# THE THREAT OF OIL & GAS POLLUTION

## Illinois

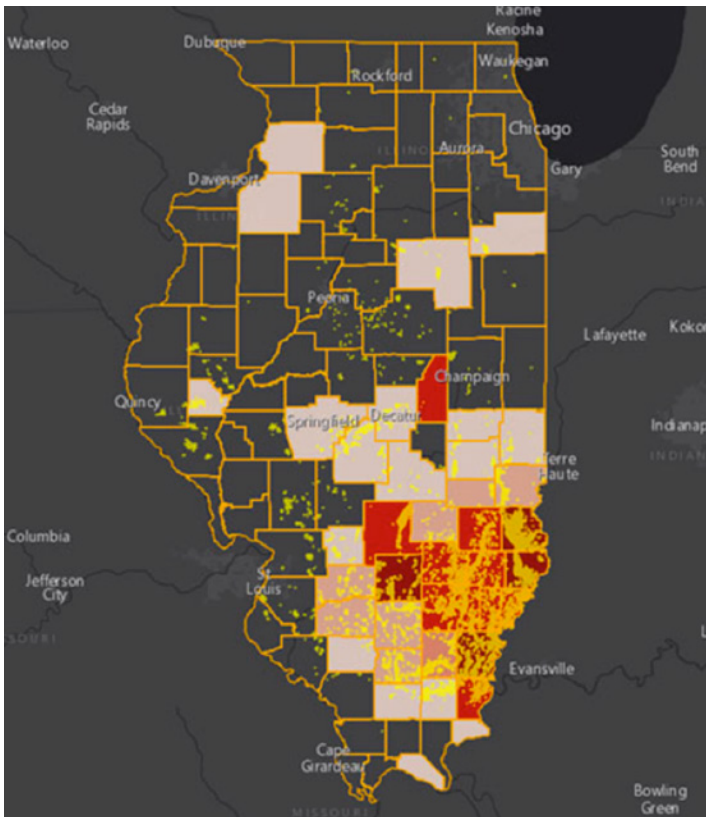
Methane, the primary component of gas, is an invisible, odorless greenhouse gas that is a powerful driver of climate change—87 times as powerful as carbon dioxide during the time it remains in the atmosphere.[1] The oil and gas sector is the largest source of methane in the U.S., leaking or intentionally 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 radius[5], 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 13 counties in Illinois.**




*MAP: OILANDGASTHREATMAP.COM/THREAT-MAP/ILLINOIS*

## OIL & GAS THREATENS ILLINOISANS

**Over 200 thousand of Illinois' residents live within a half mile threat radius of one of the state's 48,729 methane-emitting facilities. This area includes 654 schools and 13 medical facilities, putting thousands of our most vulnerable at risk. In addition to the 13 counties that exceed EPA's cancer risk level of concern, Hamilton County is in the highest 10% for county cancer risk.**

## THE NUMBERS[6]

| | |
|---|---|
| **TOTAL POPULATION** Living in the Threat Radius (within a half mile of a facility) | 208,000 |
| **TOTAL NUMBER** of Active Oil and Gas Wells, Compressors, and Processors | 48,729 |
| **NUMBER OF COUNTIES** that Exceed EPA's Cancer Risk Level of Concern | **13** Clay, Crawford, Edwards, Fayette, Gallatin, Jasper, Lawrence, Marion, Piatt, Richland, Wabash, Wayne, and White |
| **NUMBER OF SCHOOLS** in the Threat Radius | 654 |
| **NUMBER OF MEDICAL FACILITIES** in the Threat Radius | 13 |
| **SQUARE MILES COVERED** by the Threat Radius | 3,774 |

## 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.[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 208 thousand in Illinois 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 17 locations in Illinois.** 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/WG1AR5_Chapter08_FINAL.pdf
2 https://www3.epa.gov/climatechange/Downloads/ghgemissions/US-GHG-Inventory-2016-Main-Text.pdf
3 http://ehp.niehs.nih.gov/1306722/
4 http://oilandgasthreatmap.com/about/threat/
5 http://oilandgasthreatmap.com/threat-map/
6 http://oilandgasthreatmap.com/threat-map/idaho/
7 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
9 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
11 https://www.edf.org/sites/default/files/us_methane_mitigation_industry_report.pdf



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## APPENDIX

| IL Counties | Total Population | Threatened Population | Number of Facilities | Threatened Schools | Threatened Medical Facilities | Threatened Square Miles | Other Risks |
|---|---|---|---|---|---|---|---|
| McLean County | 169,572 | 18,005 | 95 | 14 | 0 | 37.45 | |
| Franklin County | 39,561 | 17,594 | 982 | 36 | 2 | 135.64 | |
| Marion County | 39,437 | 15,093 | 4,236 | 31 | 1 | 126.50 | Exceeds EPA level of concern for cancer risk* |
| Champaign County | 201,081 | 13,449 | 112 | 2 | 0 | 24.46 | |
| Coles County | 53,873 | 11,799 | 489 | 14 | 1 | 45.67 | |
| Crawford County | 19,817 | 9,668 | 7,721 | 38 | 1 | 248.84 | Exceeds EPA level of concern for cancer risk* |
| Wabash County | 11,947 | 9,398 | 1,911 | 18 | 2 | 166.54 | Exceeds EPA level of concern for cancer risk* |
| St. Clair County | 270,056 | 7,632 | 322 | 11 | 0 | 31.77 | |
| Saline County | 24,913 | 7,309 | 598 | 12 | 1 | 93.07 | |
| Lawrence County | 16,833 | 7,250 | 5,342 | 35 | 0 | 145.69 | Exceeds EPA level of concern for cancer risk* |
| Jefferson County | 38,827 | 6,814 | 1,072 | 32 | 0 | 136.42 | |
| White County | 14,665 | 6,791 | 4,516 | 44 | 0 | 290.52 | Exceeds EPA level of concern for cancer risk* |
| Macon County | 110,768 | 6,662 | 161 | 5 | 1 | 37.35 | |
| Wayne County | 16,760 | 6,325 | 3,088 | 83 | 1 | 329.62 | Exceeds EPA level of concern for cancer risk* |
| Richland County | 16,233 | 5,222 | 1,253 | 27 | 0 | 143.95 | Exceeds EPA level of concern for cancer risk* |
| Clay County | 13,815 | 4,275 | 2,238 | 27 | 0 | 200.43 | Exceeds EPA level of concern for cancer risk* |
| Clinton County | 37,762 | 4,188 | 1,165 | 13 | 0 | 80.12 | |
| Randolph County | 33,476 | 4,089 | 114 | 2 | 1 | 18.97 | |
| Christian County | 34,800 | 3,828 | 548 | 12 | 0 | 90.23 | |
| Edwards County | 6,721 | 3,686 | 902 | 21 | 0 | 119.62 | Exceeds EPA level of concern for cancer risk* |
| Lake County | 703,462 | 2,696 | 2 | 3 | 0 | 1.57 | |
| Bond County | 17,768 | 2,053 | 190 | 9 | 0 | 36.70 | |
| Jasper County | 9,698 | 1,899 | 985 | 29 | 0 | 135.68 | Exceeds EPA level of concern for cancer risk* |
| Effingham County | 34,242 | 1,865 | 340 | 5 | 0 | 51.43 | |
| Tazewell County | 135,394 | 1,767 | 21 | 2 | 1 | 16.04 | |
| Madison County | 269,282 | 1,728 | 315 | 4 | 0 | 31.24 | |
| Kankakee County | 113,449 | 1,702 | 132 | 2 | 0 | 14.61 | |
| Washington County | 14,716 | 1,668 | 766 | 11 | 0 | 80.22 | |
| Macoupin County | 47,765 | 1,663 | 202 | 7 | 1 | 50.66 | |
| Monroe County | 32,957 | 1,658 | 81 | 2 | 0 | 5.62 | |
| Williamson County | 66,357 | 1,612 | 103 | 0 | 0 | 23.87 | |
| Sangamon County | 197,465 | 1,481 | 126 | 2 | 0 | 35.57 | |
| Fayette County | 22,140 | 1,455 | 2,491 | 12 | 0 | 80.52 | Exceeds EPA level of concern for cancer risk* |
| Logan County | 30,305 | 1,399 | 19 | 3 | 0 | 10.40 | |
| Hamilton County | 8,457 | 1,324 | 1,446 | 19 | 0 | 135.18 | County cancer risk is in highest 10% |
| Clark County | 16,335 | 1,236 | 1,490 | 8 | 0 | 73.83 | |
| Woodford County | 38,664 | 1,183 | 16 | 3 | 0 | 10.56 | |
| Montgomery County | 30,104 | 1,148 | 62 | 2 | 0 | 19.15 | |
| Edgar County | 18,576 | 1,109 | 206 | 7 | 0 | 29.95 | |
| Will County | 677,560 | 1,077 | 3 | 1 | 0 | 2.08 | |
| Gallatin County | 5,589 | 1,026 | 1,031 | 0 | 0 | 104.11 | Exceeds EPA level of concern for cancer risk* |
| Bureau County | 34,978 | 708 | 15 | 1 | 0 | 11.98 | |

**APPENDIX,** CONT.

| IL Counties | Total Population | Threatened Population | Number of Facilities | Threatened Schools | Threatened Medical Facilities | Threatened Square Miles | Other Risks |
|---|---|---|---|---|---|---|---|
| Pike County | 16,430 | 654 | 117 | 7 | 0 | 41.92 | |
| Shelby County | 22,363 | 654 | 107 | 4 | 0 | 22.09 | |
| Perry County | 22,350 | 603 | 40 | 2 | 0 | 10.83 | |
| Schuyler County | 7,544 | 496 | 94 | 2 | 0 | 24.35 | |
| Kane County | 515,269 | 414 | 1 | 1 | 0 | 0.79 | |
| Morgan County | 35,547 | 335 | 135 | 5 | 0 | 22.50 | |
| Cumberland County | 11,048 | 321 | 350 | 5 | 0 | 20.13 | |
| Moultrie County | 14,846 | 302 | 16 | 0 | 0 | 3.96 | |
| Douglas County | 19,980 | 289 | 79 | 0 | 0 | 15.17 | |
| McDonough County | 32,612 | 212 | 236 | 1 | 0 | 16.06 | |
| Adams County | 67,103 | 202 | 63 | 5 | 0 | 19.66 | |
| De Witt County | 16,561 | 196 | 76 | 1 | 0 | 12.32 | |
| Brown County | 6,937 | 182 | 198 | 5 | 0 | 27.22 | |
| Putnam County | 6,006 | 160 | 7 | 0 | 0 | 4.58 | |
| Winnebago County | 295,266 | 158 | 12 | 0 | 0 | 3.12 | |
| Livingston County | 38,950 | 147 | 119 | 4 | 0 | 18.53 | |
| Peoria County | 186,494 | 139 | 19 | 0 | 0 | 5.01 | |
| Jackson County | 60,218 | 121 | 17 | 1 | 0 | 6.93 | |
| Piatt County | 16,729 | 108 | 4 | 0 | 0 | 2.78 | Exceeds EPA level of concern for cancer risk* |
| Vermilion County | 81,625 | 95 | 1 | 0 | 0 | 0.79 | |
| LaSalle County | 113,924 | 93 | 89 | 2 | 0 | 13.14 | |
| McHenry County | 308,760 | 77 | 1 | 0 | 0 | 0.79 | |
| Union County | 17,808 | 40 | 3 | 0 | 0 | 0.82 | |
| Ogle County | 53,497 | 31 | 2 | 0 | 0 | 1.57 | |
| Marshall County | 12,640 | 28 | 1 | 0 | 0 | 0.93 | |
| Lee County | 36,031 | 24 | 5 | 0 | 0 | 2.84 | |
| Iroquois County | 29,718 | 22 | 9 | 0 | 0 | 3.68 | |
| Grundy County | 50,063 | 20 | 1 | 0 | 0 | 0.79 | |
| Hancock County | 19,104 | 11 | 9 | 0 | 0 | 2.27 | |
| Ford County | 14,081 | 9 | 3 | 0 | 0 | 1.44 | |
| Warren County | 17,707 | 9 | 7 | 0 | 0 | 2.23 | |
| Stark County | 5,994 | 3 | 0 | 0 | 0 | 0.37 | |
| Fulton County | 37,069 | 2 | 1 | 0 | 0 | 0.79 | |
| Henderson County | 7,331 | 1 | 0 | 0 | 0 | 0.20 | |
| Alexander County | 6,161 | 0 | 0 | 0 | 0 | 0.00 | |
| Boone County | 54,165 | 0 | 0 | 0 | 0 | 0.00 | |
| Calhoun County | 5,089 | 0 | 0 | 0 | 0 | 0.00 | |
| Carroll County | 15,387 | 0 | 0 | 0 | 0 | 0.00 | |
| Cass County | 13,642 | 0 | 0 | 0 | 0 | 0.00 | |
| Cook County | 5,194,675 | 0 | 0 | 0 | 0 | 0.00 | |
| DeKalb County | 105,160 | 0 | 0 | 0 | 0 | 0.00 | |
| DuPage County | 916,924 | 0 | 0 | 0 | 0 | 0.00 | |
| Greene County | 13,886 | 0 | 0 | 0 | 0 | 0.03 | |
| Hardin County | 4,320 | 0 | 0 | 0 | 0 | 0.00 | |
| Henry County | 50,486 | 0 | 0 | 0 | 0 | 0.00 | |
| Jersey County | 22,985 | 0 | 0 | 0 | 0 | 0.00 | |
| Jo Daviess County | 22,678 | 0 | 0 | 0 | 0 | 0.00 | |

## APPENDIX, CONT.

| IL Counties | Total Population | Threatened Population | Number of Facilities | Threatened Schools | Threatened Medical Facilities | Threatened Square Miles | Other Risks |
|---|---|---|---|---|---|---|---|
| Johnson County | 12,582 | 0 | 0 | 0 | 0 | 0.00 | |
| Kendall County | 114,736 | 0 | 0 | 0 | 0 | 0.00 | |
| Knox County | 52,919 | 0 | 0 | 0 | 0 | 0.00 | |
| Mason County | 14,666 | 0 | 0 | 0 | 0 | 0.00 | |
| Massac County | 15,429 | 0 | 0 | 0 | 0 | 0.00 | |
| Menard County | 12,705 | 0 | 0 | 0 | 0 | 0.00 | |
| Mercer County | 16,434 | 0 | 0 | 0 | 0 | 0.03 | |
| Pope County | 4,470 | 0 | 0 | 0 | 0 | 0.00 | |
| Pulaski County | 6,161 | 0 | 0 | 0 | 0 | 0.00 | |
| Rock Island County | 147,546 | 0 | 0 | 0 | 0 | 0.00 | |
| Scott County | 5,355 | 0 | 0 | 0 | 0 | 0.00 | |
| Stephenson County | 47,711 | 0 | 0 | 0 | 0 | 0.00 | |
| Whiteside County | 58,498 | 0 | 0 | 0 | 0 | 0.00 | |

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