

Developing New Mexico's Oil and Natural Gas Methane Strategy

NEW MEXICO ENVIRONMENT DEPARTMENT

NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES
DEPARTMENT

Summer 2019

Developing New Mexico's Methane Strategy

Meeting Overview –

- 1:00 pm – Slide Presentation
- 2:00 pm – Public Questions and Answers
- 3:00 to 3:30 pm – Intermission
- 3:30 to 5:00 pm – Public Input Opportunities
- 5:00 to 6:00 pm – Open House Format

Developing New Mexico's Methane Strategy



“EMNRD and NMED shall jointly develop a statewide, enforceable regulatory framework to secure reductions in oil and gas sector methane emissions and to prevent waste from new and existing sources and enact such rules as soon as practicable.”

- Governor Michelle Lujan Grisham

Developing New Mexico's Methane Strategy



Science: Using the best available science to inform our decision-making in protecting public health, the environment and minimizing waste.



Innovation: Employing creative engineering and technological solutions to address the public health, environmental and waste challenges.



Collaboration: Engaging communities and interested stakeholders in our methane strategy decision-making.



Compliance: Ensuring meaningful compliance with state regulations and permits.

Developing New Mexico's Methane Strategy

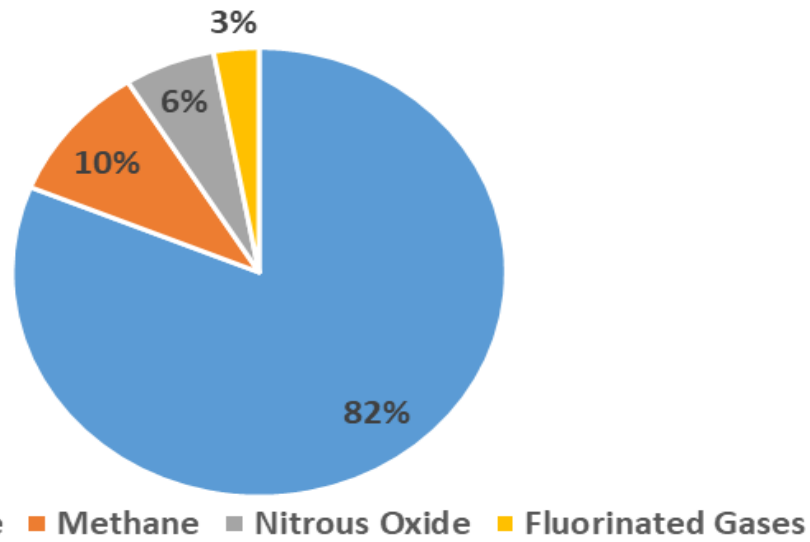
Methane is a **potent greenhouse gas** with a global warming potential 25 times greater than that of carbon dioxide.

Methane is the **second most prevalent greenhouse gas emitted** in the United States and New Mexico from human activities. Nationally, approximately one-third of methane emissions come from natural gas and petroleum production. In New Mexico, approximately 60 percent of methane emissions come from natural gas and petroleum production.

Source: U.S. EPA

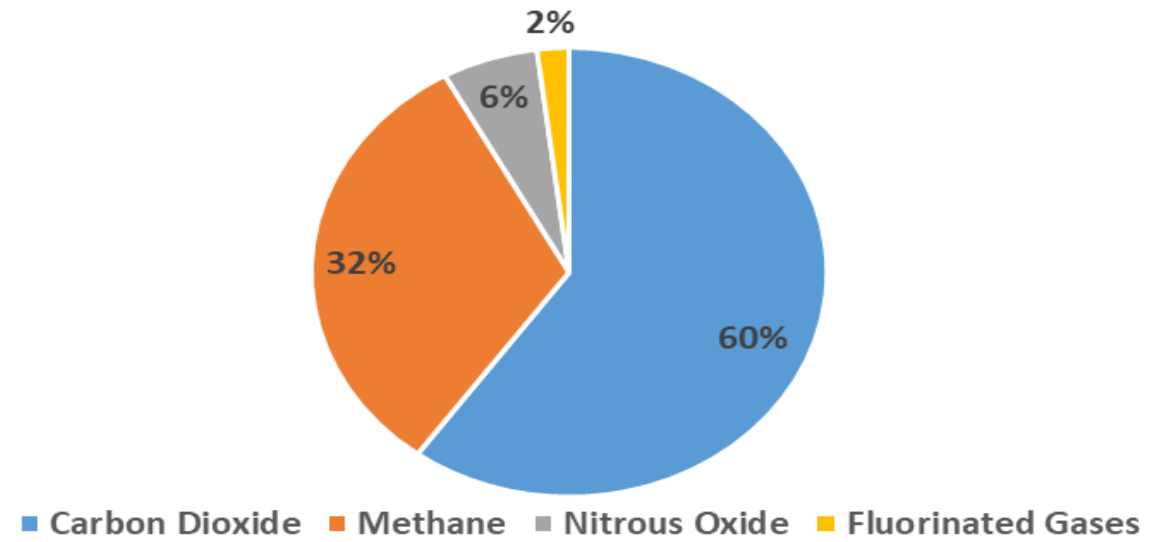
Developing New Mexico's Methane Strategy

US Greenhouse Gas Emissions



Data Source: US EPA

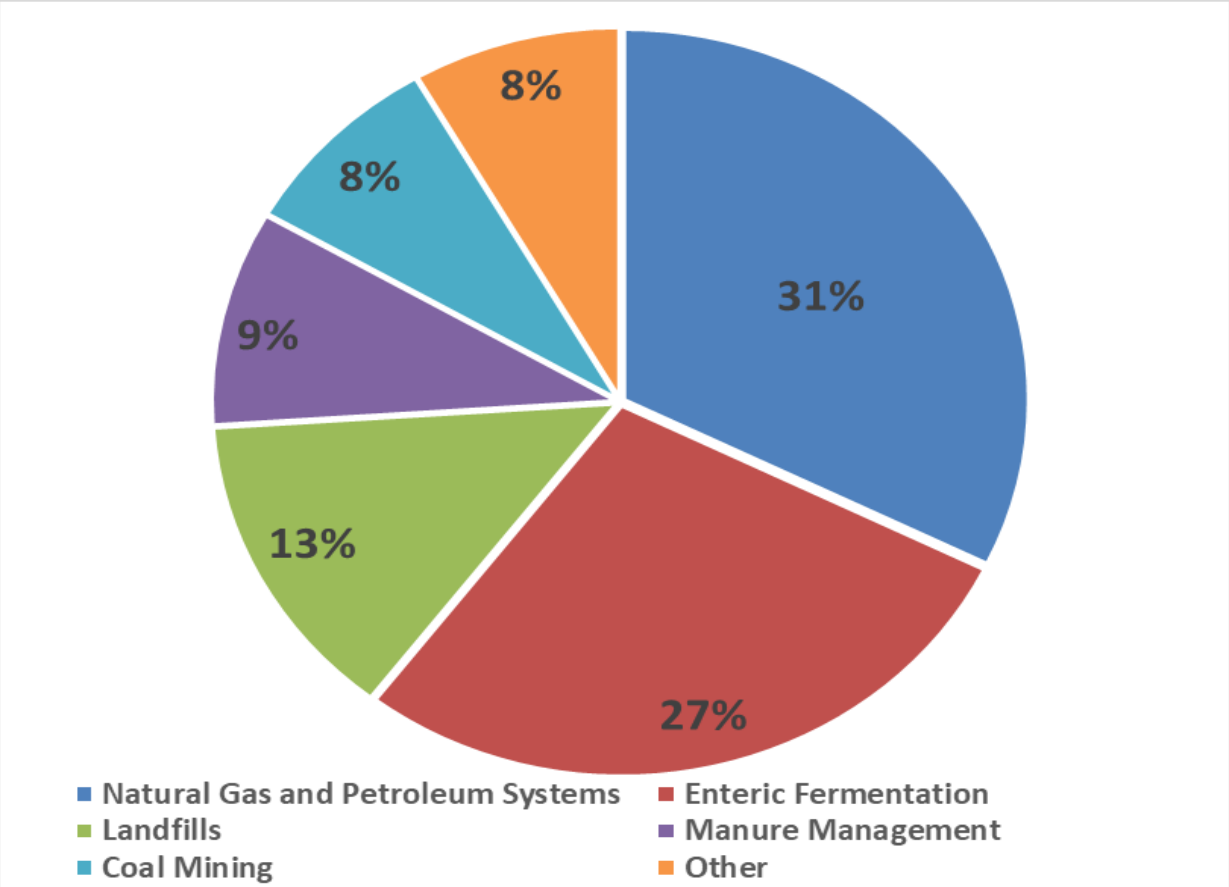
New Mexico Greenhouse Gas Emissions



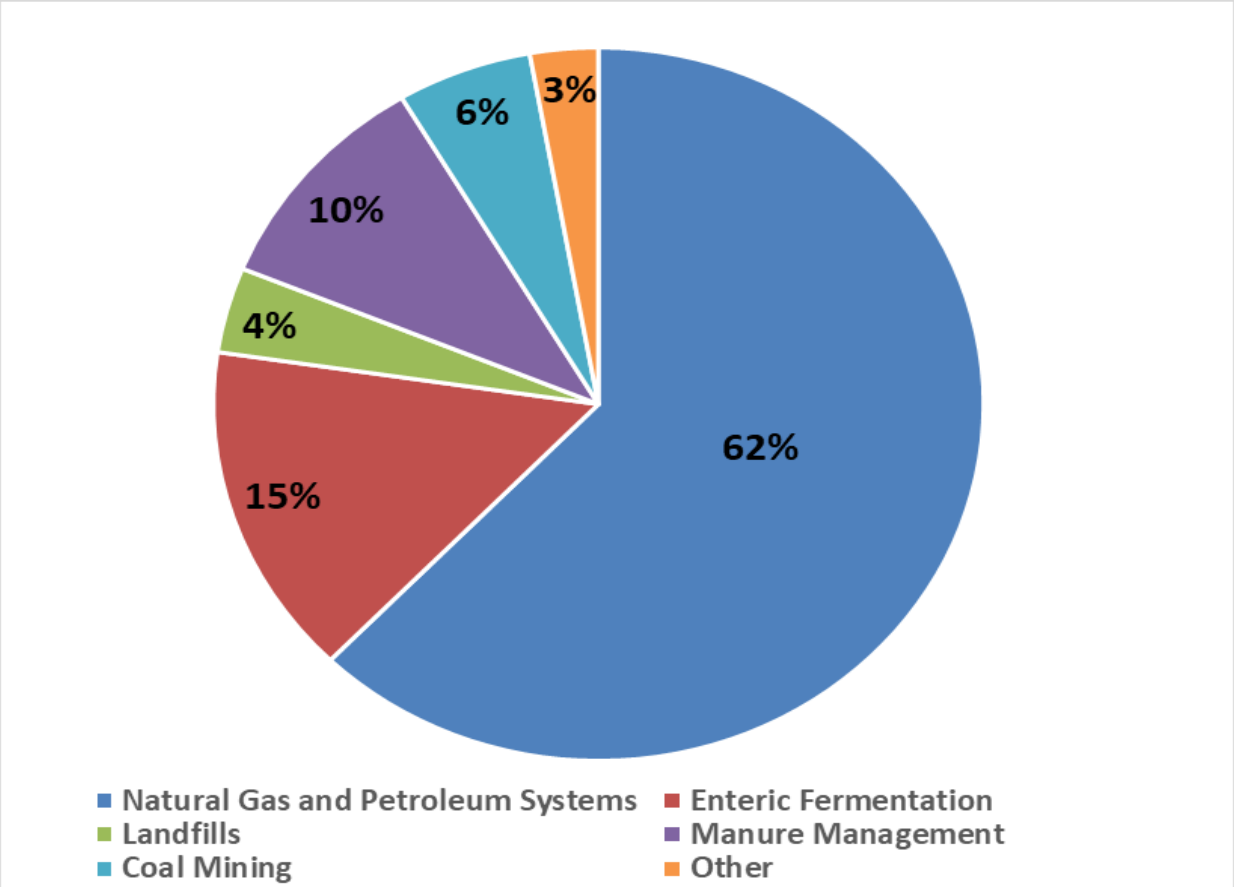
Data Sources: US EPA, US EIA, and Rhodium Group

Developing New Mexico's Methane Strategy

US Methane Emissions



New Mexico Methane Emissions



Data Source: US EPA

Data Source: Rhodium Group

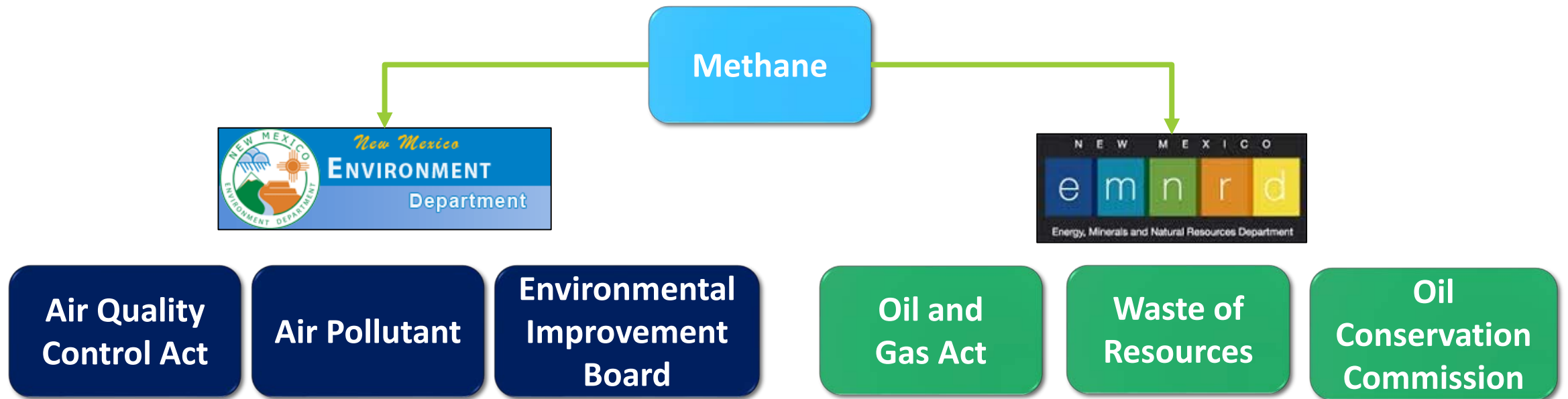
Developing New Mexico's Methane Strategy

In 2018, oil and natural gas companies reported over **36 billion cubic feet of vented or flared natural gas**. This information was collected using the New Mexico Oil Conservation Division's required production reports (known as C115 reports).

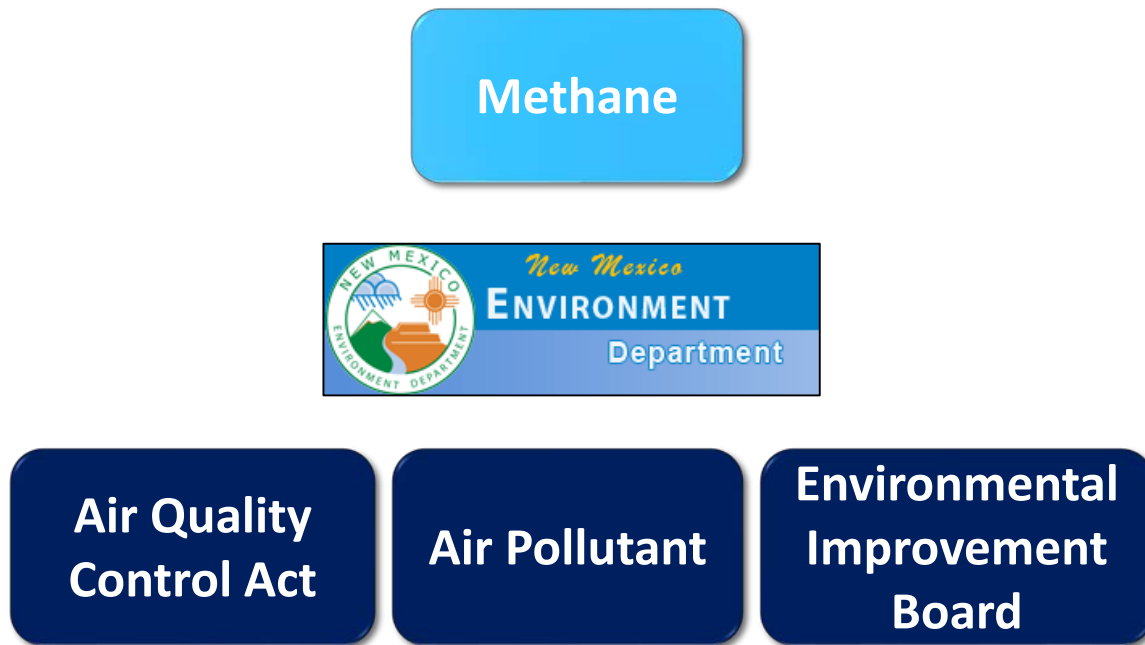
This equated to approximately **\$10 million in lost revenues** to New Mexico in 2018.



Developing New Mexico's Methane Strategy



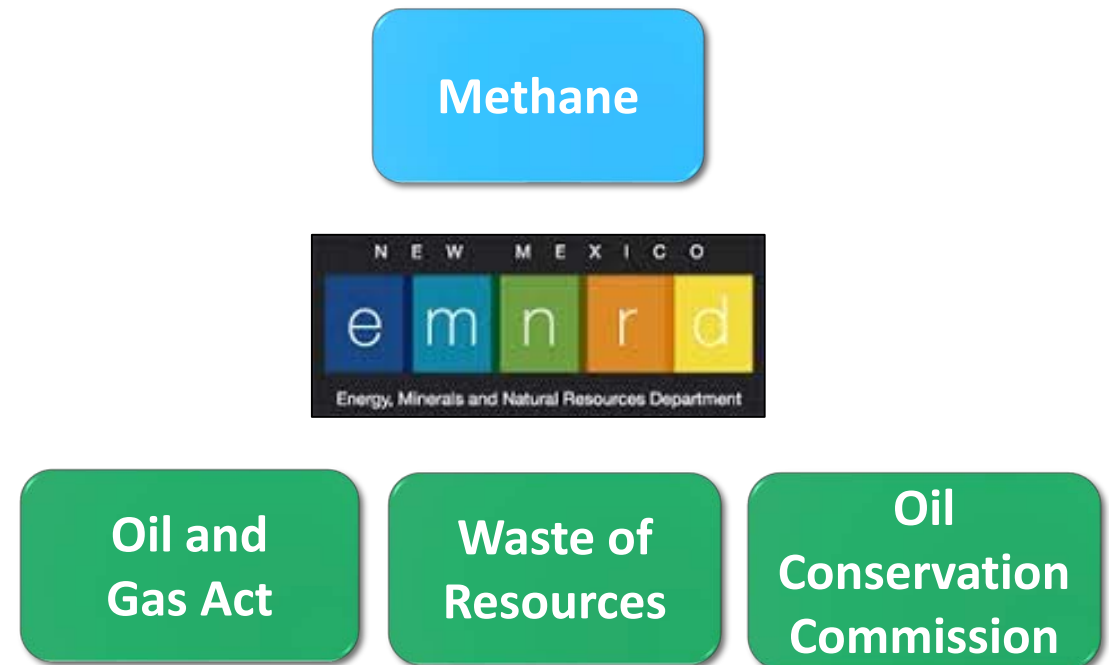
Developing New Mexico's Methane Strategy



- The New Mexico Environment Department will regulate methane emissions from oil and natural gas operations.
- The Air Quality Control Act provides the legal authority.
- Proposed rules are reviewed and adopted through the Environmental Improvement Board.

Developing New Mexico's Methane Strategy

- The New Mexico Energy, Minerals and Natural Resources Department will regulate to prevent the waste of methane from oil and natural operations.
- The Oil and Gas Act provides the legal authority.
- Proposed rules are reviewed and adopted through the Oil Conservation Commission.



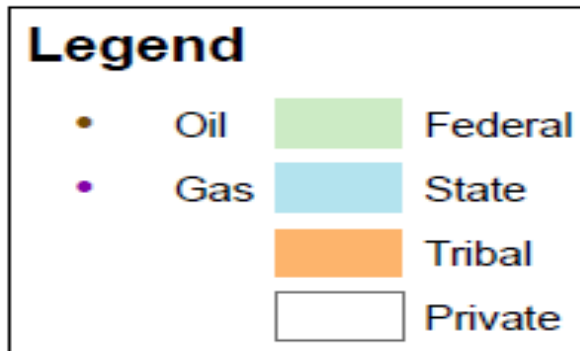
Developing New Mexico's Methane Strategy



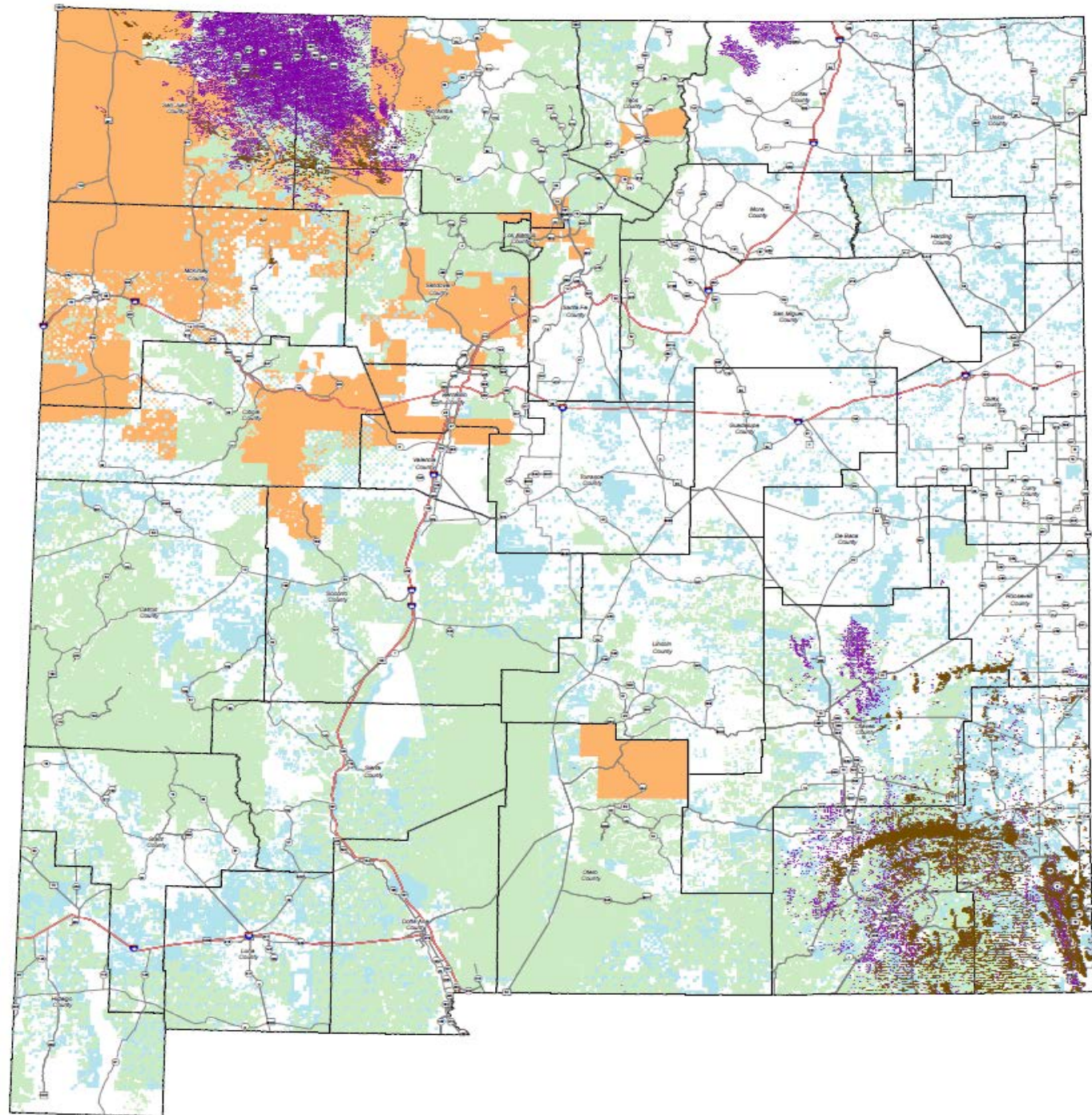
Methane from the oil and natural gas industry is **packaged with other pollutants**: volatile organic compounds (VOCs), which are a key ingredient in ground-level ozone (smog); and a number of other pollutants known as “air toxics” – in particular, benzene, toluene, ethylbenzene and xylene.

Methane can be a **waste product** from the oil and natural gas industry. This occurs through the venting and flaring of methane at various points across the oil and gas value chain. When a resource is wasted, the state of New Mexico is no longer able to collect royalties on the waste, and the resource is not available for future beneficial use.

Active Oil and Gas Wells Shown on Land by Jurisdiction Type





	State	Private	Federal	Tribal
Oil Wells	14.3%	16.2%	20.4%	1.3%
Gas Wells	5.7%	12.0%	25.2%	4.8%



Data Source: EMNRD OCD

Developing New Mexico's Methane Strategy

Agency Authority to Regulate Pollution and Waste in Different Jurisdictions

	State Lands (SLO)	Federal Lands	Tribal Lands	Private Lands
NMED 	Permitting and Other Air Quality Regulatory Oversight	Permitting and Other Air Quality Regulatory Oversight	Tribal/EPA Jurisdiction	Permitting and Other Air Quality Regulatory Oversight
EMNRD 	Permitting and Other Waste Related Regulatory Oversight	Conditionally approved by BLM pending final review and approval by OCD	Tribal/BLM Jurisdiction	Permitting and Other Waste Related Regulatory Oversight

Developing New Mexico's Methane Strategy

NMED Permit Requirements for Oil and Gas Facilities

- State and Federal air quality regulations require oil and gas facilities to obtain a permit **prior** to construction
- Air permit thresholds vary by pollutant. Permits for VOC-only sources are required if emissions are greater than 100 tons per year
- Applicants and NMED must perform public notification as part of the application process

Developing New Mexico's Methane Strategy

NMED Permit Requirements for Oil and Gas Facilities

- Applicants and NMED must demonstrate compliance with the NAAQS before a permit may be issued
- Air permits establish allowable air pollution emission limits and require monitoring, recordkeeping, and reporting of data to ensure companies are complying with permit limits and requirements
- NMED may initiate enforcement action if a company violates its permit; including issuing penalties and requiring necessary actions to come into compliance

Developing New Mexico's Methane Strategy

Permitted Annual VOC Emissions by County

County	Permitted VOC Emissions ¹
Lea	58,018,000
Eddy	90,824,200
San Juan	44,080,000

1. Values are in pounds of pollutant for calendar year 2018

Excess VOC Emissions Reported to NMED¹

County	VOC Emissions Above Permit Limits ¹
Lea	632,364
Eddy	1,238,104
San Juan	11,724

1. Values are in pounds of pollutant for calendar year 2018



Developing New Mexico's Methane Strategy

EMNRD Permitting Requirements for Oil and Gas Facilities

- OCD requires oil and gas wells to obtain a permit to drill **prior** to construction
- 60 days after well completion, an operator shall not vent or flare natural gas
- An operator must request an exception of this rule in order to vent or flare natural gas

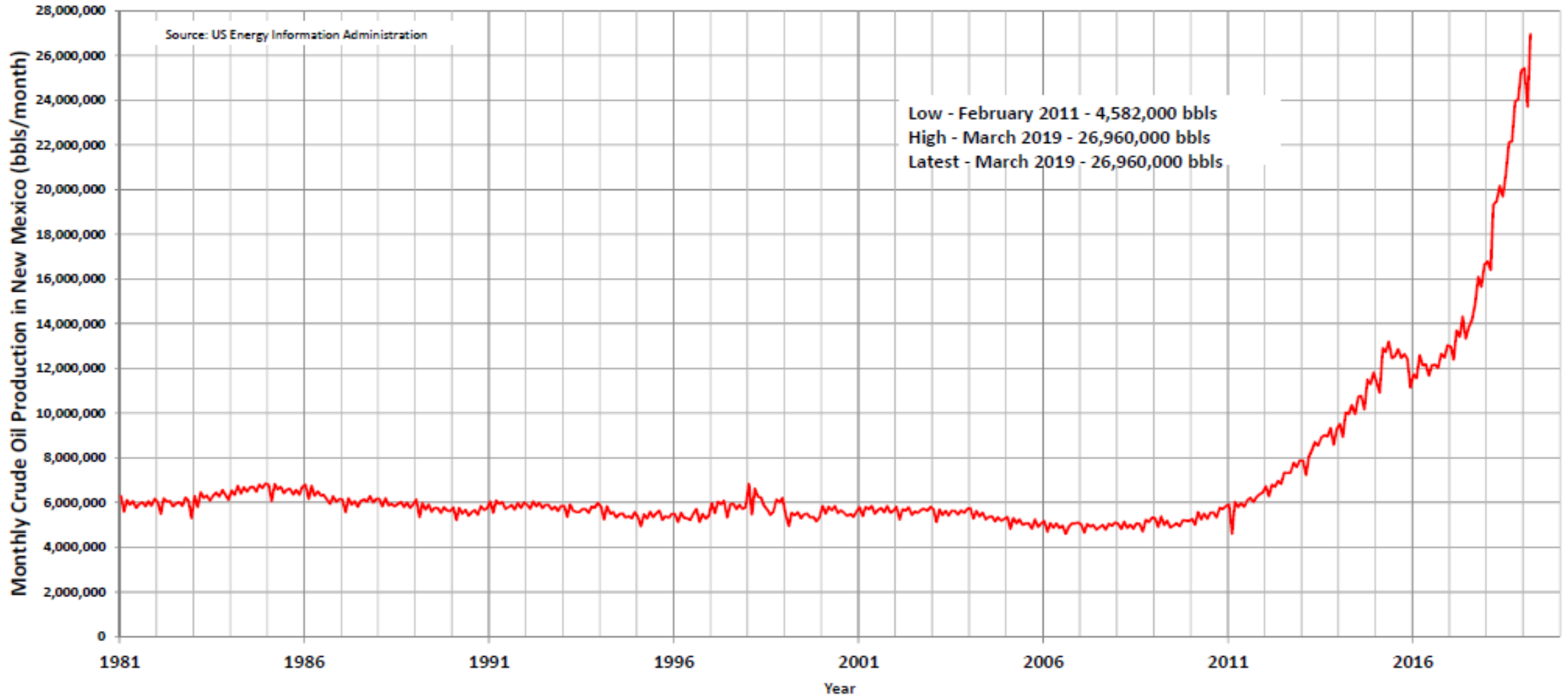
Developing New Mexico's Methane Strategy

EMNRD Permitting Requirements for Oil and Gas Facilities

- Oil and natural gas that is transported from the well must be reported to the OCD on a monthly basis
- Natural gas that is vented or flared must be reported on a monthly basis
- If natural gas is vented or flared without prior authorization, then operators must file release reports with the OCD

Developing New Mexico's Methane Strategy

Monthly Crude Oil Production in New Mexico Since 1981



Developing New Mexico's Methane Strategy

Waste Reported to EMNRD

Year	Venting	Flaring	Total
2016	3,376,009	21,799,677	25,175,686
2017	2,123,452	14,886,332	17,009,784
2018	3,462,237	32,749,804	36,212,041

*Values in Mscf

**Values reported in C115 form

Developing New Mexico's Methane Strategy

- The Air Quality Control Act requires the State to develop a plan, including the adoption of regulations, to reduce ozone precursors (VOC and NOx) in areas where monitored ozone levels are greater than 95% of the ozone standard.
- NMED is developing rules targeting VOC and NOx reductions in seven counties. **Such reductions in VOC will collaterally reduce methane.**
- Multiple stages of stakeholder and public engagement are planned.
- Initial outreach to the general public, industry, local and county governments followed by draft rules are planned.

Seven Counties:

Bernalillo

Chavez

Doña Ana

Eddy

Lea

Rio Arriba

San Juan



Developing New Mexico's Methane Strategy

- NMED is currently gathering or developing information related to:
 - Ozone formation science in the seven counties;
 - Ozone-related health effects;
 - Monitoring data (for the entire State, excluding Bernalillo County and Tribal Lands); and
 - Source-specific information (point and non-point emission information from equipment and facilities).



Developing New Mexico's Methane Strategy

- NMED is seeking feedback from stakeholders on options to reduce VOC/methane.
- NMED must go before the EIB to request adoption of the proposed rule.
- In adopting regulations, the Air Quality Control Act requires the EIB to consider:
 1. Public interest, including the social and economic value of the sources of emissions;
 2. Energy, environmental, and economic impacts;
 3. Efforts by sources to reduce emissions prior to the effective date of the rule; and
 4. The remaining useful life of existing sources.
- In the meantime, NMED is committed to enforcing permitted emissions and regulations.



Developing New Mexico's Methane Strategy

- New Mexico Oil and Gas Act:
 - Written in 1935 and amended to prevent waste, protect correlative rights, and protect public health and the environment (70-2-12 NMSA)
 - The Oil and Gas Act prohibits “waste” from oil and gas production.
- To prevent waste of gas resources, the OCD has a “no vent or flare” rule.
 - Rule 19.15.18.12(A) NMAC, titled “Casinghead Gas” states: An operator shall not flare or vent casinghead gas produced from a well after 60 days following the well's completion

Developing New Mexico's Methane Strategy

- EMNRD will review the current rules governing the prevention of waste to determine what changes in rules and procedures are necessary.
- EMNRD will seek feedback from stakeholders on various options to address waste issues.
- EMNRD will develop draft rule proposals based on feedback during initial outreach.
- Draft rule changes will be made available for comment as part of the public outreach.

Developing New Mexico's Methane Strategy

- To amend the rule on venting and flaring, EMNRD must file an application with the Oil Conservation Commission (OCC). The OCC must determine when to hold a hearing.
- Public notice of the rulemaking will be provided before the public hearing will be held.
- Any action by the OCC on a rule may be appealed to the New Mexico Court of Appeals.

Developing New Mexico's Methane Strategy

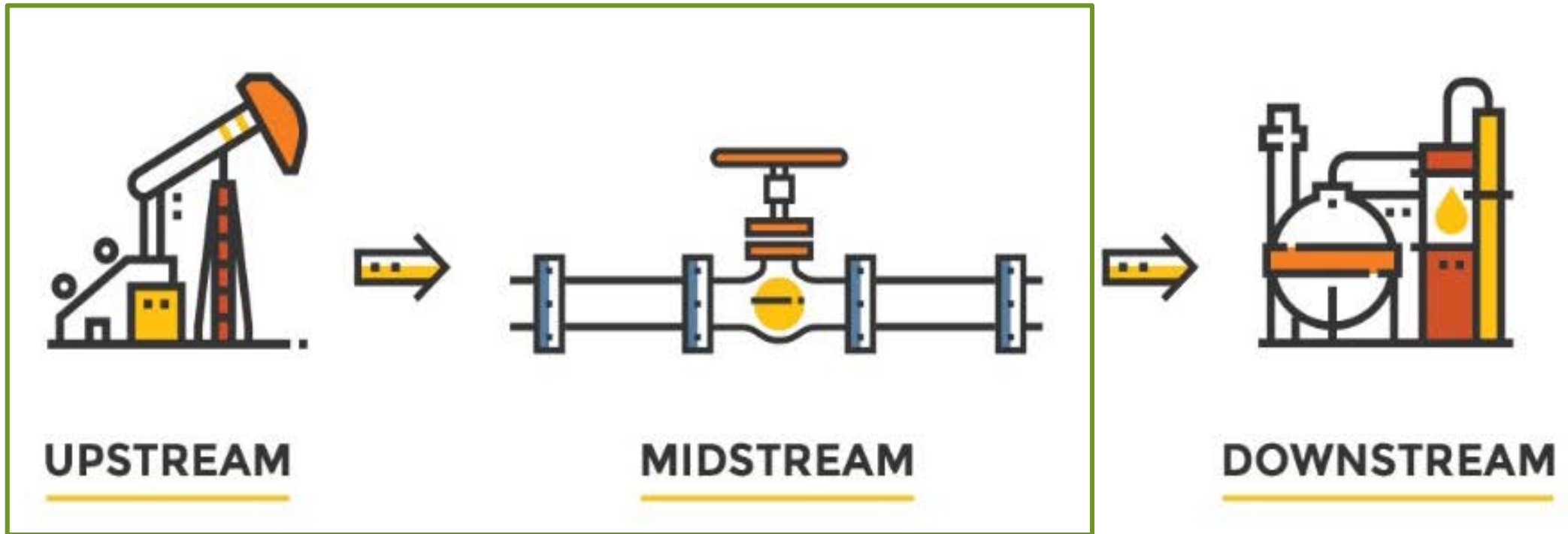


Goals of Oil and Natural Gas Methane Rules:

- Achieve measurable, durable reductions
- Create regulatory certainty
- Promote technology innovation
- Ensure compliance mechanisms



Developing New Mexico's Methane Strategy



Source: Energy HQ

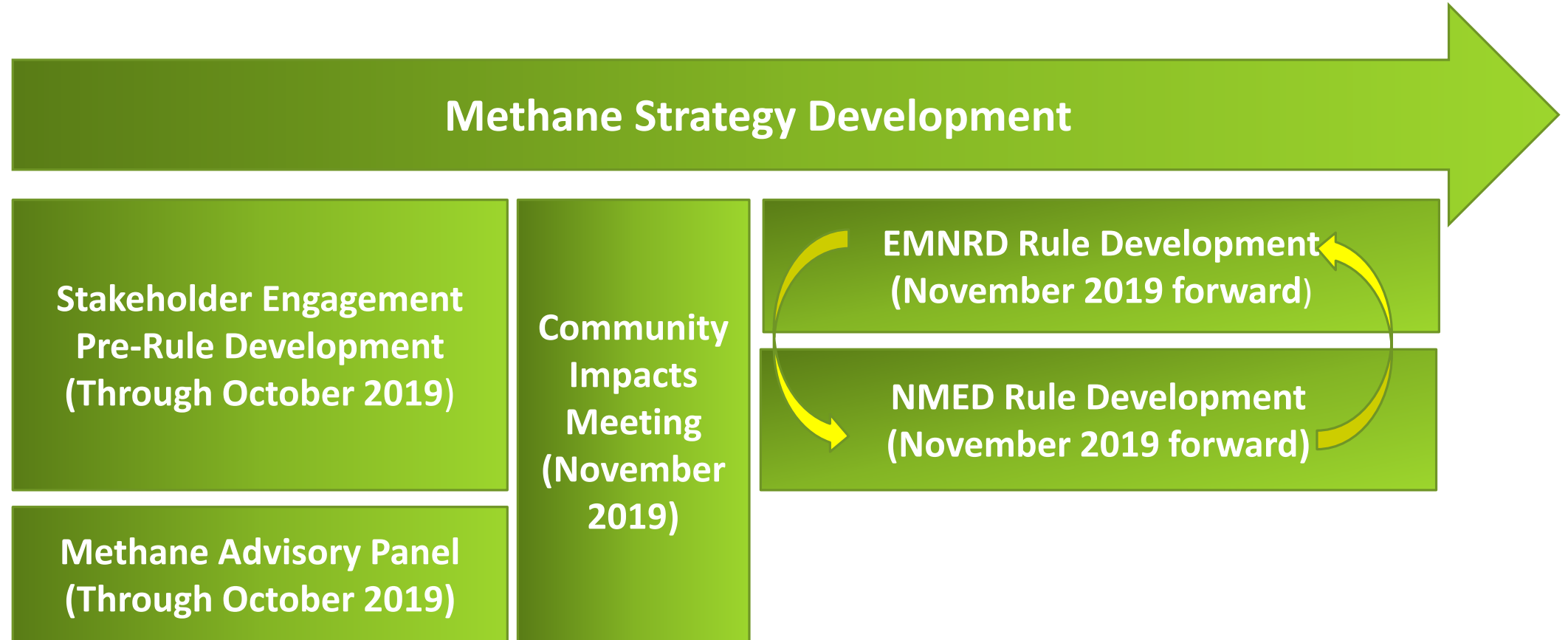
Developing New Mexico's Methane Strategy

- Methane Advisory Panel (MAP) formed, consisting of technical stakeholders focusing on processes and equipment associated with exploration, production, gathering and processing.
- Members will include: local and national eNGOs, major and independent upstream/midstream industry.
- Invited Technical Guests: academia, technology companies
- Charge to the MAP:
 - Develop emission- and waste-based standards for equipment/operations
 - Propose monitoring, recordkeeping and reporting structures

Developing New Mexico's Methane Strategy

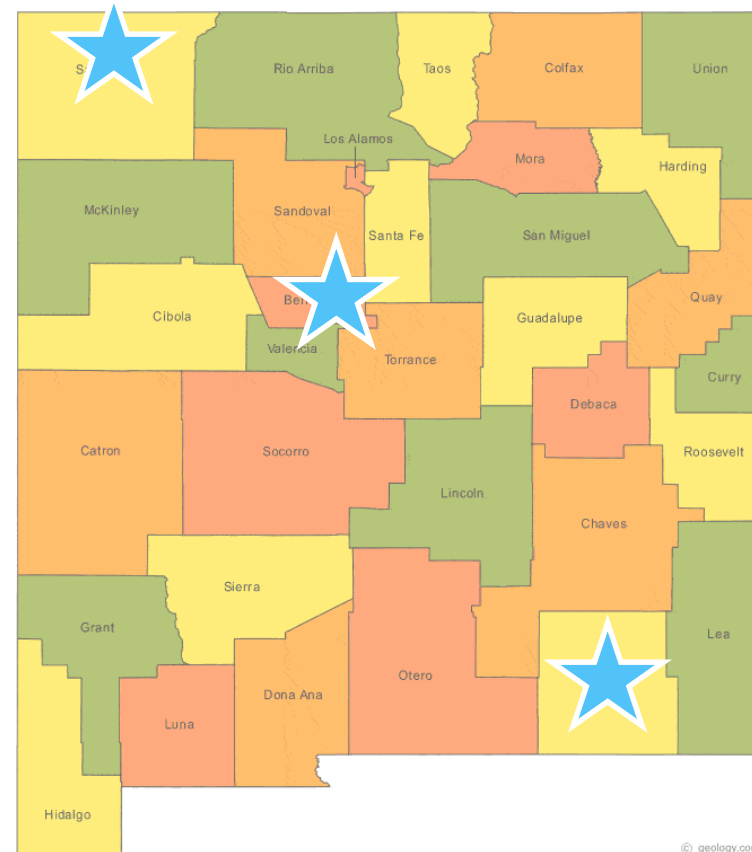
- MAP organizational leads: Conservation Voters New Mexico, Sierra Club, Independent Petroleum Association of New Mexico, and the New Mexico Oil and Gas Association
- Meeting Structure-
 - Two, four hour meetings every other week
 - Held over a twelve week period (mid August thru October)
 - Facilitated discussion focused on reducing waste and VOC emissions by equipment type and processes
 - Example Agenda Items:
 - First Meeting- Completions and Simulations
 - Second Meeting- Workovers
 - Third Meeting- Heater Treaters

Developing New Mexico's Methane Strategy



Developing New Mexico's Methane Strategy

- Stakeholder Meetings:
 - July 29, 2019 – San Juan Community College, Farmington; 1 PM – 6 PM
 - July 30, 2019 – UNM Law School, Albuquerque; 1 PM - 6 PM
 - August 6 & 7, 2019 – Nuclear Waste Partnership Building, Carlsbad;
 - August 6: 5 PM – 6 PM
 - August 7: 8:30 AM - 12:30 PM



© geology.com

Developing New Mexico's Methane Strategy

How to engage in the process:

- **Phase 1 (2019):** Follow the MAP at: <https://www.env.nm.gov/new-mexico-methane-strategy/>
- Look for public meeting announcements to receive updates and provide input
- Attend and provide input at the Community Impacts meeting in November
- **Phase 2 (2020):** Follow and provide public comment during the rulemaking process for OCC and EIB: <https://www.env.nm.gov/new-mexico-methane-strategy/>



Maddy Hayden
Public Information Officer
maddy.hayden@state.nm.us
(505) 827-0314



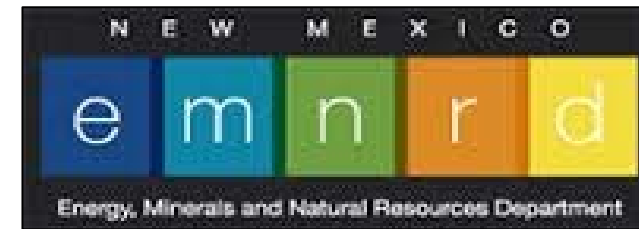
Susan Torres
Public Information Officer
susan.torres@state.nm.us
(505) 476-3226

Developing New Mexico's Methane Strategy

Points of Contact:



Sandra Ely, Director
Environmental Protection Division
sandra.ely@state.nm.us
(505) 827-2820



Adrienne Sandoval, Director
Oil Conservation Division
adrienne.sandoval@state.nm.us
(505) 476-3441

Acronyms

AQCA = Air Quality Control Act

CAA = U.S. Clean Air Act

EIB = Environmental Improvement Board

NM EMNRD = New Mexico Energy, Minerals
and Natural Resources Department

NMED = New Mexico Environment
Department

OCC = Oil Conservation Commission

OCD= Oil Conservation Division

OGA = Oil and Gas Act

eNGO = environmental non-governmental
organization