department of Environmental Quality (DEQ); Air Quality Division

Contact DEQ for more information about air quality regulations.

Website: <http://deq.wyoming.gov/>

Email: Wyodeq@wyo.gov

Phone: 307-777-7391

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