



THE THREAT OF OIL & GAS POLLUTION

Nebraska

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

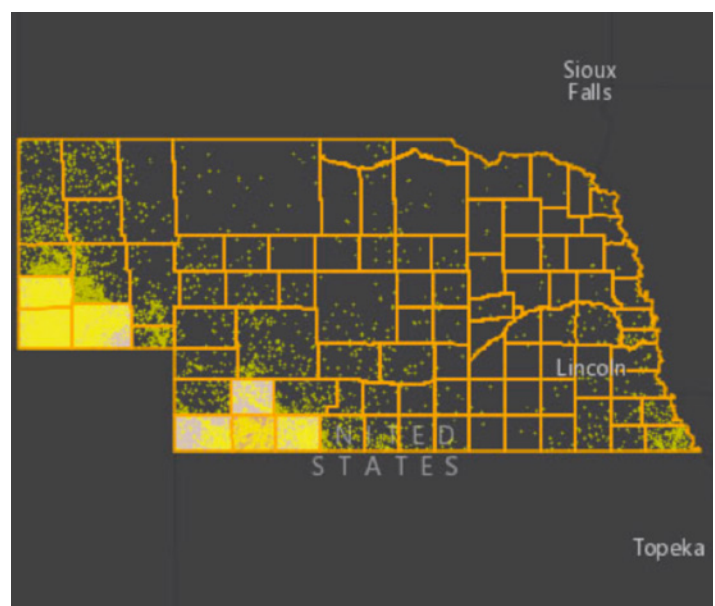
Peer-reviewed studies have documented higher levels of harmful air pollutants in and around areas with oil and gas production activity, and have shown that oil and gas facilities are the source of the excess pollution. Research indicates links between risks and/or prevalence of disease and proximity 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.⁶

OIL & GAS THREATENS NEBRASKANS

More than 83 thousand of Nebraska’s residents — over 4% of the state’s total population — live within a half mile threat radius of one of the state’s 16,201 methane-emitting facilities. Nearly 6,000 square-miles are covered



MAP: OILANDGASTHREATMAP.COM/THREAT-MAP/NEBRASKA

by this threat radius in Nebraska, encompassing more than 160 schools and 62 medical facilities, where the most vulnerable populations are found.

The Denver Basin, covering parts of Nebraska and several other states, was the tenth highest methane emitting oil-and-gas-producing basin in 2014 at 1,909,847 metric tons of carbon dioxide equivalent from 22,253 wells—a rate of 85 metric tons per well.⁷

THE NUMBERS⁸

TOTAL POPULATION Living in the Threat Radius (within a half mile of a facility)	83,881
TOTAL NUMBER of Active Oil and Gas Wells, Compressors, and Processors	16,201
NUMBER OF COUNTIES that Exceed EPA's Cancer Risk Level of Concern	0
NUMBER OF SCHOOLS in the Threat Radius	164
NUMBER OF MEDICAL FACILITIES in the Threat Radius	62
SQUARE MILES COVERED by the Threat Radius	5,908

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.⁹ 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.¹⁰ 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.¹¹ 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 2025.¹² 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 83,000 in Nebraska 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 a manufacturing facility in Columbus, Nebraska.** These businesses are helping to grow the local economy by creating highly skilled, good-paying jobs.¹³

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://www.catf.us/resources/publications/files/FossilFumes.pdf>
- <https://cdn.americanprogress.org/wp-content/uploads/2016/06/20070044/MethanePollution-report.pdf>

- <http://oilandgasthreatmap.com/threat-map/nebraska/>
- <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

NE Counties	Total Population	Threatened Population	Number of Facilities	Threatened Schools	Threatened Medical Facilities	Threatened Square Miles	Other Risks
Douglas County	517,110	36,825	25	27	9	11.83	
Scotts Bluff County	36,970	6,928	568	15	1	272.83	
Sarpy County	158,840	6,389	23	2	1	17.50	
Hall County	58,607	3,579	5	2	18	3.93	
Cass County	25,241	3,253	14	4	4	9.28	
Kimball County	3,821	2,989	3,332	9	4	845.50	
Gage County	22,311	2,884	37	7	4	25.79	
Cheyenne County	9,998	2,824	2,687	11	2	779.29	
Dawes County	9,182	2,192	128	0	2	89.42	
Red Willow County	11,055	1,582	1,006	11	2	361.41	
Lancaster County	285,407	1,338	15	1	0	11.24	
Richardson County	8,363	999	439	9	0	145.12	
Otoe County	15,740	926	19	1	0	14.02	
Thurston County	6,940	867	1	2	2	0.79	
Webster County	3,812	863	13	2	7	10.08	
Furnas County	4,959	838	193	1	0	108.84	
Harlan County	3,423	807	112	3	0	64.31	
Morrill County	5,042	629	902	7	1	376.16	
Banner County	690	585	2,066	2	0	608.51	
Hitchcock County	2,908	572	1,419	5	0	391.96	
Nemaha County	7,248	476	54	5	0	41.11	
Dodge County	36,691	465	5	2	0	3.93	
Rock County	1,526	428	12	3	0	7.85	
Buffalo County	46,102	382	33	3	0	24.61	
Dundy County	2,008	302	741	0	0	266.30	
Howard County	6,274	291	5	0	0	3.93	
Butler County	8,395	255	12	1	0	7.01	
Lincoln County	36,288	251	209	0	0	140.57	
Saunders County	20,780	245	28	2	0	18.01	
Knox County	8,701	244	7	0	0	5.05	
Boyd County	2,099	227	1	1	2	0.88	
Washington County	20,234	202	5	0	0	3.93	
Garden County	2,057	193	171	1	2	106.69	
Madison County	34,876	177	1	0	1	0.79	
Deuel County	1,941	134	307	3	0	113.04	
Franklin County	3,225	134	25	0	0	17.91	
Frontier County	2,756	133	167	7	0	107.22	
Saline County	14,200	115	4	0	0	3.23	
Hayes County	967	107	229	0	0	124.12	
Sioux County	1,311	107	251	1	0	180.13	
Dawson County	24,326	100	35	0	0	26.20	
Chase County	3,966	93	240	0	0	93.83	
Perkins County	2,970	80	81	1	0	45.11	
Box Butte County	11,308	76	78	1	0	55.78	
Adams County	31,364	64	12	0	0	8.43	
Johnson County	5,217	55	21	0	0	14.14	
Cuming County	9,139	53	3	0	0	1.22	
Pawnee County	2,773	49	19	1	0	14.20	

APPENDIX, CONT.

NE Counties	Total Population	Threatened Population	Number of Facilities	Threatened Schools	Threatened Medical Facilities	Threatened Square Miles	Other Risks
Jefferson County	7,547	48	12	0	0	8.86	
Phelps County	9,188	42	14	1	0	10.98	
Keith County	8,368	41	45	0	0	31.81	
Custer County	10,939	38	34	1	0	25.91	
Antelope County	6,685	35	4	0	0	2.36	
Gosper County	2,044	30	24	0	0	17.34	
Dakota County	21,006	26	4	0	0	2.62	
Dixon County	6,000	25	2	0	0	1.57	
Sheridan County	5,469	23	49	0	0	34.02	
Stanton County	6,129	18	4	0	0	3.14	
Polk County	5,406	17	3	0	0	2.36	
Sherman County	3,152	17	8	0	0	5.49	
Cedar County	8,852	16	2	0	0	1.57	
Greeley County	2,538	16	11	0	0	8.10	
Pierce County	7,266	15	1	0	0	0.79	
Platte County	32,237	15	2	0	0	1.57	
Merrick County	7,845	14	2	1	0	1.57	
Seward County	16,750	14	3	0	0	2.29	
Keya Paha County	824	12	9	1	0	7.07	
Clay County	6,542	11	3	0	0	2.36	
Holt County	10,435	10	13	0	0	9.33	
Nance County	3,735	10	3	0	0	2.36	
Arthur County	460	8	29	2	0	18.94	
McPherson County	539	8	27	0	0	21.08	
Cherry County	5,713	7	32	3	0	24.00	
Boone County	5,505	6	1	0	0	0.79	
Burt County	6,858	5	1	0	0	0.79	
Kearney County	6,489	5	6	0	0	4.71	
Logan County	763	5	9	0	0	7.07	
Colfax County	10,515	4	1	0	0	0.79	
Garfield County	2,049	4	5	1	0	3.93	
Grant County	614	4	29	0	0	20.70	
Loup County	632	4	7	0	0	5.50	
Valley County	4,260	4	2	0	0	1.84	
Wheeler County	818	4	9	1	0	7.34	
Thayer County	5,228	3	2	0	0	1.57	
Blaine County	478	2	7	0	0	5.50	
Fillmore County	5,890	2	2	0	0	1.57	
Hooker County	736	2	12	0	0	9.36	
Nuckolls County	4,500	2	1	0	0	0.79	
Brown County	3,145	1	4	0	0	3.14	
York County	13,665	1	1	0	0	0.79	
Thomas County	647	0	2	0	0	1.57	