



Methane, the primary component of gas, is an invisible, odorless greenhouse gas that is a powerful driver of climate change—87 times as powerful as carbon dioxide during the time it remains in the atmosphere.¹ The oil and gas sector is the largest source of methane in the U.S., leaking or intentionally venting large quantities of this dangerous pollutant into our air every day. In 2014, the oil and gas industry emitted over 9.8 million metric tons of methane, a number 34% higher than previous estimates.² The near-term climate impact of these emissions is equal to the pollution caused by more than 200 coal-fired power plants over 20 years.

Along with methane, oil and gas facilities often release other air pollutants that can harm our health, including formaldehyde, benzene, acetaldehyde, and ethyl benzene. These toxins can cause cancer, respiratory symptoms, anemia, brain damage and birth defects, eye irritation, and blood and neurological disorders.

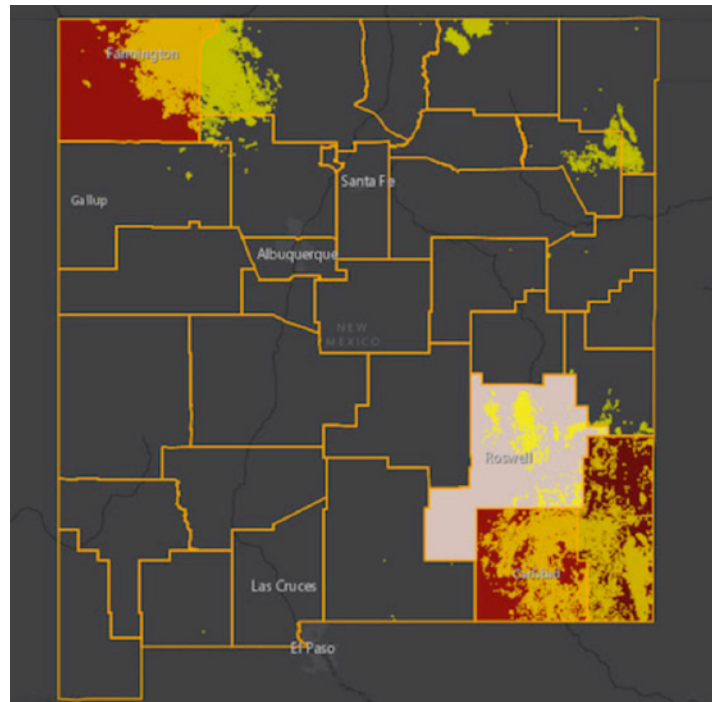
THE THREAT RADIUS

Peer-reviewed studies have documented higher levels of harmful air pollutants in and around areas with oil and gas production activity, and have shown that oil and gas facilities are the source of the excess pollution. Research indicates links between risks and/or prevalence of disease and proximity to facilities.³ The half mile “threat radius” is a very conservative estimate of the area within which higher levels of toxic pollution are seen, and the distance within which health impacts have most clearly been correlated with the presence of oil and gas facilities.⁴

There are currently 12.4 million people living within a half mile of one of 1,193,118 active oil and gas wells, compressors, and processors in the United States. In total, 184,578 square miles are covered by the threat radius⁵, which includes 11,543 schools and 639 medical facilities. Nationwide, 238 counties in 21 states face a cancer risk that exceeds EPA’s one-in-a-million threshold level of concern, **including 3 counties in New Mexico: Eddy, Lea, and San Juan.**⁶

OIL & GAS THREATENS NEW MEXICANS

Approximately 7% of all New Mexico residents live within a half mile threat radius of an oil or gas facility. In San Juan County, where the cancer risk exceeds EPA level of concern, the respiratory hazard risk also exceeds EPA level of concern (county-wide average respiratory hazard index is equal to or greater than 1). Additionally, in Lea County, which also exceeds EPA cancer risk level of concern, the county respiratory health risk is in the top 2%.



In 2014, NASA discovered a giant methane “hotspot” the size of Delaware over the San Juan Basin with the highest concentration of methane in the nation, more than triple the standard ground-based estimate.⁷ In that year, New Mexico’s oil and gas producers reported emitting over 180,000 metric tons of methane⁸, or enough to heat about 168,000 homes.⁹ This methane also equals lost royalties to taxpayers: New Mexico taxpayers have missed out on more than \$42.7 million in royalty revenue since 2009.¹⁰

The San Juan Basin was the third highest methane-emitting oil- and gas-producing basin in 2014, emitting 5,202,528 metric tons of carbon dioxide equivalent from 22,579 wells—a rate of 227 metric tons per well, the highest rate of any of the top fifteen methane emitting basins. The Permian Basin of New Mexico and Texas was the fourth highest methane emitting basin in 2014, emitting 4,782,622 metric tons of carbon dioxide equivalent from 112,230 wells—a rate of 40 metric tons per well.¹¹

THE NUMBERS¹²

TOTAL POPULATION Living in the Threat Radius (within a half mile of a facility)	145,000
TOTAL NUMBER of Active Oil and Gas Wells, Compressors, and Processors	58,777
NUMBER OF COUNTIES that Exceed EPA’s Cancer Risk Level of Concern	3 Eddy, Lea, and San Juan
NUMBER OF SCHOOLS in the Threat Radius	89
NUMBER OF MEDICAL FACILITIES in the Threat Radius	4
SQUARE MILES COVERED by the Threat Radius	9,051

ENDNOTES

- http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5_Chapter08_FINAL.pdf
- https://www3.epa.gov/climatechange/Downloads/ghgemissions/US_GHG-Inventory-2016-Main-Text.pdf
- <http://ehp.niehs.nih.gov/1306722/>
- <http://oilandgasthreatmap.com/about/threat/>
- <http://oilandgasthreatmap.com/threat-map/>
- <http://oilandgasthreatmap.com/threat-map/newmexico/>
- http://science.nasa.gov/science-news/science-at-nasa/2014/09oct_methanehotspot/
- <http://www2.epa.gov/ghgreporting>
- http://www.eia.gov/dnav/ng/NG_CONS_NUM_A_EPGO_VN4_COUNT_A.htm
- <http://westernvaluesproject.org/wp-content/uploads/2014/05/Up-In-Flames.pdf>

STRONG FEDERAL STANDARDS ARE KEY

On May 12, 2016, the Environmental Protection Agency (EPA) finalized the first-ever federal standards addressing new and modified sources of methane pollution from the oil and gas sector. These standards require, among other things, that companies regularly monitor for and repair leaks.¹³ The EPA expects this rule to cut 510,000 tons of methane pollution from oil and gas facilities and equipment, the emissions equivalent of 11 coal-fired power plants or taking 8.5 million cars off the road every year.¹⁴ These standards will also significantly impact public health by curbing emissions of smog-forming volatile organic compounds (VOCs) and toxic air pollutants.

The 2016 standards were an important first step, but in 2018, nearly 90% of methane emissions will come from existing sources not covered by this rule.¹⁵ Strong methane standards for both new and existing sources are key to the Administration’s ability to meet its Paris climate commitments to reduce greenhouse gas emissions 26-28% below 2005 levels by 2025.¹⁶ Therefore, the EPA must develop strong and effective standards for existing sources as soon as possible, both to meet its legal commitments and to protect public health and welfare. **Without strong standards on existing sources, millions of people—including the 145,000 in New Mexico within the threat radius—will continue to be at risk.**

COMMON-SENSE SOLUTIONS ARE READILY AVAILABLE

Thankfully, common-sense solutions exist not only to clean-up and fix methane leaks, but to boost local economies as well. More than 500 locations in 46 states are already manufacturing the equipment and providing the services needed to reduce methane pollution, including 11 locations in New Mexico. These businesses are helping to grow the local economy by creating highly skilled, good-paying jobs.¹⁷

- <https://cdn.americanprogress.org/wp-content/uploads/2016/06/20070044/MethanePollution-report.pdf>
- <http://oilandgasthreatmap.com/threat-map/new-mexico/>
- <https://www.epa.gov/newsreleases/epa-releases-first-ever-standards-cut-methane-emissions-oil-and-gas-sector>
- <https://www.epa.gov/newsreleases/epa-releases-first-ever-standards-cut-methane-emissions-oil-and-gas-sector>
- https://www.edf.org/sites/default/files/methane_cost_curve_report.pdf
- <https://www.whitehouse.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc>
- https://www.edf.org/sites/default/files/us_methane_mitigation_industry_report.pdf

APPENDIX

NM Counties	Total Population	Threatened Population	Number of Facilities	Threatened Schools	Threatened Medical Facilities	Threatened Square Miles	Other Risks
San Juan County	130,044	101,120	12,968	51	3	1,870.14	Exceeds EPA level of concern for cancer risk* AND exceeds EPA level of concern for respiratory hazard risk**
Lea County	64,727	25,220	16,201	31	1	2,033.61	Exceeds EPA level of concern for cancer risk AND county respiratory health risk is in top 2%*
Eddy County	53,829	18,176	15,448	2	0	2,055.25	Exceeds EPA level of concern for cancer risk*
Rio Arriba County	40,246	405	8,693	0	0	1,400.19	
Chaves County	65,645	325	2,774	1	0	719.42	
Sandoval County	131,561	245	432	0	0	153.81	
Union County	4,549	60	354	1	0	216.58	
Harding County	695	29	350	0	0	234.74	
Roosevelt County	19,846	16	476	0	0	107.43	
Colfax County	13,750	5	853	0	0	224.41	
McKinley County	71,492	5	212	3	0	23.85	
Quay County	9,041	2	8	0	0	4.52	
Bernalillo County	662,564	0	0	0	0	0.00	
Catron County	3,725	0	0	0	0	0.00	
Cibola County	27,213	0	0	0	0	0.00	
Curry County	48,376	0	0	0	0	0.00	
De Baca County	2,022	0	0	0	0	0.00	
Doña Ana County	209,233	0	0	0	0	0.00	
Grant County	29,514	0	0	0	0	0.00	
Guadalupe County	4,687	0	2	0	0	2.03	
Hidalgo County	4,894	0	0	0	0	0.00	
Lincoln County	20,497	0	0	0	0	0.00	
Los Alamos County	17,950	0	0	0	0	0.00	
Luna County	25,095	0	1	0	0	0.79	
Mora County	4,881	0	0	0	0	0.00	
Otero County	63,797	0	4	0	0	3.14	
San Miguel County	29,393	0	0	0	0	0.09	
Santa Fe County	144,170	0	0	0	0	0.00	
Sierra County	11,988	0	0	0	0	0.00	
Socorro County	17,866	0	0	0	0	0.00	
Taos County	32,937	0	1	0	0	0.79	
Torrance County	16,383	0	0	0	0	0.00	
Valencia County	76,569	0	0	0	0	0.00	

*County-wide average cancer risk is equal to or greater than 1 in 1 million.

**County-wide average respiratory hazard index is equal to or greater than 1.