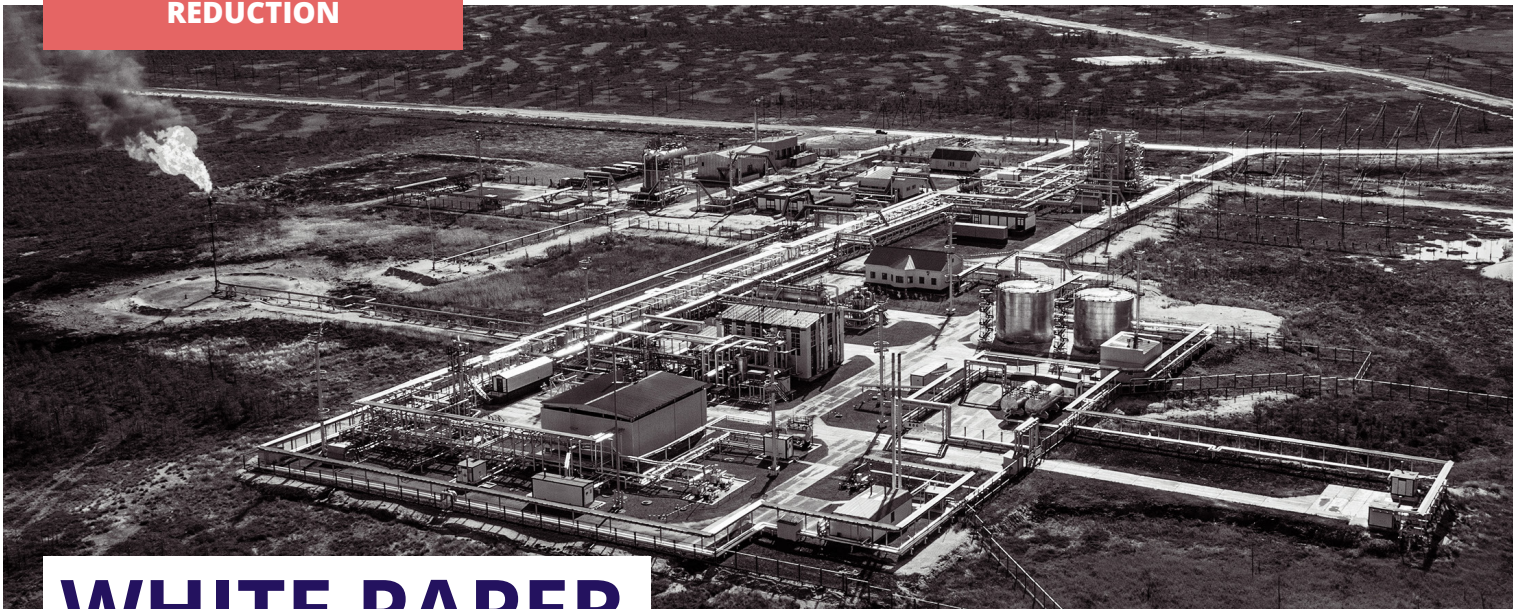


**EMISSIONS  
REDUCTION**



## **WHITE PAPER**

# **USA METHANE EMISSIONS:**

## **UNDERSTANDING METHANE REGULATIONS IN ENERGY PRODUCTION**



**CANUSAEPC.COM**

### **SUMMARY**

The American government has taken decisive steps to combat methane pollution. Navigating the maze of emissions regulations in the North American oil and gas sector can be a daunting task, even for the most seasoned professionals. The regulations and their governing bodies, combined with their rapid evolution in response to the urgent need for climate action.

This guide is crafted with the intention to bring clarity to the regulations that impact your operations, providing a clear and concise overview that aids understanding and compliance.

### **HIGHLIGHTS**

- Overview of current state of methane regulations (key 2023 data)
- Federal regulation overview for USA
- Key state regulations for US operators

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# Introduction

In a world focused on reducing greenhouse gas (GHG) emissions, Methane has taken front and center stage for reduction focus. At COP28's Global Methane Pledge (GMP) Ministerial, Ministers welcomed national actions and catalytic grant funding announced at COP28 to deliver on the goal to cut methane by at least 30 percent by 2030 <sup>(1)</sup>. Not only is methane 28 times more potent compared to CO<sub>2</sub> in trapping heat in the atmosphere, but it is also an immensely valuable product.

Recent rules and regulations are taking the approach of the "stick" compared to the recent years of the "carrot". Although Methane emissions from the oil and gas sector are not the only significant contributor, it seems to be the one governments are most easily able to gain support for regulations.

Currently, the IEA estimates that global emissions of methane are roughly 580 Mt per year. Of that, the energy sector was responsible for nearly 130 Mt of methane emissions in 2023 – more than one third of the total amount of human related emissions<sup>(2)</sup>.

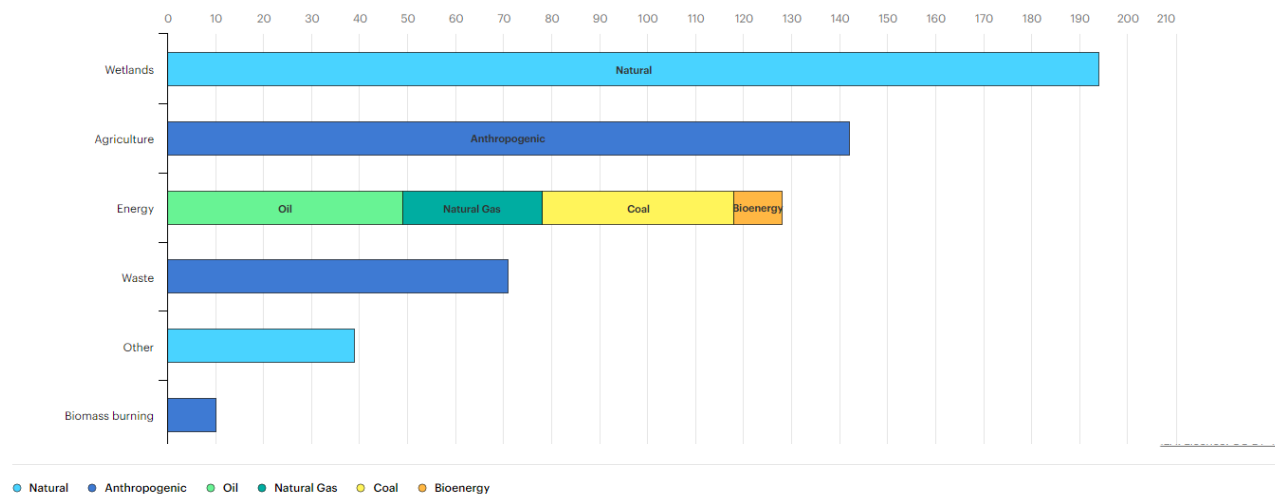
SOURCE: <sup>(1)</sup> <https://www.wri.org/news/statement-cop28-countries-announce-new-efforts-reduce-methane-pollution>

<sup>(2)</sup> <https://www.iea.org/reports/global-methane-tracker-2024/understanding-methane-emissions#abstract>

## Global Data

Individual countries are approaching methane emissions reporting and reduction targets in ways that align with their current market and regulatory bodies. The fact that energy, in the form of oil and LNG, is a global product, overall methane emissions will need to be coupled with methane intensity to allow trading markets to fairly value the products. Current data shows that methane emissions don't correlate to methane intensity, means that each country will have different degrees of return on efforts to reduce methane emissions from energy sources.

### Sources of Methane Emissions, 2023



SOURCE: 2023 data

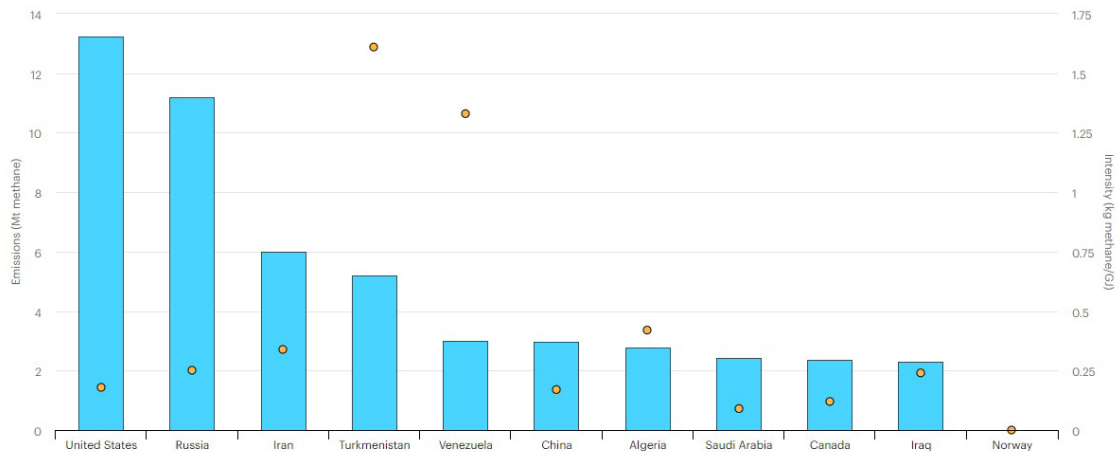
<https://www.iea.org/reports/global-methane-tracker-2024/understanding-methane-emissions#abstract>

# Methane emissions from oil and gas production and methane intensity for selected producers

Looking at the current methane emissions based on fugitive, vented, or flared will also give indication of where regulations look to focus on the short term and long term efforts of reducing methane waste.

Methane emissions from oil and gas production and methane intensity for selected producers, 2023

Open



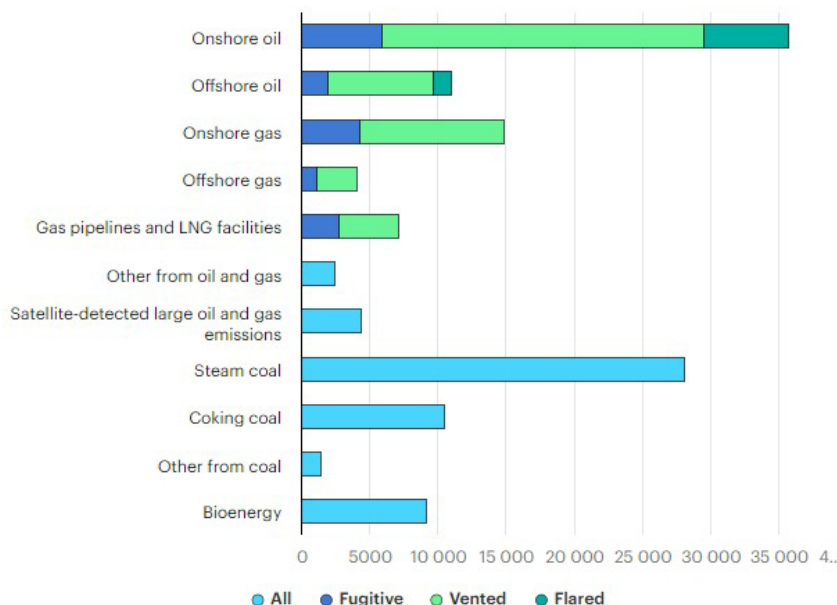
IEA, Licence: CC BY 4.0

● Emissions ● Intensity

SOURCE: 2023 data

<https://www.iea.org/reports/global-methane-tracker-2024/key-findings>

# World methane emissions from energy sources



SOURCE: Methane Tracker Updated March 2024

<https://www.iea.org/data-and-statistics/data-tools/methane-tracker>



# North American Focus

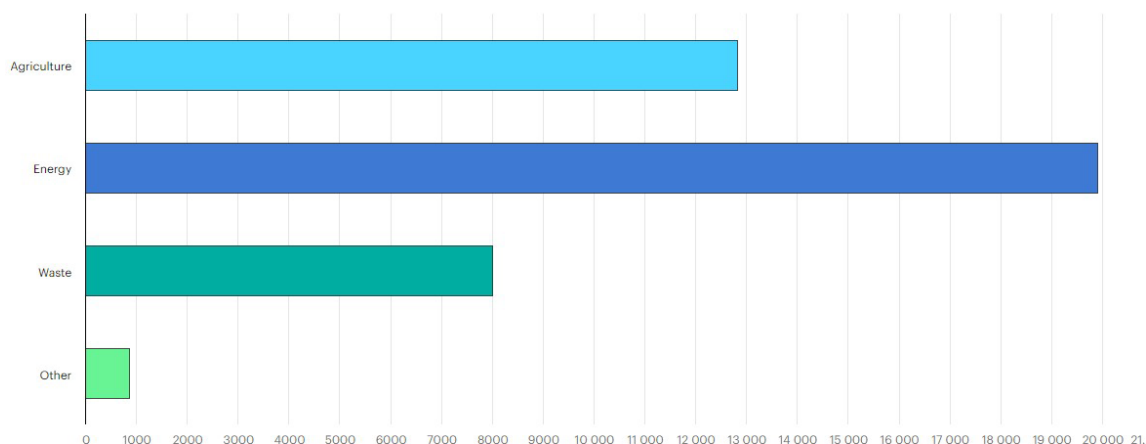
## North American Methane emissions from ALL sources

**41,601**  
kT (2023)

Estimated Total Emissions

**19,909**  
kT (2023)

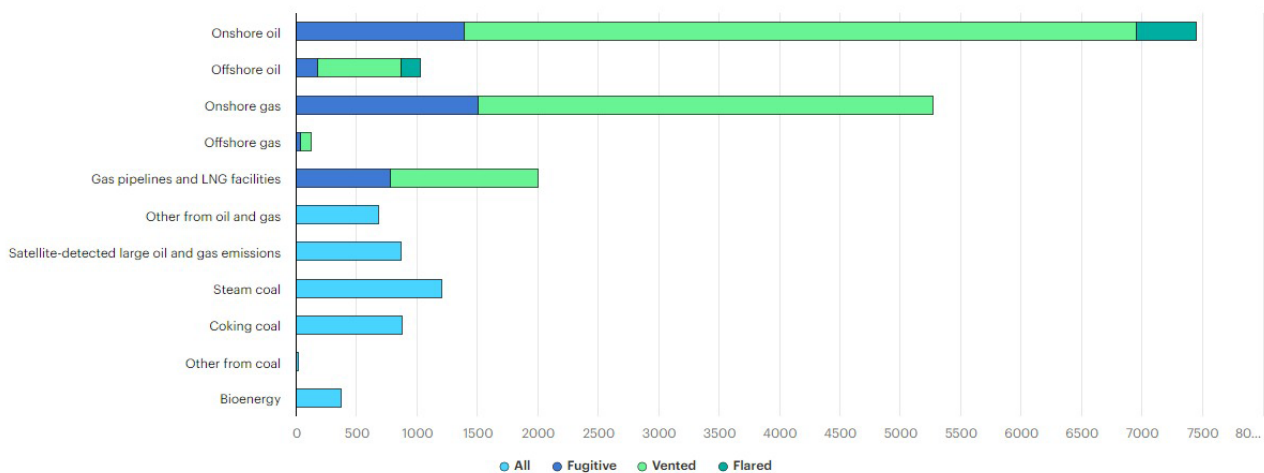
Estimated Emissions  
from Energy



SOURCE:

<https://www.iea.org/data-and-statistics/data-tools/methane-tracker>

## North American Methane emissions from ENERGY sources



SOURCE:

<https://www.iea.org/data-and-statistics/data-tools/methane-tracker>

# United States Focus

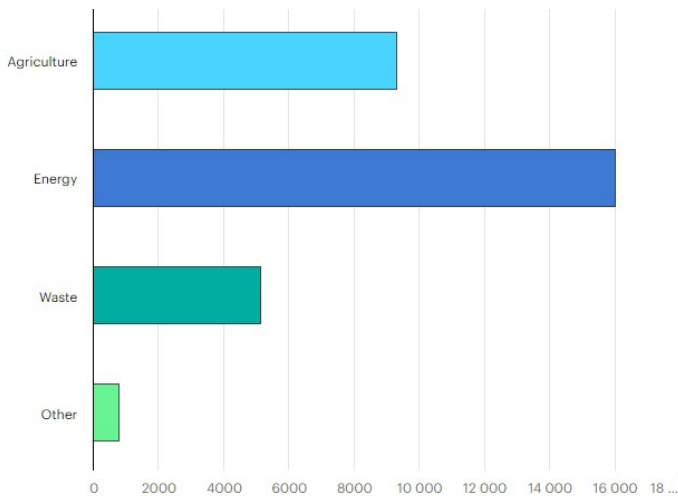
## United States Methane emissions from ALL sources

**31,251**  
kT (2023)

Estimated Total Emissions

**16,017**  
kT (2023)

Estimated Emissions  
from Energy



SOURCE:

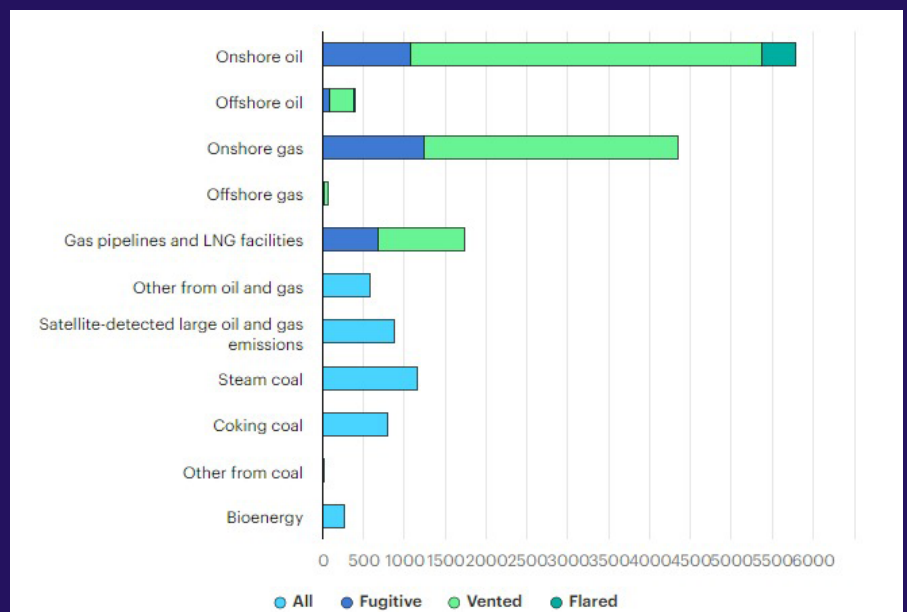
<https://www.iea.org/data-and-statistics/data-tools/methane-tracker>

**2** The United States ranks second in global emissions & energy-related emissions

## United States Methane emissions from ENERGY sources

SOURCE:

<https://www.iea.org/data-and-statistics/data-tools/methane-tracker>



# Regulation Patchwork for Methane Emission Regulations

Depending on the location of oil and gas operations, various regulations govern the permitting and reporting requirements for the facility and possibly the overall area of operations.

CANUSA EPC supports clients across various North American energy basins. We have organized these regulations by area of activity for our operating clients. Our list below is constantly being updated and reflects the current emissions requirements for Methane Emissions based on client locations.

This list has been updated as of **March 31, 2024.**

# US OPERATORS

## Federal Regulations



The following federal regulations from the Environmental Protection Agency (EPA) will govern national emissions standards. States will have timelines for implementing local regulations that meet these standards or default to adopting federal regulations in some cases. There are a few specific regulations that are important in determining methane emissions.

### Oil and Gas New Source Performance Standards (NSPS)

The EPA has established NSPS regulations for the oil and gas sector, which include requirements to reduce methane emissions from new, reconstructed, and modified sources within the industry.

These regulations are currently referred to as OOOO(b) and OOOO(c) that govern based on when facilities were constructed and modified last. A summary of the applicable dates based on facility modification are listed below.

Subpart	Source type	Applicable dates
40 CFR part 60, subpart OOOO	New, modified, or reconstructed sources	After August 23, 2011, and on or before September 18, 2015.
40 CFR part 60, subpart OOOOa	New, modified, or reconstructed sources	After September 18, 2015, and on or before December 6, 2022.
40 CFR part 60, subpart OOOOb	New, modified, or reconstructed sources	After December 6, 2022.
40 CFR part 60, subpart OOOOc	Existing sources	On or before December 6, 2022.

SOURCE:

<https://www.federalregister.gov/d/2024-00366/p-267>

The emissions sources for which the EPA proposed standards in the November 2021 Proposal are as follows:

- Well completions
- Gas well liquids unloading operations
- Associated gas from oil wells
- Wet seal centrifugal compressors
- Reciprocating compressors
- Process controllers
- Pumps
- Storage vessels
- Collection of fugitive emissions components at well sites, centralized production facilities, and compressor stations
- Equipment leaks at natural gas processing plants
- Sweetening units

SOURCE: <https://www.federalregister.gov/d/2024-00366/p-638>

## Methane Emissions Reduction Program

The Inflation Reduction Act establishes new powers under Section 136 of the Clean Air Act to lower methane emissions from the oil and natural gas sector by setting up the Methane Emissions Reduction Program. This program will help to cut down on methane and other greenhouse gas (GHGs) emissions from the oil and gas sector and will also have the added benefit of lowering non-GHG emissions such as volatile organic compounds and hazardous air pollutants.

SOURCE: <https://www.epa.gov/inflation-reduction-act/methane-emissions-reduction-program>

## Super Emitter Program

EPA has added a new Super Emitter Program, which sparked a lot of feedback and issues in the proposed rule. Under EPA's finalized Super Emitter Program, local regulatory agencies, and certain EPA-certified third parties would be authorized to submit notifications to EPA when they detect "super-emitter events," defined as emissions of 100 kilograms of methane per hour or greater, at or near an owner's or operator's facility.

If EPA determines that the submitted notification is complete, timely, and accurate "to a reasonable degree of certainty," the EPA will provide the notification to an owner or operator identified in the notification. If an owner or operator receives such a notification, the owner or operator must launch an investigation



into the super-emitter event within **5 calendar days** of receiving the notice and must submit a report of its investigation to EPA within **15 calendar days** of the notification. This program will extend outside of the emissions sources governed by the OOOO(b) and OOOO(c) requirements.

SOURCE: <https://www.epa.gov/compliance/super-emitter>

SOURCE: <https://www.federalregister.gov/d/2024-00366/p-789>

## Greenhouse Gas Reporting Program (GHGRP Subpart W) and the Methane Fee

As part of this program, EPA is required to revise the reporting requirements for applicable oil and gas facilities under the Greenhouse Gas Reporting Program (GHGRP).

SOURCE: <https://www.govinfo.gov/content/pkg/FR-2023-08-01/pdf/2023-14338.pdf>

Specifically in this program, GHGRP reporting under Subpart W will be used for the calculation of methane fee related to the allotted emissions factor based on the operator's processing footprint compared to their reported emissions.

SOURCE: <https://www.epa.gov/inflation-reduction-act/waste-emissions-charge>

SOURCE: [https://www.epa.gov/system/files/documents/2024-01/wec-proposed-rule-fr\\_1-26-2024.pdf](https://www.epa.gov/system/files/documents/2024-01/wec-proposed-rule-fr_1-26-2024.pdf)

SOURCE: [https://www.epa.gov/system/files/documents/2024-01/wec\\_factsheet.pdf](https://www.epa.gov/system/files/documents/2024-01/wec_factsheet.pdf)

SOURCE: [https://www.epa.gov/system/files/documents/2024-01/wec-proposed-rule-technical-outreach-webinar\\_1.pdf](https://www.epa.gov/system/files/documents/2024-01/wec-proposed-rule-technical-outreach-webinar_1.pdf)

Methane fees are projected at the following pricing per the below table:

Year	Price per Tonne of Methane (USD)
2024	900
2025	1200
2026	1500

## Department of Interior's BLM

The Department of the Interior's Bureau of Land Management (BLM) issued a proposal on November 30, 2022 to make operators of federal and Indian oil and gas leases take actions to prevent the loss of methane ("2022 Waste Prevention Rule"). This proposed rule would replace the outdated policy, NTL-4A, which has been in place for over 40 years. It would make operators take measures to reduce methane loss and ensure that the US public and tribal mineral owners get paid royalties when natural gas is wasted at these sites.

SOURCE: <https://www.blm.gov/sites/default/files/docs/2022-11/Proposed%20Waste%20Prevention%20Rule%20RIN%201004-AE79.pdf>

SOURCE: <https://eelp.law.harvard.edu/wp-content/uploads/BLM-Methane-Rule-Summary.pdf>



# US OPERATORS

## State Regulations

### Texas

**Primary Regulatory Agency:**

Texas Commission on Environmental Quality (TCEQ)



Methane emissions regulations are managed by the Texas Commission on Environmental Quality (TCEQ). TCEQ is the primary regulatory agency for environmental matters in Texas. It oversees air quality regulations, including those related to methane emissions. TCEQ implements and enforces state-level regulations concerning air pollution control, including permitting and compliance requirements for industries.

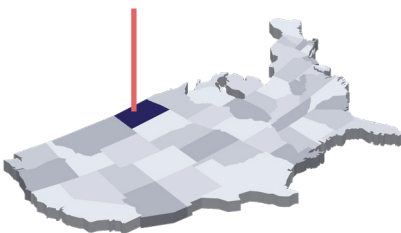
Regulations will be located in the Texas Administrative Code (TAC). The TAC contains the regulations and rules adopted by state agencies in Texas, including those related to air quality and methane emissions. Title 30 of the TAC specifically covers environmental quality.

SOURCE: [https://www.tceq.texas.gov/assistance/industry/oil-and-gas/oilgas\\_air.html](https://www.tceq.texas.gov/assistance/industry/oil-and-gas/oilgas_air.html)

### North Dakota

**Primary Regulatory Agency:**

North Dakota Department of Air Quality (NDDEQ)



North Dakota Department of Air Quality (NDDEQ):

The NDDEQ develops and enforces regulations related to air quality, including regulations that address methane emissions. These regulations may cover various industries and activities, including oil and gas production, agriculture, and other sources of methane emissions.

The rules adopted by the NDDEQ largely follow the NSPS from the EPA. Some specific rules that are pertinent to North Dakota involve JT skids for liquid knockout at production facilities.

Home Page

SOURCE: <https://deq.nd.gov/air/oilgas/OilGasMidStream.aspx>

## JT Skid Memo

SOURCE: [https://deq.nd.gov/publications/AQ/policy/PC/jt\\_skid\\_refer\\_memo.pdf](https://deq.nd.gov/publications/AQ/policy/PC/jt_skid_refer_memo.pdf)

## Electric Compression Permitting

SOURCE: [https://deq.nd.gov/publications/AQ/policy/PC/Electric\\_Compressor\\_Policy.pdf](https://deq.nd.gov/publications/AQ/policy/PC/Electric_Compressor_Policy.pdf)

## Storage Vessel Registration and Reporting

SOURCE: [https://deq.nd.gov/publications/AQ/policy/PC/Storage\\_Vessel\\_Guidance.pdf](https://deq.nd.gov/publications/AQ/policy/PC/Storage_Vessel_Guidance.pdf)

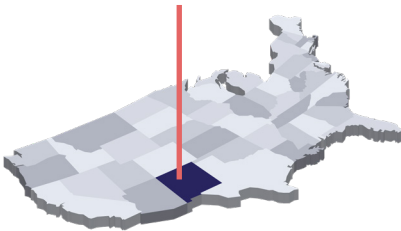
The North Dakota Industrial Commission (NDIC) is a regulatory agency that specializes in the oil and gas industry, and it supervises the Oil and Gas Division. The main priority of the NDIC is oil and gas production, but it might also have some authority over methane emissions from these operations.

SOURCE: <https://www.dmr.nd.gov/oilgas/>

## New Mexico

### Primary Regulatory Agency:

New Mexico Environment  
Department (NMED)



### New Mexico Environment Department (NMED):

The NMED's role is to safeguard the environment and public health in New Mexico. It regulates different facets of environmental protection, such as air quality, water quality, and hazardous waste management. NMED might participate in granting permits and ensuring compliance for oil and gas facilities, especially concerning air emissions and water contamination.

SOURCE: <https://www.env.nm.gov/>

New Mexico is developing a methane strategy, with updates to the rule making and comment process to be found here.

SOURCE: <https://www.env.nm.gov/new-mexico-methane-strategy/>

Draft regulations related to compressors seals and rod packing.

SOURCE: <https://www.env.nm.gov/wp-content/uploads/sites/15/2020/07/Draft-Ozone-Precursor-Rule-for-Oil-and-Natural-Gas-Sector-Version-Date-7.20.20.pdf>

New Mexico Oil Conservation Division (OCD):

The OCD, a division of the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), is the primary regulatory agency for the oil and gas industry in the state. The OCD oversees permitting, drilling, production, and environmental compliance for oil and gas operations. The natural gas waste rule went into effect on May 25, 2021, requiring compliance to achieve a 98% capture rate by 2026.

Production facilities rule fall under NM 19.15.27

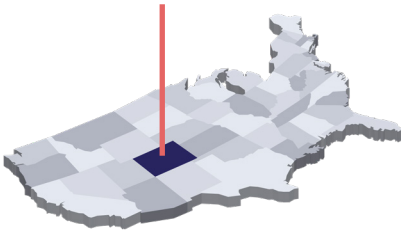
SOURCE: <https://www.srca.nm.gov/parts/title19/19.015.0027.html>

Gathering and processing facilities will follow NM 19.15.28

SOURCE: <https://www.srca.nm.gov/parts/title19/19.015.0028.html>

## Colorado

**Primary Regulatory Agency:**  
Energy & Carbon Management  
Commission (ECMC)



Energy & Carbon Management Commission (ECMC):

The ECMC's purpose is to regulate the development and production of oil and gas, deep geothermal resources, the capture and sequestration of carbon, and the underground storage of natural gas in a manner that protects public health, safety, welfare, the environment, and wildlife resources. The ECMC is a division of the Colorado Department of Natural Resources (DNR). There are various rules from the ECMC governing methane emissions as well as future CO2 emission targets.

SOURCE: <https://ecmc.state.co.us/#/home>

The ECMC 900 Series rule references many Air Quality Control Commission regulations.

SOURCE: <https://ecmc.state.co.us/documents/reg/Rules/LATEST/900%20Series%20-%20Environmental%20Impact%20Prevention.pdf>

Colorado Department of Public Health and Environment (CDPHE):

The CDPHE is the primary regulatory agency responsible for protecting public health and the environment in Colorado. Within the CDPHE, the Air Quality Control Commission (AQCC) is responsible for regulating air quality, including emissions of methane and other pollutants. The AQCC develops and enforces air quality regulations, permits industrial

facilities, and monitors air quality across the state.

SOURCE: <https://cdphe.colorado.gov/environment/air-pollution/climate-change>

SOURCE: <https://cdphe.colorado.gov/aqcc-regulations>

Regulation 7 governs the control of emissions from oil and gas operations.

SOURCE: <https://drive.google.com/file/d/1P6pRmNYx5KwEK6qDReYFL11-K-URI33J/view>

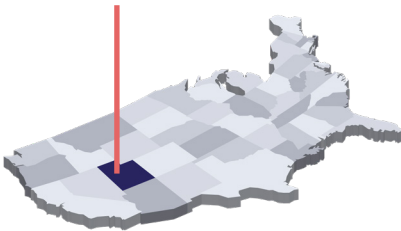
Regulation 22 stipulates the start of Greenhouse Gas Reporting for future reduction requirements.

SOURCE: [https://drive.google.com/file/d/1P5\\_sAriqliLw\\_XOnYet-BBexBID68JPY/view](https://drive.google.com/file/d/1P5_sAriqliLw_XOnYet-BBexBID68JPY/view)

## Utah

### Primary Regulatory Agency:

Utah Department of  
Environmental Quality (DEQ)



Utah Department of Environmental Quality (DEQ):

The DEQ is the main agency in charge of safeguarding public health and the environment in Utah. One of its divisions, the Division of Air Quality (DAQ), deals with air quality problems, such as methane emissions. The DAQ makes and implements rules to lower methane emissions from different sources, such as oil and gas activities, landfills, and farming.

SOURCE: <https://deq.utah.gov/>

Utah Division of Oil, Gas, and Mining (UDOGM):

The UDOGM regulates oil, gas, and mining activities in Utah. While its primary focus is on permitting, drilling, and production activities, the UDOGM also addresses environmental concerns associated with oil and gas operations, including methane emissions. The UDOGM may work in coordination with the DEQ to develop and implement regulations aimed at reducing methane emissions from the oil and gas sector.

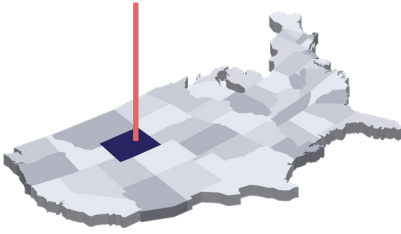
SOURCE: <https://www.ogm.utah.gov/>

## Wyoming

### Primary Regulatory Agency:

Wyoming Oil and Gas

Conservation Commission (WOGCC)



Wyoming Department of Environmental Quality (DEQ):

Particularly through its Air Quality Division, the DEQ plays a crucial role in regulating air pollutants, including methane, as part of its mandate to protect and enhance the state's air quality. The DEQ implements and enforces state-specific regulations that align with or go beyond federal standards to address air quality and pollution issues, including those related to methane emissions from various sources.

SOURCE: <https://deq.wyoming.gov/>

Wyoming Oil and Gas Conservation Commission (WOGCC):

As outlined in the state's Conservation Act, the WOGCC is charged primarily with preventing the waste of oil and gas and protecting correlative rights for Wyoming. The WOGCC works alongside many other agencies in the state that also play a role in providing a balanced approach for the industry, such as the Wyoming Department of Environmental Quality or Wyoming Outdoor Council.

Wyoming updated its standards in 2019 to require oil and gas companies to check new facilities regularly for emissions of smog and methane.

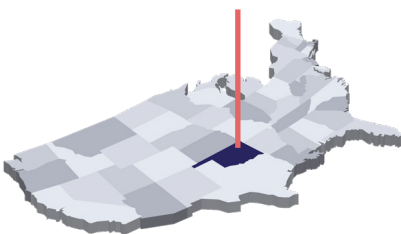
SOURCE: <https://lpdd.org/resources/wyoming-regulation-of-oil-and-gas-sector-methane-emissions/>

## Oklahoma

### Primary Regulatory Agency:

Oklahoma Corporation

Commission (OCC)



The Oklahoma Corporation Commission (OCC) is the agency that oversees oil and gas production in Oklahoma. It mainly deals with issuing permits, regulating drilling, and monitoring production activities, but it also takes care of environmental issues related to oil and gas operations, such as methane emissions. The OCC has the authority to create and enforce rules to lower methane emissions from the oil and gas sector. SOURCE:

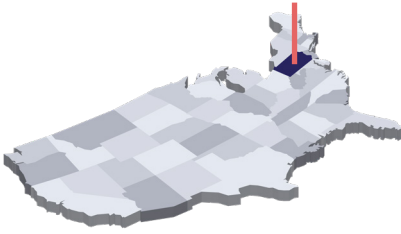
<https://oklahoma.gov/occ.html>

Oklahoma Department of Environmental Quality (ODEQ):

The ODEQ is responsible for protecting public health and the environment in Oklahoma. Within the ODEQ, the Air Quality Division specifically addresses air quality issues, including methane emissions. The division develops and enforces regulations to reduce methane emissions from various sources, including oil and gas operations, landfills, and agriculture. SOURCE: <https://www.deq.ok.gov/>

## Pennsylvania

**Primary Regulatory Agency:**  
Pennsylvania Department of  
Environmental Protection (DEP)



The Pennsylvania Department of Environmental Protection (DEP) has undertaken several steps to reduce methane leakage from oil and gas wells and transmission infrastructure. This includes updated permits for new oil and gas well sites that establish a threshold for methane emissions for the first time.

DEP has also pursued regulations for existing oil and gas wells and infrastructure. These regulations require operators to identify and stop leaks in their equipment that can allow methane and volatile organic compounds (VOCs) to escape into the atmosphere. While the regulations specifically target VOCs, reducing leaks of any gas from wells and pipelines will reduce methane emissions as well.

### Methane Reduction Strategy:

SOURCE: <https://www.dep.pa.gov/Business/Air/Pages/Methane-Reduction-Strategy.aspx>

The regulations for “Control of VOC Emissions from Unconventional Oil and Natural Gas Sources” were published as a final-form rulemaking at 52 Pa.B. 7587 on December 10, 2022 (25 Pa. Code §§ 129.121 – 129.130). The regulations for “Control of VOC Emissions from Conventional Oil and Natural Gas Sources” were also published on December 10, 2022 at 52 Pa.B. 7635 as an emergency certified final-omitted rulemaking (25 Pa. Code §§ 129.131-129.140).

Both regulations require annual reporting of specific compliance information. The initial annual report is due for Unconventional Oil and Natural Gas sources on December 10, 2023 addressing the time period of December 10, 2022 thru December 31, 2022. The initial annual report for Conventional Oil and Natural Gas sources is due December 2, 2023 addressing the time period of December 2, 2022 thru December 31, 2022.

The Department is providing this notice that it is suspending the enforcement of the initial annual report submission under 25 Pa. Code §§129.130(k)(1) for Unconventional and 129.140(k)(1) for Conventional until June 1, 2024, the date when the second report is due. That second report will cover the full 2023 calendar year.

SOURCE: <https://www.pacodeandbulletin.gov/Display/pabull?file=/secure/pabulletin/data/vol52/52-50/1924.html>



Connect with us to discuss your project and how methane regulations may impact your operation.

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