

# Health Risks in Arizona from Oil and Gas Air Pollution

In the United States the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema.

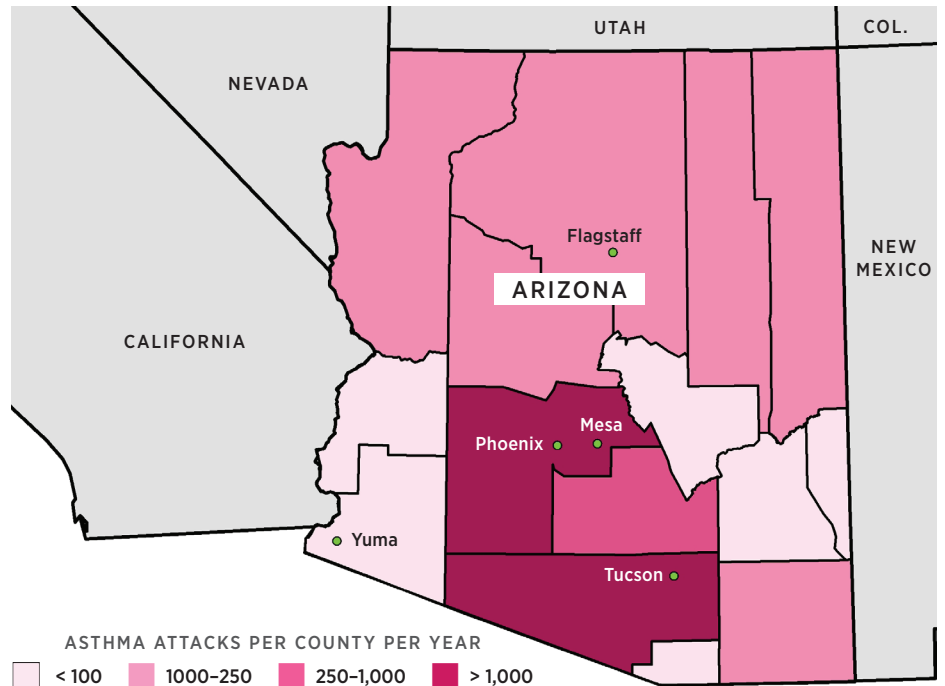
While these pollutants cause health problems in states with oil and gas booms and intense activity, they also cause problems elsewhere, as air pollution travels across state borders. While Arizona has little oil and gas industry activity within its borders, most of its neighboring states have large numbers of oil and gas wells, compressors, and processing plants. Moreover, large portions of those sites are on federal and tribal land, where industry reports show that facilities are particularly highly polluting. For example, the San Juan basin, just over the state border in New Mexico, is largely federal land. This area became infamous when a cloud of pollution from oil, gas, and coal production in the basin larger than Grand Canyon National Park was seen from space.

This pollution from oil and gas industry sites makes ozone smog, which damages the health of Arizonans:

- Over 6,500 Arizona children per year will suffer asthma attacks due to ozone from this industry (see Figure).

FIGURE 1

## Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in Arizona Counties



- These kids live across the state—oil and gas air pollution causes over 1,000 asthma attacks per year in the Tucson area and over 4,000 attacks per year in the Phoenix area.
- Unfortunately, no county in the state escapes from the ozone pollution produced by the oil and gas industry.
- Adults are also harmed by ozone exposure, with almost 13,000 person-days of restricted activity in Arizona linked to breathing higher levels of ozone.

The bottom line: across Arizona and neighboring states, air pollution from the oil and gas industry affects the health of all people, particularly children, the elderly, and others with sensitive respiratory systems. **Arizonans need strong federal standards in place to prevent air releases from the oil and gas industry, particularly on Federal lands such as those in the San Juan basin. The Bureau of Land Management's Waste Rules for wells on Federal lands and EPA's standards for new wells and equipment are essential for the health of Arizonans.**

# Health Risks in Colorado from Oil and Gas Air Pollution

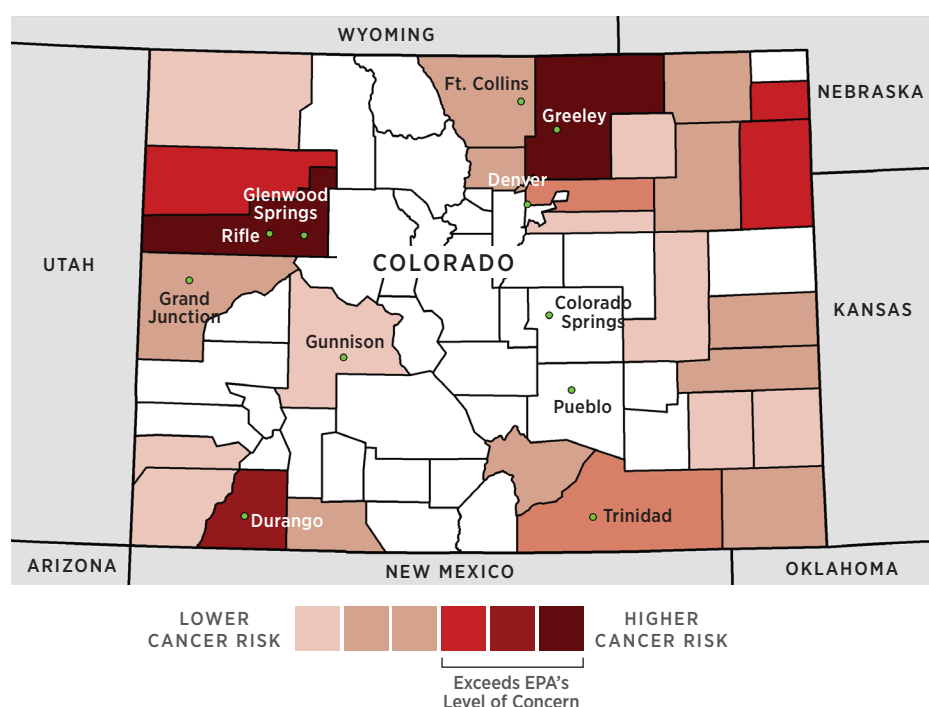
Colorado has struggled with ozone smog problems for years. The oil and gas industry is one important source of the pollution responsible for this smog, and the state has responded to the problem by issuing and implementing leading regulations to cut pollution from the industry, with feasible, practical measures to reduce pollution. The industry has continued to grow in the state with these measures in place—they don't hamper development, principally because they don't cost much (most measures help keep natural gas “in the pipe” instead of leaking into the atmosphere, so they actually increase revenue for operators). And the measures work to reduce pollution.

But state measures cannot protect the health of Coloradans from pollution originating in other states. In western Colorado, ozone levels have been high in an area close to oil and gas development in Utah, where the Colorado standards do not apply. In southwestern Colorado, a similar problem can be seen close to oil and gas fields in New Mexico.

Across the state, Coloradans bear health risks as a result of oil and gas air pollution. According to EPA's data for 2011, **over 3,300 tons of hazardous toxic air pollution**—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted by oil and gas companies in Colorado. Meanwhile, oil and gas operations in neighboring counties in Utah and New Mexico **emit over two thousand additional tons** of these compounds.

As a result, many Coloradans face excess risks to their health from these compounds.

FIGURE 1  
Cancer Risk from Oil and Gas Toxic Air Emissions



- Residents of six counties (see Figure 1) face cancer risk that exceeds EPA's level of concern due to exposure to toxic gases spewed by the oil and gas industry. Over 380,000 people live in those counties.
- Children are especially vulnerable to air pollution exposure and **83 schools in Colorado are located within a half-mile of oil and gas operations.**

Citizens across Colorado are exposed to harmful ozone smog resulting from oil and gas industry air pollution:

- **More than 32,000 Colorado children per year will suffer asthma attacks** due to ozone from this industry.
- Over 60% of those children live in the Denver area/Northern Front Range (see Figure 2, page 2), where oil and gas pollution contribute

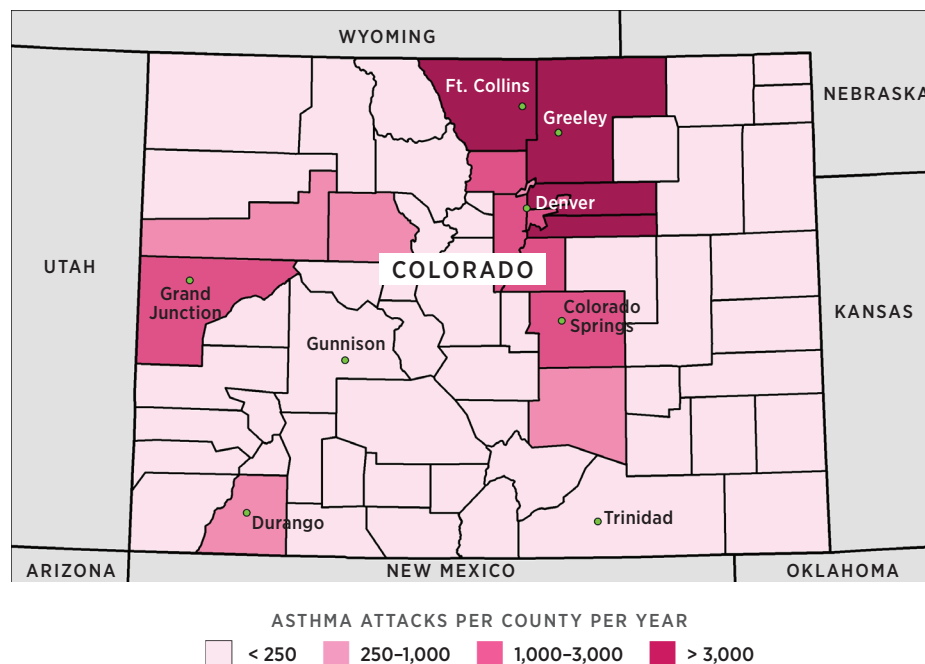
significantly to the unhealthy levels of ozone that the area experiences.

- Kids in western Colorado are also harmed—together, there are over 2,200 childhood asthma attacks per year in Eagle, Garfield, and Mesa counties attributable to oil and gas emissions, including emissions from out of state. Kids in La Plata county in southern Colorado suffer another 660 attacks per year.
- Unfortunately, no county in the state escapes from the ozone pollution produced by the oil and gas industry.
- Adults are also harmed by ozone exposure, with more than **69,000 person-days of restricted activity** in Colorado linked to breathing higher levels of pollution from this industry.

The bottom line: air pollution from the oil and gas industry affects young and old and those living near and far from industry activities. Coloradans need strong standards in place to reduce this pollution. State standards alone cannot solve this problem, however. They don't address polluting industry facilities in neighboring states, and they also don't cover tribal lands in Colorado. **Strong, protective federal pollution standards, such as those put in place over the past year by the US EPA and BLM, are essential to protecting the health of Coloradans.**

FIGURE 2

**Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in Colorado Counties**



# Health Risks in Indiana from Oil and Gas Air Pollution

In the United States the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog pollution. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema.

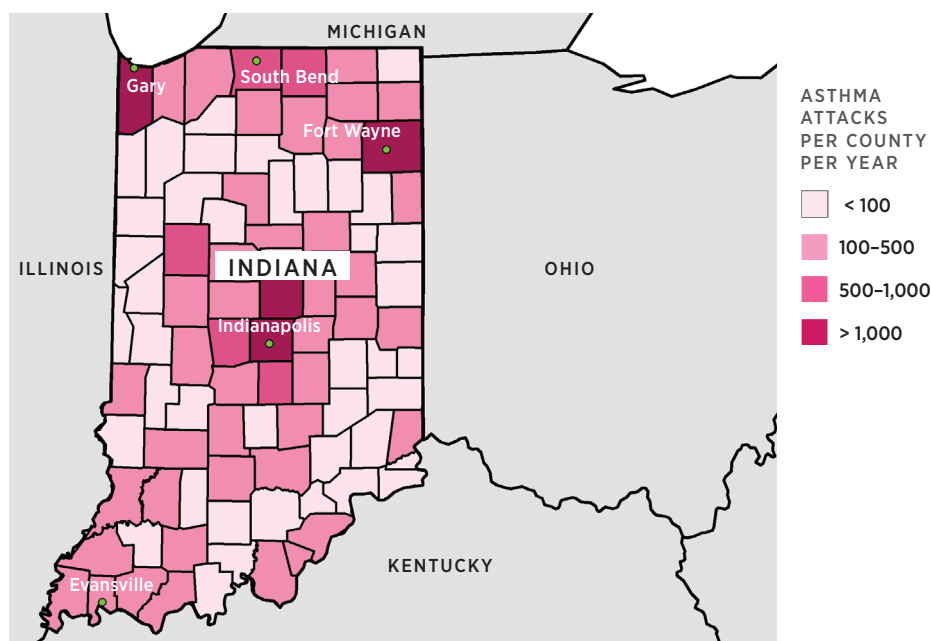
While these pollutants cause health problems in areas with oil and gas booms and intense activity, they also cause problems in other regions, as air pollution travels across the country. **This fact sheet examines how oil and gas air pollution hurts the health of people in Indiana.**

Pollution from oil and gas sites across the nation generates ozone smog, which is damaging the health of Indiana residents:

- Over 19,000 Indiana children per year will suffer asthma attacks due to ozone from this industry (see Figure 1).
- These kids live across the state—oil and gas air pollution causes over 1,600 asthma attacks per year in the metropolitan counties of northwest Indiana, over 1,200 attacks per year in the Fort Wayne area, and almost 6,200 asthma attacks per year in the Indianapolis area.
- Unfortunately, no county in the state escapes from the ozone pollution

FIGURE 1

**Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in Indiana Counties**



- produced by the oil and gas industry.
- Adults are also harmed by ozone exposure, with almost 38,000 person-days of restricted activity in Indiana linked to breathing higher levels of ozone.

Air pollution from the oil and gas industry also includes hazardous, toxic air pollutants, such as benzene, formaldehyde, and acetaldehyde. According to EPA's data for 2011, over 370 tons of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted from almost 7,400 oil and gas sites in Indiana.

- 103,000 people in Indiana live within a half-mile of active oil and gas operations.

Toxic air pollution emissions can directly affect the health of individuals living adjacent to sources.

- Children are especially vulnerable to air pollution exposure and 55 schools in Indiana are located within a half-mile of oil and gas operations.

The bottom line: across Indiana and neighboring states, air pollution from the oil and gas industry affects young and old people. **Hoosiers need strong federal standards for air releases from the oil and gas industry, such as EPA's standards for new wells and equipment and the Bureau of Land Management's Waste Rules for wells on Federal lands.**

# Health Risks in North Dakota from Oil and Gas Air Pollution

In the United States the oil and gas industry **dumps millions of tons of air pollutants into our air** each year.

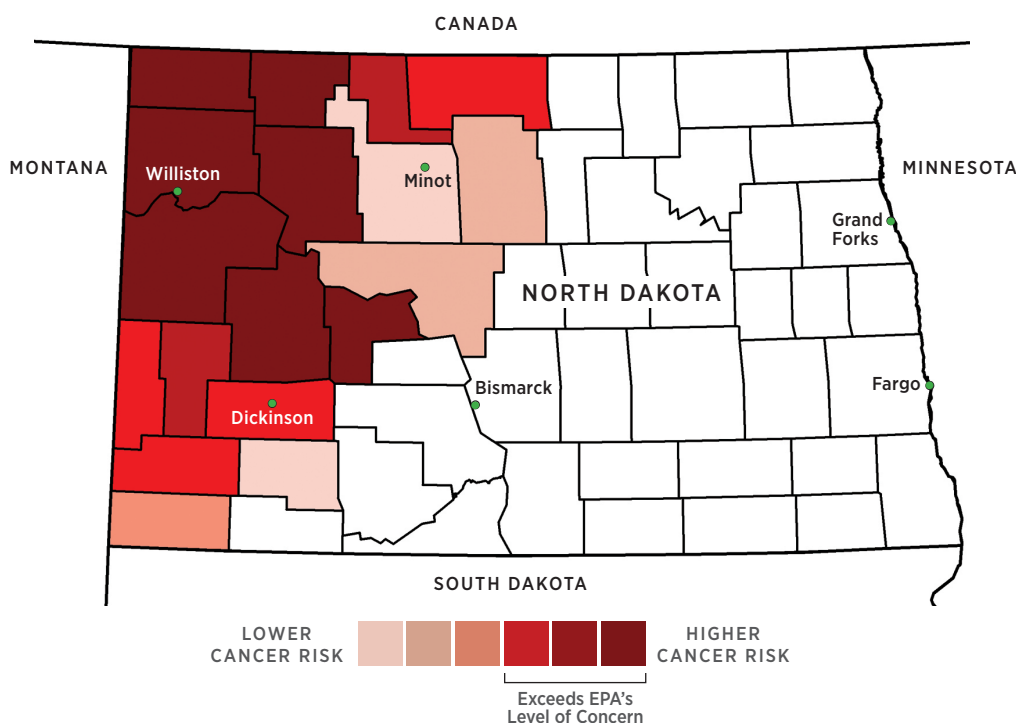
This mix of pollutants includes methane, a very potent climate pollutant and enormous amounts of toxic air pollutants and pollutants that lead to harmful ground level ozone smog pollution. Toxic air pollutants **cause cancer and other diseases**, while ozone smog **can cause a variety of health problems**, such as asthma attacks and worsening the effects of bronchitis and emphysema.

**With equipment to produce over 12% of the nation's oil located in the State, North Dakotans bear much of the health risks caused by oil and natural gas industry air pollution.**

According to EPA's data for 2011, over **2,200** tons of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde—were emitted by oil and gas companies in North Dakota. Furthermore, because the state's oil and gas production increased by **282 percent** and **372 percent**, respectively, between 2011 and 2015, pollution has likely increased as well. The Bakken region of western North Dakota is most directly affected by these toxic gases:

- Over 11 thousand people in North Dakota live within a half-mile of active oil and gas operations. Toxic air pollution emissions can directly affect the health of individuals living adjacent to sources.
- Over 80,000 people live in 12 North Dakota counties where the average cancer risk exceeds EPA's level of concern.

FIGURE 1  
Cancer Risk in North Dakota from Oil and Gas Toxic Air Emissions



cern due to exposure to toxic gases spewed by the oil and gas industry (see Figure 1).

- Children are especially vulnerable to air pollution exposure and **63 schools in North Dakota are located within a half-mile of oil and gas operations.**

Citizens across the state are exposed to harmful ozone smog generated by pollution from the oil and gas industry in North Dakota and other states.

- **North Dakota's children will suffer over nine hundred asthma attacks every summer** induced by ozone from

this industry. They will miss hundreds of days of school.

- Adults are also harmed by ozone exposure, with **up to 1,650 person-days of restricted activity** in North Dakota due to breathing higher levels of pollution from this industry.

The bottom line: air pollution from the oil and gas industry affects young and old and those living near and far from industry activities. **Reasonable standards, such as those put in place over the past year by the US EPA and BLM, are essential to protecting the health of North Dakotans.**



# Health Risks in Ohio from Oil and Gas Air Pollution

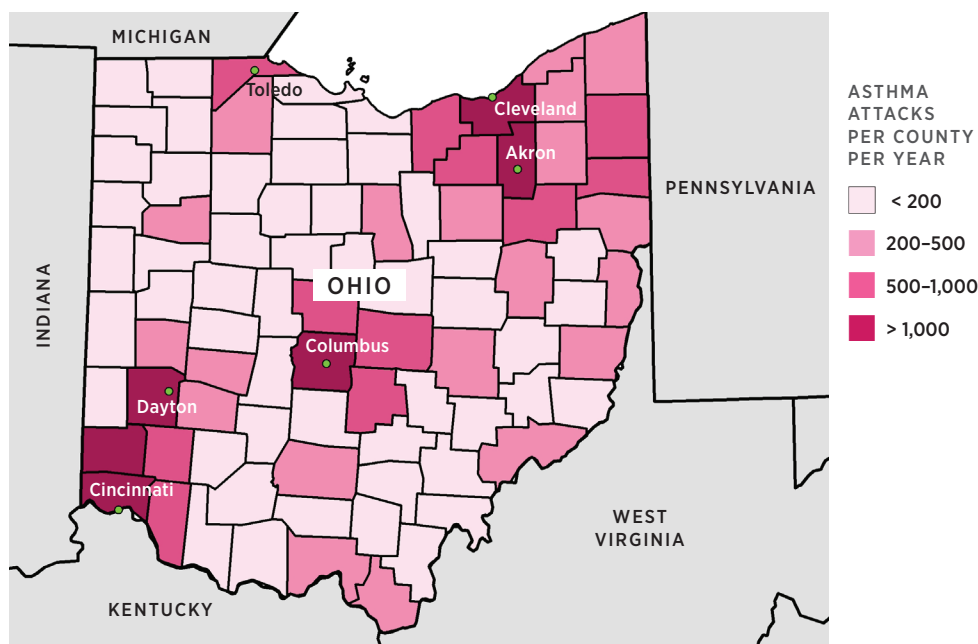
In the United States the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog pollution. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema.

While these pollutants cause health problems in areas with oil and gas booms and intense activity, they also cause problems in other regions, as air pollution travels across the country. In Ohio, which has worked to ensure that newer oil and gas equipment is low-polluting, citizens are harmed in particular by ozone smog, which originates from oil and gas pollution from across much of the central and western US:

- Nearly 30,000 Ohio children per year will suffer asthma attacks due to ozone from this industry (see Figure).
- These kids live across the state—oil and gas air pollution causes over 7,500 asthma attacks per year in the Cleveland-Akron area, over 7,100 attacks per year in greater Columbus, and over 4,500 asthma attacks per year in the Ohio portion of the Cincinnati metropolitan area.
- Unfortunately, no county in the state escapes from the ozone pollution produced by the oil and gas industry.

FIGURE 1

**Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in Ohio Counties**



- Adults are also harmed by ozone exposure, with over 61,000 person-days of restricted activity in Ohio linked to breathing higher levels of ozone.

Air pollution from the oil and gas industry also includes hazardous, toxic air pollutants, such as benzene, formaldehyde, and acetaldehyde. According to EPA's data for 2011, over 160 tons of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted from over 90,000 oil and gas sites in Ohio. Children are especially vulnerable to air pollution exposure and over 2,500 schools in Ohio are located within a half-mile of oil and gas operations.

The bottom line: across Ohio, air pollution from the oil and gas industry affects young and old people. Ohioans need strong federal standards for air releases from the oil and gas industry. The Bureau of Land Management recently finished rules to limit releases of these pollutants from oil and gas wells in National Forests and other federal lands, where industry data shows that pollution levels are particularly high.

**Ohioans need BLM's standards, and standards from EPA for new wells and equipment, to remain in place.**

# The Injustice of Ohio Oil and Gas Air Pollution

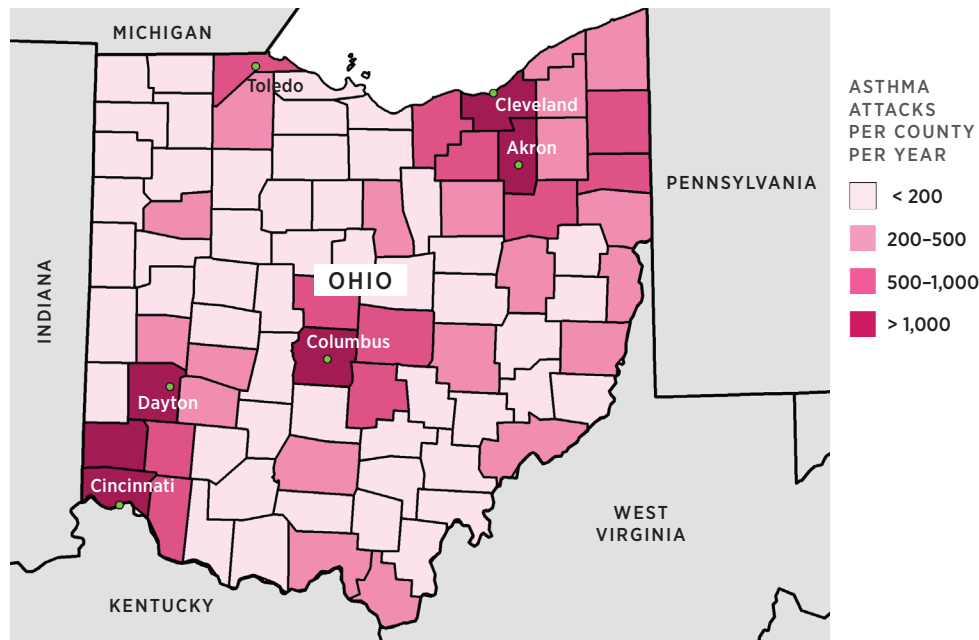
In the United States, the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema. The impact of oil and gas air pollution is not felt equally by all communities—proximity to oil and gas operations and underlying socioeconomic factors can exacerbate the impact of this air pollution.

Communities living near active oil and gas operations experience a higher frequency of acute health impacts. Air pollution from the oil and gas industry also includes hazardous toxic air pollutants, such as benzene, formaldehyde, and acetaldehyde. According to EPA's data for 2011, over 160 tons of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted from over 90,000 oil and gas sites in Ohio. Toxic air pollution emissions can directly affect the health of individuals living, working, or going to school adjacent to sources.

- More than 3.1 million people in Ohio live within a half-mile of active oil and gas operations. This includes more than 272,000 African Americans, 77,000 Latinos, and 23,000 Native Americans.
- Children are especially vulnerable to air pollution exposure: 733,000 children live within a half-mile of oil and gas operations and over 2,500 schools in Ohio are located within a half-mile of oil and gas operations.

FIGURE 1

**Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in Ohio Counties**



**Over 160 tons of hazardous toxic air pollution . . . were emitted from over 90,000 oil and gas sites in Ohio.**

Oil and gas pollution also causes health problems in areas more distant from wells, compressor stations, and other industrial sites, as air pollution travels across the state and country. Citizens across the Ohio are harmed by ozone smog originating from oil and gas pollution from the industry in Ohio and across much of the central and western US:

- Nearly 30,000 Ohio children per year will suffer asthma attacks due to ozone from this industry, including 5,000 attacks for African American children and 1,500 attacks for Latino children.
- Adults are also harmed by ozone exposure, with over 61,000 person-days of restricted activity in Ohio linked to breathing higher levels of ozone, including 7,300 for African American adults and 1,900 for Latino adults.
- Unfortunately, no community in the state escapes from the ozone pollution produced by the oil and gas industry.

Individuals living below the poverty line or without health insurance are particularly burdened by the effects

of air pollution. Studies have found that children living in poverty or without insurance are more likely to end up in the emergency room because of asthma attacks, because poverty and lack of quality health insurance can make it hard to keep asthma in control, resulting in more severe attacks and visits to the hospital. Thus, even for the same health risk, the health burden is greater for kids living in poverty.

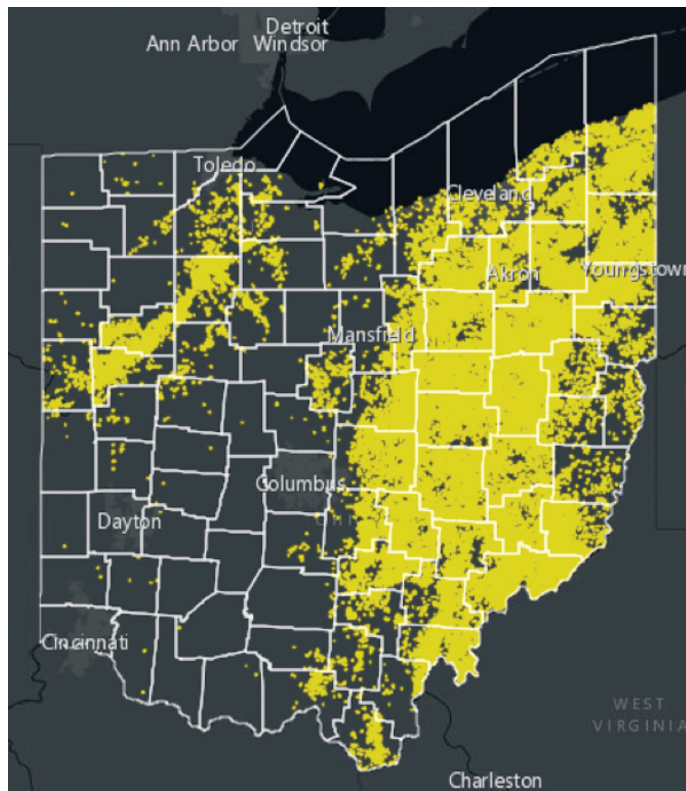
## Even for the same health risk, the health burden is greater for kids living in poverty.

The bottom line: across Ohio, air pollution from the oil and gas industry affects all communities. Ohio has worked to reduce pollution from newer oil and gas equipment, but those state rules can't protect kids in Ohio from air pollution from other states. Ohioans need strong federal standards for air releases from the oil and gas industry. The Bureau of Land Management recently finished rules to limit releases of these pollutants from oil and gas wells in National Forests and other federal lands, where industry data shows that [pollution levels are particularly high](#).

**Ohioans need these standards, and standards from EPA for new wells and equipment, to remain in place.**

FIGURE 2

**Ohio Threat Radius—The Area within a Half Mile of Active Oil and Gas Wells, Compressors, and Processing Plants**



SOURCE: [www.oilandgasthreatmap.com](http://www.oilandgasthreatmap.com)



# Health Risks in Pennsylvania from Oil and Gas Air Pollution

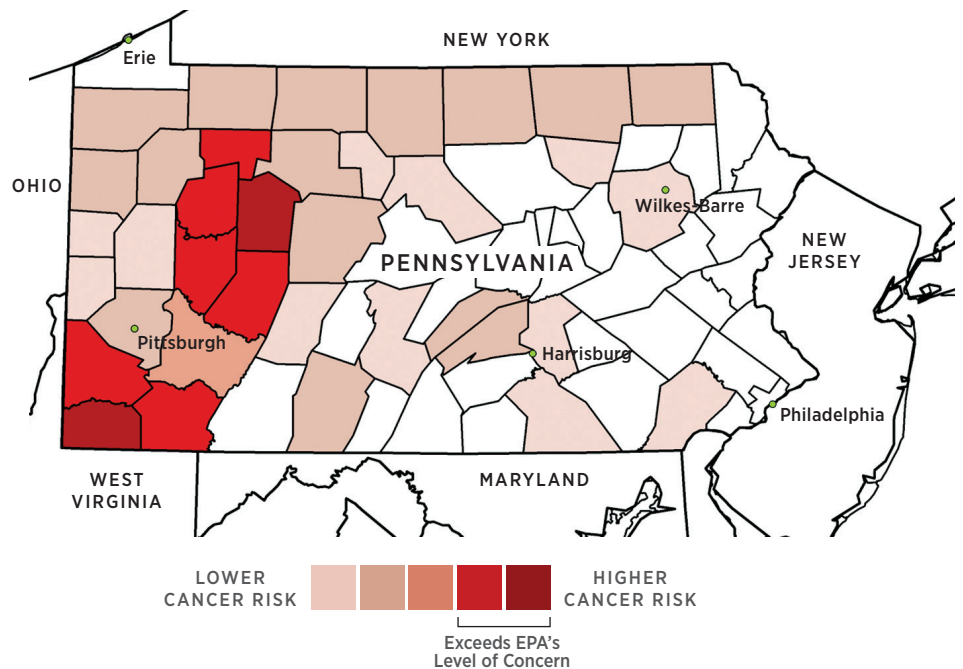
In the United States the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog pollution. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema.

**With nearly 10% of the nation's oil and gas wells, compressors and processing plants located in the State, Pennsylvanians bear much of the health risks caused by oil and natural gas industry air pollution.**

According to EPA's data for 2011, over **1,300 tons** of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted by oil and gas companies in Pennsylvania. Between 2011 and 2015, production of oil and gas increased by **112 percent** and **264 percent**, respectively, in Pennsylvania, so this pollution has likely increased as well. Western Pennsylvania is most directly affected by these toxic gases:

- **1.5 million people in Pennsylvania live within a half-mile of active oil and gas operations.** Toxic air pollution emissions can directly affect the health of individuals living adjacent to sources.
- Residents of eight counties surrounding Pittsburgh face cancer risk that exceeds EPA's level of concern due to exposure to toxic gases spewed by the oil and gas industry (see Figure 1).

FIGURE 1  
**Cancer Risk from Oil and Gas Toxic Air Emissions**



- Children are especially vulnerable to air pollution exposure and **over 1,300 schools in Pennsylvania are located within a half-mile of oil and gas operations.**
- Along these lines, a number of recent independent peer-reviewed research studies on Pennsylvania communities have reported that negative health outcomes are more likely for those living near oil and gas wells in the state (see box, page 2).

Citizens across Pennsylvania are exposed to harmful ozone smog:

- **Over 30,000 Pennsylvania children per year will suffer asthma attacks** due to ozone from this industry.
- 25% of those children live in the Pittsburgh metropolitan area, and just over 20% live on the other side of the

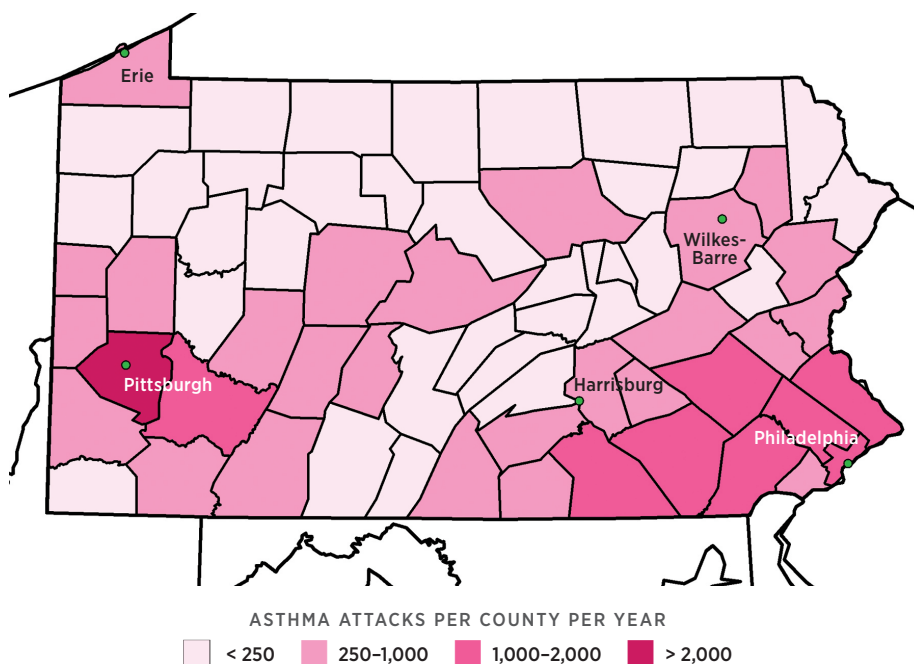
state in the Philadelphia metro area (see Figure 2, page 2).

- Unfortunately, no county in the state escapes from the ozone pollution produced by the oil and gas industry.
- Adults are also harmed by ozone exposure, with **67,000 person-days of restricted activity** in Pennsylvania linked to breathing higher levels of pollution from this industry.

The bottom line: air pollution from the oil and gas industry affects young and old and those living near and far from industry activities. **Pennsylvania must act to reduce these impacts by issuing air pollution standards that control emissions of harmful air pollution from the industry to the greatest extent possible.**

FIGURE 2

**Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in Pennsylvania Counties**



**Peer-reviewed studies on the health impacts for those living near oil and gas operations**

A number of very recent studies have found that those living in areas of Pennsylvania with dense gas drilling experience more negative health effects, such as asthma attacks and hospitalizations than those living further away. These reports include:

- T. Jemielita *et al.*, (2015) "Unconventional Gas and Oil Drilling Is Associated with Increased Hospital Utilization Rates," *PLoS ONE* **10**, e0131093. [doi:10.1371/journal.pone.0131093](https://doi.org/10.1371/journal.pone.0131093).
- S. G. Rasmussen *et al.*, (2016) "Association Between Unconventional Natural Gas Development in the Marcellus Shale and Asthma Exacerbations," *JAMA Intern. Med.* **176**, 1334. [doi:10.1001/jamainternmed.2016.2436](https://doi.org/10.1001/jamainternmed.2016.2436).
- S. L. Stacy *et al.*, (2015) "Perinatal Outcomes and Unconventional Natural Gas Operations in Southwest Pennsylvania," *PLoS ONE* **10**, e0126425. [doi:10.1371/journal.pone.0126425](https://doi.org/10.1371/journal.pone.0126425).

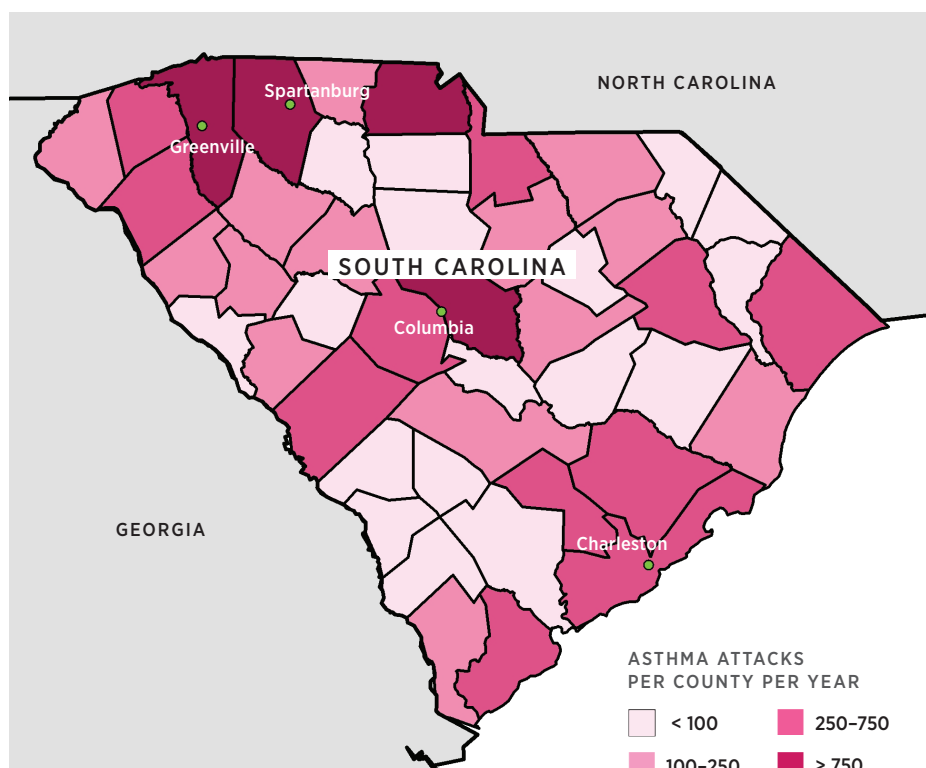
# Health Risks in South Carolina from Oil and Gas Air Pollution

In the United States the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema.

While these pollutants cause health problems in states with oil and gas booms and intense activity, they also cause problems elsewhere, as air pollution travels across state borders. Although South Carolina does not have oil and gas wells operating in the state, the health of state residents is still affected by the air pollution released by the oil and gas industry:

- South Carolina kids will suffer over 12,000 asthma attacks every summer due to ozone from this industry (see Figure 1).
- These kids live across the state—oil and gas air pollution causes almost 2,700 asthma attacks per year in the Greenville area, over 1,900 attacks per year in the Columbia area, and almost 1,400 attacks per year in the Charleston area.
- Unfortunately, no county in the state escapes from the ozone pollution produced by the oil and gas industry—

FIGURE 1  
Ozone-induced Childhood Asthma Attacks in South Carolina Counties Attributed to Oil and Gas Emissions



every county has asthma attacks attributable to oil and gas air pollution.

- Adults are also harmed by ozone exposure, with over 25,000 person-days of restricted activity in South Carolina linked to breathing higher levels of ozone.

South Carolinians need protection from this air pollution. **Federal standards**

**to reduce air pollution from oil and gas wells, compressors, and processing plants are essential.** These include standards from the Bureau of Land Management, which would reduce smog causing pollutants from wells in national forests, other federal lands, and tribal lands by hundreds of thousands of tons. South Carolina needs those standards to stay in place.

# Health Risks in Tennessee from Oil and Gas Air Pollution

In the United States the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog pollution. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema.

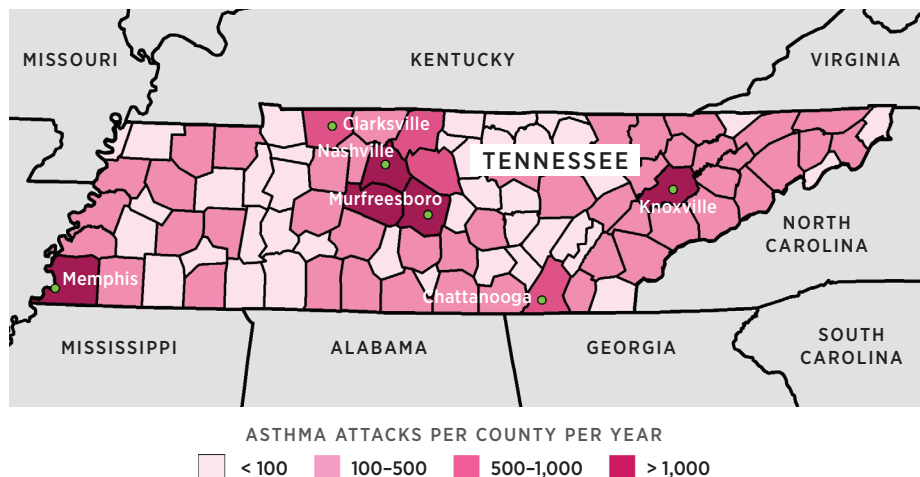
While these pollutants cause health problems in areas with oil and gas booms and intense activity, they also cause problems in other regions, as air pollution travels across the country. **This fact sheet examines how oil and gas air pollution hurts the health of people in Tennessee.**

Pollution from oil and gas sites across the nation generates ozone smog, which is damaging the health of Tennesseans:

- Nearly 25,000 Tennessee children per year will suffer asthma attacks due to ozone from this industry (see Figure).
- These kids live across the state—oil and gas air pollution causes over 4,700 asthma attacks per year in the Memphis area, almost 2,600 attacks per year in the Knoxville area, and almost 7,200 asthma attacks per year in the Nashville area.
- Unfortunately, no county in the state escapes from the ozone pollution produced by the oil and gas industry.

FIGURE 1

## Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in Tennessee Counties



- Adults are also harmed by ozone exposure, with 52,000 person-days of restricted activity in Tennessee linked to breathing higher levels of ozone.

Air pollution from the oil and gas industry also includes hazardous, toxic air pollutants, such as benzene, formaldehyde, and acetaldehyde. According to EPA's data for 2011, over 170 tons of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted from almost 16,000 oil and gas sites in Tennessee.

- 357,000 people in Tennessee live within a half-mile of active oil and gas operations. Toxic air pollution emissions can directly affect the health of individuals living adjacent to sources.

- Children are especially vulnerable to air pollution exposure and over 500 schools in Tennessee are located within a half-mile of oil and gas operations.

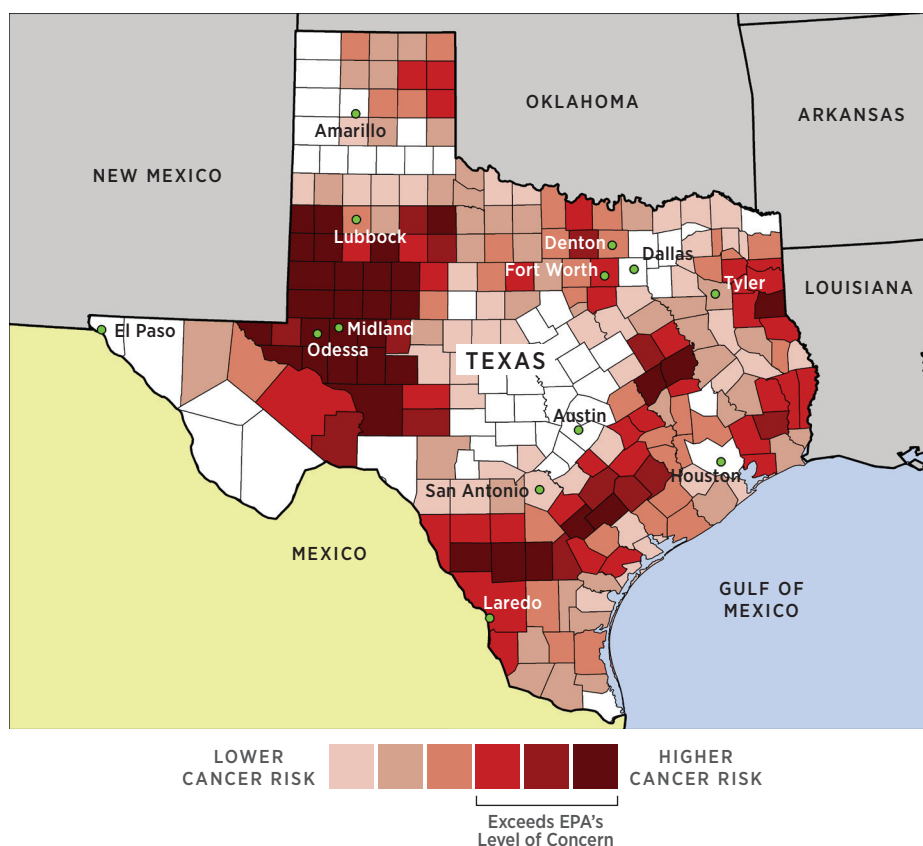
The bottom line: across Tennessee and neighboring states, air pollution from the oil and gas industry affects young and old people. **Tennesseans need strong federal standards for air releases from the oil and gas industry, such as EPA's standards for new wells and equipment and the Bureau of Land Management's Waste Rules for wells on Federal lands.**

# Health Risks in Texas from Oil and Gas Industry Air Pollution

**SUMMARY:** Air pollution from the oil and gas industry harms the health of people throughout Texas, increasing the cancer risk for millions of people and forming ozone smog that causes asthma attacks and other health problems across the state. Last year, the US Environmental Protection Agency (EPA) put important standards in place to reduce air pollution from over seven thousand newer oil and gas sites across Texas, but the Trump Administration recently suspended these commonsense measures, further endangering the health of children and adults in Texas.

FIGURE 1

Cancer Risk from Oil and Gas Toxic Air Pollution in Texas Counties



The oil and gas industry dumps millions of tons of air pollutants into our nation's air each year.

This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog pollution. These toxic pollutants, such as benzene, cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsened bronchitis and emphysema.

With over a third of the nation's oil and gas wells, compressor stations, and gas processing facilities spread throughout the state, Texans bear a huge portion of the health risks caused by oil and

natural gas industry air pollution. As the industry grows, these problems will get worse without standards to limit pollution from these sites.

According to EPA's data for 2011, over 8,500 tons of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted by the Texas oil and gas industry. Rapid expansion of the industry in the Permian basin, the Eagle Ford shale, and many other areas of the state since 2011 means that this pollution has probably increased. Exposure to these toxic gases spewed by the oil and gas industry raises the cancer risk above EPA's level of

concern in 82 Texas counties (see map above).

With the industry spread around the state, many Texans are directly affected by these toxic gases:

- 2.3 million Texans live within a half-mile of active oil and gas operations. Toxic air pollution emissions can directly affect the health of individuals living adjacent to sources.

CLEAN AIR  
TASK FORCE





- Children are especially vulnerable to air pollution exposure and **over 900 schools in Texas** are located within a half-mile of oil and gas operations.

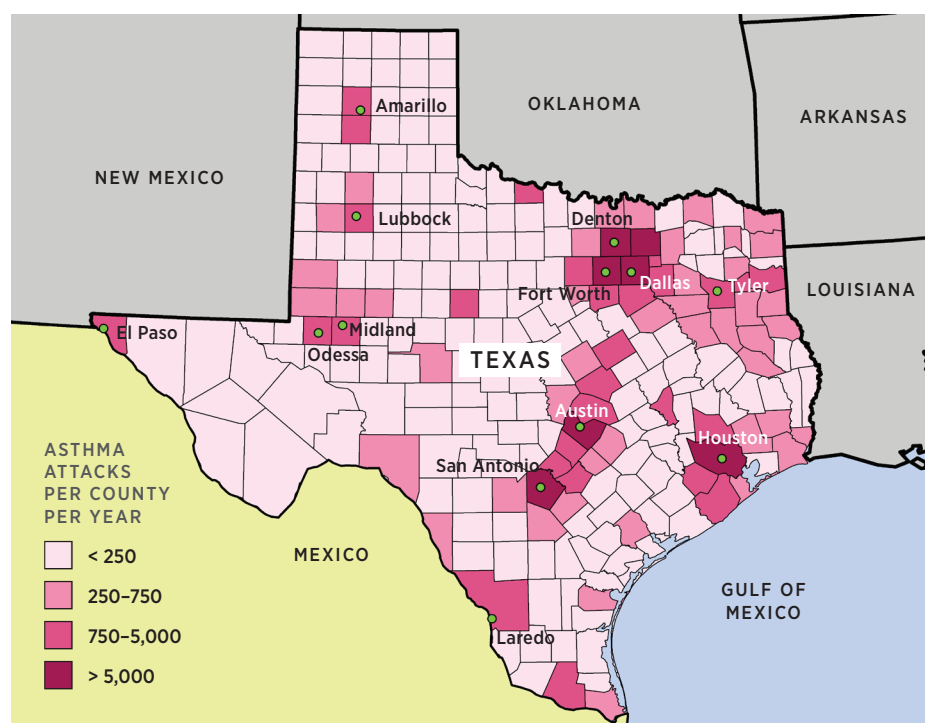
Texans are also exposed to harmful ozone smog from oil and gas pollution:

- **Texas children will suffer nearly 145,000 asthma attacks** per year due to ozone from this industry (see map at right).
- Adults are also harmed by ozone smog from this industry: Texans suffer over **280,000 person-days of restricted activity** linked to breathing higher levels of pollution from this industry.
- The kids harmed by this pollution live across the state. For example, oil and gas pollution causes over 45,000 asthma attacks per year in the Dallas/Fort Worth Metroplex, almost 22,000 attacks in the Houston area, over 15,000 attacks in Greater San Antonio, and almost 4,800 attacks in the Midland-Odessa area. People are harmed by ozone from this industry in every county in the state.

The bottom line: air pollution from the oil and gas industry affects young and old and those living near and far from industry activities. Texans need strong standards to prevent unnecessary harm-

FIGURE 2

### Texas Asthma Attacks in Kids Attributed to Oil and Gas Air Pollution



ful pollution from these sites. EPA's standards from last year were a key step in limiting this pollution from new wells and other oil and gas sites, requiring common-sense measures like regularly inspecting oil and gas sites for harmful leaks of methane and other air pollutants. They would have reduced pollution from over seven thousand industry sites spread across 184 Texas counties.

Unfortunately, the Trump Administration is working to suspend key aspects of those rules for years. **You can help: contact EPA or your local paper to let them know that EPA should protect local communities, and should not suspend these rules.**

# Health Risks in West Virginia from Oil and Gas Air Pollution

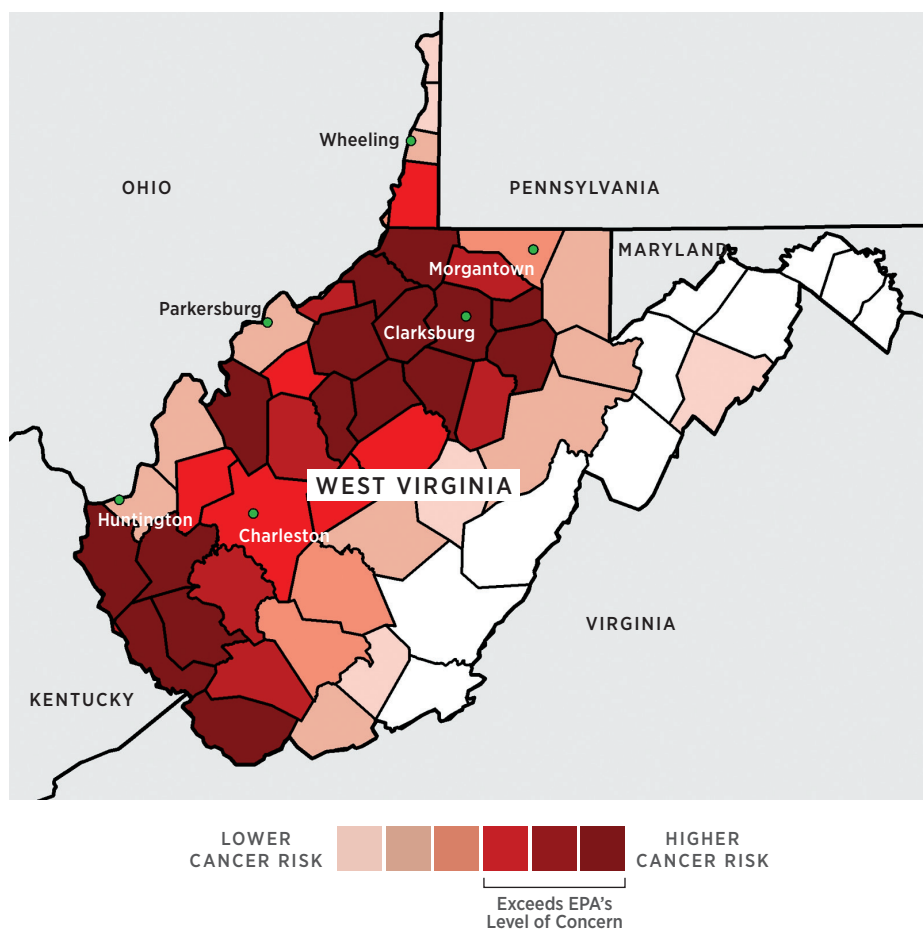
In the United States the oil and gas industry dumps millions of tons of air pollutants into our air each year. This mix of pollutants includes methane, a very potent climate pollutant, and enormous amounts of toxic air pollutants and pollutants that cause ozone smog pollution. Toxic air pollutants cause cancer and other diseases, while ozone smog can cause a variety of health problems, such as asthma attacks and worsening the effects of bronchitis and emphysema.

**With oil and gas wells spread throughout the state, West Virginians bear much of the health risks caused by oil and natural gas industry air pollution.**

According to EPA's data for 2011, over **1,200 tons** of hazardous toxic air pollution—benzene, formaldehyde, and acetaldehyde and other compounds—were emitted by oil and gas companies in West Virginia. Between 2011 and 2015, production of oil and gas increased by **271 percent** and **235 percent**, respectively, in West Virginia, so this pollution has likely increased as well. Individuals in most of the state are directly affected by these toxic gases:

- **262,000 people in West Virginia live within a half-mile of active oil and gas operations.** Toxic air pollution emissions can directly affect the health of individuals living adjacent to sources.
- Residents of 28 counties—more than half the counties in the state—face cancer risk that exceeds EPA's level of concern due to exposure to toxic gases spewed by the oil and gas industry (see Figure 1).
- Children are especially vulnerable to air pollution exposure and over **890 schools in West Virginia are located within a half-mile of oil and gas operations.**

FIGURE 1  
**Cancer Risk from Oil and Gas Toxic Air Emissions**



Citizens across West Virginia are also exposed to harmful ozone smog:

- **Nearly 10,000 West Virginia children per year will suffer asthma attacks** due to ozone from this industry (see Figure 2).
- Unfortunately, no county in the state escapes from the ozone pollution produced by the oil and gas industry.
- Adults are also harmed by ozone exposure, with **21,400 person-days of restricted activity** in West Virginia linked to breathing higher levels of pollution from this industry.

The bottom line: air pollution from the oil and gas industry affects young and old and those living near and far from industry activities. **West Virginians need strong federal standards for air releases from the oil and gas industry, such as EPA's standards for new wells and equipment and the Bureau of Land Management's Waste Rules for wells in National Forests.**

FIGURE 2

**Ozone-induced Childhood Asthma Attacks Attributed to Oil and Gas Emissions in West Virginia Counties**

