



THE THREAT OF OIL & GAS POLLUTION

California

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.

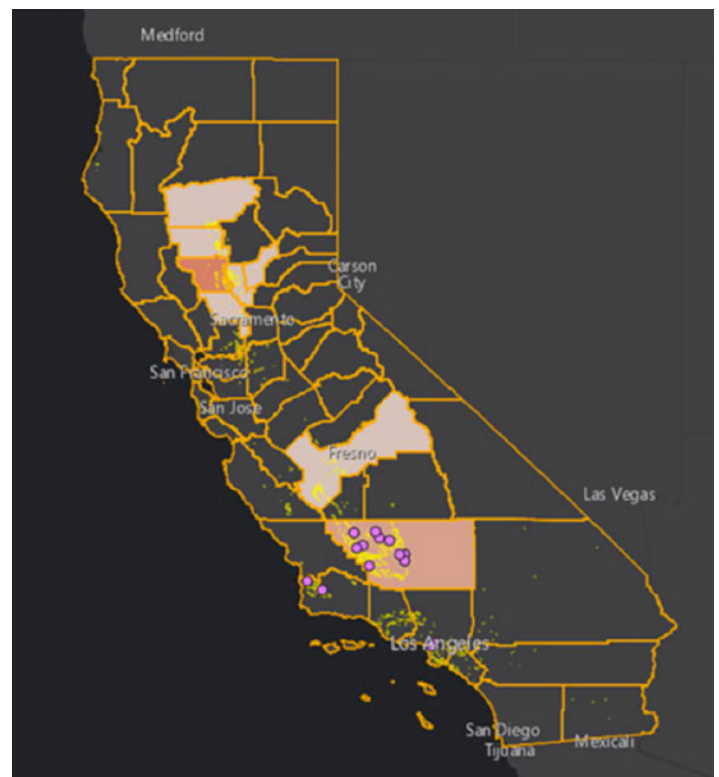
Along with methane, oil and gas facilities often release other air pollutants that can harm our health, including formaldehyde, benzene, acetaldehyde, and ethyl benzene. These toxins can cause cancer, respiratory symptoms, anemia, brain damage and birth defects, eye irritation, and blood and neurological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



MAP: OILANDGASTHREATMAP.COM/THREAT-MAP/CALIFORNIA

OIL & GAS THREATENS CALIFORNIANS

Over 1 million people — approximately 3.5% of California's population — live within a half mile of one of the state's 92,759 methane-emitting facilities. This area includes 365 schools and 74 medical facilities, putting some of California's most vulnerable at risk. One county, Colusa County, is in the highest 10% for county cancer risk.

THE NUMBERS⁶

TOTAL POPULATION Living in the Threat Radius (within a half mile of a facility)	1.3 million
TOTAL NUMBER of Active Oil and Gas Wells, Compressors, and Processors	92,759
NUMBER OF COUNTIES that Exceed EPA's Cancer Risk Level of Concern	0
NUMBER OF SCHOOLS in the Threat Radius	365
NUMBER OF MEDICAL FACILITIES in the Threat Radius	74
SQUARE MILES COVERED by the Threat Radius	1,837

STRONG FEDERAL STANDARDS ARE KEY

In the wake of the massive Aliso Canyon methane leak, California is currently in the process of developing comprehensive state regulations for both new and existing sources that will be some of the strongest in the country. At the same time, strong nationwide standards are critical to addressing this issue.

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.⁷ 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.⁸ 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.⁹ 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 2025.¹⁰ 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 1.3 million in California 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 29 locations in California.** These businesses are helping to grow the local economy by creating highly skilled, good-paying jobs.¹¹

ENDNOTES

- [1 \[http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5_Chapter08_FINAL.pdf\]\(http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5_Chapter08_FINAL.pdf\)](http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WGIAR5_Chapter08_FINAL.pdf)
- [2 <https://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2016-Main-Text.pdf>](https://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2016-Main-Text.pdf)
- [3 <http://ehp.niehs.nih.gov/1306722/>](http://ehp.niehs.nih.gov/1306722/)
- [4 <http://oilandgasthreatmap.com/about/threat/>](http://oilandgasthreatmap.com/about/threat/)
- [5 <http://oilandgasthreatmap.com/threat-map/>](http://oilandgasthreatmap.com/threat-map/)
- [6 <http://oilandgasthreatmap.com/threat-map/california/>](http://oilandgasthreatmap.com/threat-map/california/)

- [7 <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)
- [8 <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)
- [9 \[https://www.edf.org/sites/default/files/methane_cost_curve_report.pdf\]\(https://www.edf.org/sites/default/files/methane_cost_curve_report.pdf\)](https://www.edf.org/sites/default/files/methane_cost_curve_report.pdf)
- [10 <https://www.whitehouse.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc>](https://www.whitehouse.gov/the-press-office/2015/03/31/fact-sheet-us-reports-its-2025-emissions-target-unfccc)
- [11 \[https://www.edf.org/sites/default/files/us_methane_mitigation_industry_report.pdf\]\(https://www.edf.org/sites/default/files/us_methane_mitigation_industry_report.pdf\)](https://www.edf.org/sites/default/files/us_methane_mitigation_industry_report.pdf)

APPENDIX

CA Counties	Total Population	Threatened Population	Number of Facilities	Threatened Schools	Threatened Medical Facilities	Threatened Square Miles	Other Risks
Los Angeles County	9,818,605	855,947	6,103	226	60	170.65	
Orange County	3,010,232	271,962	1,422	56	8	64.48	
Kern County	839,631	87,026	73,513	37	5	756.62	
Riverside County	2,189,641	23,932	13	3	0	10.74	
San Bernardino County	2,035,210	15,103	42	8	0	17.37	
Santa Barbara County	423,895	14,939	1,447	7	0	114.92	
Ventura County	823,318	12,875	2,551	7	1	114.26	
San Joaquin County	685,306	6,517	181	1	0	29.62	
Contra Costa County	1,049,025	5,612	44	0	0	12.45	
Solano County	413,344	4,021	155	2	0	44.48	
Fresno County	930,450	3,071	4,152	7	0	110.97	
Colusa County	21,419	2,173	273	1	0	80.46	County cancer risk is in highest 10%
Sacramento County	1,418,788	1,373	147	2	0	27.60	
Glenn County	28,122	1,204	270	4	0	51.90	
Sutter County	94,737	507	330	3	0	68.22	
Tehama County	63,463	495	126	0	0	29.45	
San Benito County	55,269	477	28	0	0	8.75	
Tulare County	442,179	409	91	0	0	5.65	
Yolo County	200,849	129	39	0	0	16.12	
San Mateo County	718,451	108	11	0	0	4.15	
Humboldt County	134,623	93	29	1	0	5.08	
Butte County	220,000	61	31	0	0	6.98	
Monterey County	415,057	43	1,128	0	0	29.67	
San Luis Obispo County	269,637	37	352	0	0	10.85	
Madera County	150,865	36	34	0	0	9.92	
Stanislaus County	514,453	35	2	0	0	0.79	
Alameda County	1,510,271	14	8	0	0	1.19	
Merced County	255,793	10	1	0	0	0.79	
Yuba County	72,155	10	1	0	0	0.79	
Kings County	152,982	3	215	0	0	26.51	
Alpine County	1,175	0	0	0	0	0.00	
Amador County	38,091	0	0	0	0	0.00	
Calaveras County	45,578	0	0	0	0	0.00	
Del Norte County	28,610	0	0	0	0	0.00	
El Dorado County	181,058	0	0	0	0	0.00	
Imperial County	174,528	0	4	0	0	3.20	
Inyo County	18,546	0	0	0	0	0.00	
Lake County	64,665	0	0	0	0	0.00	
Lassen County	34,895	0	0	0	0	0.00	
Marin County	252,409	0	0	0	0	0.00	
Mariposa County	18,251	0	0	0	0	0.00	
Mendocino County	87,841	0	0	0	0	0.00	
Modoc County	9,686	0	0	0	0	0.00	
Mono County	14,202	0	0	0	0	0.00	
Napa County	136,484	0	0	0	0	0.00	
Nevada County	98,764	0	0	0	0	0.00	

APPENDIX, CONT.

CA Counties	Total Population	Threatened Population	Number of Facilities	Threatened Schools	Threatened Medical Facilities	Threatened Square Miles	Other Risks
Placer County	348,432	0	0	0	0	0.00	
Plumas County	20,007	0	0	0	0	0.00	
San Diego County	3,095,313	0	1	0	0	0.72	
San Francisco County	805,235	0	0	0	0	0.00	
Santa Clara County	1,781,642	0	15	0	0	1.21	
Santa Cruz County	262,382	0	0	0	0	0.18	
Shasta County	177,223	0	0	0	0	0.00	
Sierra County	3,240	0	0	0	0	0.00	
Siskiyou County	44,900	0	0	0	0	0.00	
Sonoma County	483,878	0	0	0	0	0.00	
Trinity County	13,786	0	0	0	0	0.00	
Tuolumne County	55,365	0	0	0	0	0.00	
Monroe County	8,149	0	0	0	0	0.00	
Montgomery County	9,487	0	0	0	0	0.00	
Newton County	8,330	0	0	0	0	0.00	
Perry County	10,445	0	0	0	0	0.00	
Phillips County	21,757	0	0	0	0	0.00	
Pike County	11,291	0	0	0	0	0.00	
Poinsett County	24,583	0	0	0	0	0.00	
Polk County	20,662	0	0	0	0	0.00	
Prairie County	8,715	0	0	0	0	0.00	
Pulaski County	382,748	0	0	0	0	0.00	
Randolph County	17,969	0	0	0	0	0.00	
St. Francis County	28,258	0	0	0	0	0.00	
Saline County	107,118	0	0	0	0	0.00	
Searcy County	8,195	0	0	0	0	0.00	
Sharp County	17,264	0	0	0	0	0.00	
Woodruff County	7,260	0	0	0	0	0.00	