

Fact Sheet: Oil Wells Harm Communities

More [than 2.7 million Californians](#) live within 3,200 feet of an existing operational oil or gas well. One in five Californians, more than [7 million people](#) live within one mile. Independent [research](#) shows oil well drilling and production within two and a half miles of oil and gas wells in California exposes residents to levels of air pollutants linked to sensory effects ranging from headaches to nausea, coughing and dizziness, nosebleeds, cancer, cardiovascular diseases, preterm births, birth defects, anxiety, depression and other long term health effects. Studies also show harm to those [living up to 6.2 miles](#) from an active oil or gas well. Oil well drilling is linked to the following diseases in the following ways:

Cancer

- Hazardous air pollutants emitted from oil and gas development sites include [benzene, toluene, ethylbenzene, xylenes, hexane and formaldehyde](#)—many of which are [known, probable or possible carcinogens](#) and/or teratogens causing fetal abnormalities. Benzene alone is linked to blood disorders such as leukemia, immune system damage and chromosomal mutations.

- The oil industry uses dozens of toxic chemicals in oil fields near homes and schools in Los Angeles that can then be released into the air. Five of the [top 12 toxics](#) most commonly used in LA County oil fields are [classified as carcinogens](#). They are crystalline silica, formaldehyde, ethylbenzene, naphthalene, and cumene. The top 12 list also includes methanol, which is linked to reproductive harm, and hydrochloric and hydrofluoric acids that can irritate eyes and damage lungs.

Asthma And Other Lung Diseases

- Living near oil wells and breathing oil drilling and production emissions is linked to [reduced lung function](#) and wheezing. In some cases, the respiratory damage rivals that of daily exposure to secondhand smoke or living beside a freeway.

- [Exposure to fine particle pollution](#) from oil drilling sites is linked to aggravated asthma, decreased lung function and difficulty breathing, irritation of the airways, coughing, as well as to premature death in people with lung or heart disease, increased mortality, non-fatal heart attacks, irregular heartbeat, decreased lung function, irritation of the airways, coughing or difficulty breathing.

- Exposure to volatile organic compounds, a group of chemicals that contribute to creating ground-level ozone, or smog, can [trigger or worsen asthma](#) and other respiratory ailments. Exposure to ozone is linked to a wide range of health effects including [aggravated asthma, COPD, bronchitis, emphysema](#), increased emergency room visits and hospital admissions and premature death.

Low Birth Weight And Preterm Babies

- Pregnant women in rural California living within six tenths of a mile of the highest producing wells have been shown to be 40% more likely to deliver [low birth weight babies](#) than those living further away. The same group is also 20% more likely to have babies small for their gestational age. Low birth weight babies may have a harder time eating, gaining weight, and fighting infections. Babies born [small for their gestational age](#) are at increased risk for neonatal asphyxia, polycythemia—a thickening of the blood that can lead to strokes or tissue and organ damage, sepsis and death.

- Pregnant women in California living within six miles of oil and gas wells in the San Joaquin Valley during their first and second trimesters were shown to be 8% to 14% more likely to experience a [spontaneous preterm birth](#)—one that would otherwise be unexplained—at 20 to 31 weeks. Spontaneous preterm birth before 37 weeks of gestation is the leading cause of infant death in the United States.

Birth Defects

- An increased prevalence of [neural tube defects](#) among children born to pregnant mothers living near wells has been shown compared to children born to pregnant mothers living near no wells. Common neural tube defects include spina bifida, a spinal cord defect, and anencephaly, a fatal brain defect.

- Mothers living near more intense oil and gas developmental activity have been shown to have a 40-70% greater chance of having children with [congenital heart defects](#) compared to those living in areas of less intense activity. This is the most common birth defect in the country and a leading cause of death among infants with birth defects. Birth defects range from a small hole in the heart to poorly formed or missing parts.

Exposure to Radioactivity

- Naturally occurring radioactive material is a common byproduct in producing oil and gas. In downwind communities, [radioactive particles can continue to release ionizing radiation after being inhaled](#). Upwind unconventional oil and natural gas development can significantly raise ambient particle radioactivity by increasing the emission rate of radon and its progeny—Lead-210 and Polonium-210—that tend to be deposited on the bronchial epithelium, inducing the carcinogenic process. Even short-term exposure to particle radioactivity has been associated with adverse health outcomes, including decreased lung function, increased blood pressure and increased levels of inflammation biomarkers.

- [The greatest radiation health risk](#) from oil and gas development activities is exposure to radium-226 and radium-228, a byproduct of the natural decay of uranium. Unnecessary exposure to radium-226 and radium-228, both present in many forms of oil and gas waste, increases the risk of cancer. Radium also decays into radon isotopes that, when inhaled, deposit radiation in lungs, causing lung cancer. Radon is the second-leading cause of lung cancer in the U. S.

Cardiovascular Disease

- Living near oil extraction sites is associated with [cardiovascular disease](#) that is the leading cause of mortality in the U.S. Oil and gas extraction involves diesel-powered equipment, trucks and generators. The equipment constantly emits exhaust containing fine particulate matter associated with increases in blood pressure as well as toxic emissions such as volatile organic compounds coming from normal activities and leaks from tanks, valves, and pipes. These emissions change cardiovascular physiology, increase emergency room visits, cardiovascular morbidity, and mortality.

- [Those at increased risk from the effects of fine particulate matter](#) include people with underlying cardiovascular conditions such as ischemic heart disease and heart failure, those who previously experienced cardiovascular events such as myocardial infarction and stroke, people with diabetes, elevated cholesterol levels, people who are obese, of low socioeconomic status and who are older adults.

Mental Health

- Living closer to wells is associated with [depression symptoms](#). Nearby oil and gas production produces potential environmental and social impacts including noise, light, vibration, truck traffic, air, water and soil pollution, social disruption, crime, stress, and anxiety. People living near production wells have reported reduced life satisfaction, feelings of disempowerment, social stress, negating psychological states and disruption in meaning and attachments to their communities. [Accumulating evidence](#) shows an association between major environmental pollutants and various mental health disorders including anxiety, mood, and psychotic syndromes.

