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Harvard study links fossil fuels to millions of 'premature' deaths

The oil and gas industry, which is concentrated in Southern California, is one of the state's major industries.

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Palm Springs Desert Sun

New research published Tuesday by researchers at Harvard University and several colleges in the United Kingdom found that pollution from burning fossil fuels could be blamed for 8.7 million premature deaths in 2018 alone, about one-fifth of all deaths that year.

China and India — the two most populous countries in the world as well as two of the top coal-burners — accounted for roughly half of all excess deaths identified in the study. The eastern U.S. and several other regions around the world, including Europe and Southeast Asia, had high levels, as well. The vast majority of American coal-fired power plants that are operational and not slated for retirement are in the eastern half of the lower 48.

The report focused on PM2.5, which is fine particulate matter that can get deep into the lungs and cause cardiac and pulmonary issues. According to the U.S. Environmental Protection Agency, PM2.5 exposure has been linked to asthma, an irregular heartbeat, heart attacks and death. While the research did not estimate specific causes of death, it cited research on PM2.5's impacts, including how it disproportionately hurts children's health via issues such as respiratory infections.

The study also did not quantify how many years fossil fuel pollution would take off an average person's life, although other recent research estimated that all types of PM2.5 pollution caused the loss of 103.1 million life-years globally in 2015.

Thousands of the deaths this new study highlighted came from California. The Golden State's oil and gas industry has been shrinking since the 1980s, although it still remains one of the country's larger producers. The state also extended the life of four natural gas power plants in 2020 due to concerns over electricity blackouts.

Millions of Californians live near oil and gas well and refineries, both of which can leak dangerous pollutants. Black, Latino and low-income people are most likely to live adjacent to these wells.

While it has historically been difficult to differentiate between various sources of PM2.5 in similar studies, this team relied on a "global 3-D model of atmospheric chemistry" to isolate emissions originating locally from burning fossil fuels.

“Our study adds to the mounting evidence that air pollution from ongoing dependence on fossil fuels is detrimental to global health,” Eloise Marais, an associate professor in the Department of Geography at University College London and one of the report's co-authors, said in a statement. “We can’t in good conscience continue to rely on fossil fuels, when we know that there are such severe effects on health and viable, cleaner alternatives.”

The research team shared data with The Desert Sun that broke out the mortality figures at a state-by-state level across the U.S. Topping the list of the states hit hardest per capita were those in the Rust Belt, where coal has historically been king.

Pennsylvania experienced the worst outcomes, with 195 excess deaths per 100,000 people. Next were Ohio with 188, Michigan with 177, Indiana with 176, Kentucky with 169 and West Virginia with 158.

California, which has committed to going carbon neutral by 2045, was in the lower half of per capita premature deaths. Still, the researchers estimated that slightly more than 34,000 Californians died prematurely due to this pollution, which came out to about 86 deaths per 100,000 people in the country's most populous state.

The California oil industry argued that shutting down U.S. fossil fuels too quickly would be dangerous, as domestic energy sources were cleaner than the alternatives coming from countries with laxer environmental laws.

Rock Zierman, CEO of the California Independent Petroleum Association, pointed out that the report didn't mention California specifically, "likely because the state has the toughest regulations on the planet to protect air quality."

He added, "Continuing to meet the state's vast energy needs with locally produced energy is better for our environment and our economy."

Kevin Slagle, spokesperson for the Western States Petroleum Association, agreed that a transition away shouldn't be rushed, saying, "There is a path to an energy future that is equitable, reliable affordable and safe — but not without oil and gas."

For their part, the research team used their study as a call to action to move on from burning hydrocarbons.

"Fossil fuel combustion can be more readily controlled than other sources and precursors of PM2.5 such as dust or wildfire smoke, so this is a clear message to policymakers and stakeholders to further incentivize a shift to clean sources of energy," they wrote.

More fracking in California

Harvard's research came out the same day California approved 11 new hydraulic fracturing — or "fracking" — permits, according to data from the California Geologic Energy Management Division. The permits — allowing for 59 individual fracking events — fall in the North Belridge oil field, which is west of Bakersfield in Kern County.

The permits approved Tuesday went to Aera Energy, a joint venture between Shell and ExxonMobil. Gov. Gavin Newsom has come under criticism for allowing his administration to approve so many such permits for Aera, which has contracted with the lobbying firm where his close friend Jason Kinney works.

Environmentalists saw a clear link between continued oil and gas drilling and the adverse health outcomes the study pointed out.

"This research shows the deadly consequences of every fracking and drilling permit issued by the Newsom administration and every delay in putting setbacks between people and drilling sites," said Kassie Siegel, director of the Climate Law Institute at the Center for Biological Diversity, an environmental advocacy organization.

“But," she continued, "it also shows that the way to save lives is to keep fossil fuels in the ground. Gov. Newsom has the power to be a true lifesaver, but he has to rein in California’s dirty oil production to do it.”