

Elevated cancer risks surround oil and gas drilling -- report

Umair Irfan, Environment & Energy Publishing, 6-15-16

More than 200 counties across 21 states face elevated cancer risks from toxic emissions stemming from oil and gas production in the United States, according to a new report from the Clean Air Task Force.

Titled "Fossil Fumes," the paper uses U.S. EPA's National Air Toxics Assessment and National Emissions Inventory projections out to 2017. Looking at probable carcinogens like formaldehyde and benzene, the report found that 238 counties housing 9 million people face cancer risks above EPA's one-in-a-million concern threshold level.

The counties facing highest risks were in Texas, Louisiana, Oklahoma, North Dakota, Pennsylvania and Colorado, regions with a high degree of oil and gas extraction infrastructure.

The report joins an online mapping tool released this morning from the Clean Air Task Force, Earthworks and the FracTracker Alliance. The tool maps 1.19 million oil and gas wells, compressors and processors, drawing a half-mile threat radius around each site.

The mapping tool includes video testimonials from people living in afflicted regions and geotagged infrared video of oil and gas facilities, showing billowing white wisps of gas pouring out of smokestacks and squirting through cracks in pipes.

The aggregated threat region adds up to an area greater than the state of California and envelops more than 11,000 schools.

"This was three years in the making," said Alan Septoff, strategic communications director at Earthworks. "The pollution that we're talking about is associated with the release of methane."

Methane is the dominant component of natural gas and is also found in many oil wells. It burns cleaner than coal while producing less carbon dioxide. However, methane itself is a potent greenhouse gas, and many methane sources also contain volatile organic compounds like benzene.

These compounds make breathing more difficult and increase cancer risks. "The dose and response relationship here is well-known," said Conrad Schneider, advocacy director at the Clean Air Task Force. "Once you know the dose, you can generate the risk quotient."

This complicates the picture for natural gas as a solution to climate change and for policies like the Clean Power Plan, which invokes the health provision of the Clean Air Act. Toxic pollution from oil and gas extraction, not just from where it's burned but from where it's extracted, alters the overall health profile of these fuels.

"We want to make sure that trade-off is beneficial," Schneider said. "All we're asking to do is stop the leaks. We want safeguards."

The findings come after EPA issued new rules for controlling methane emissions last month.

Septoff said the report and the mapping tool are not intended to find violations, since they are merely snapshots in time, but to help people living near oil and gas infrastructure understand the threats they may face. "What we expect to come of this is more attention across the country to this issue and more pressure and clamor and protection for communities from this kind of pollution," he said.

Joost de Gouw, a research physicist at the National Oceanic and Atmospheric Administration, who was not involved in either project, noted that there are a number of variables at play when it comes to emissions of carcinogens from natural gas sources.

"In different production regions, we do see that benzene can be elevated due to the production of oil and gas," he said. "The extent depends on the composition of the gas that's being produced, so it can be very different place to place."

In addition, benzene in the air can arise from tailpipe emissions from cars or from burning biomass, like forest fires. "Those are sources that need to be distinguished," said de Gouw.

Erik Milito, group director for upstream and industry operations at the American Petroleum Institute, noted in an email that oil and gas firms have steadily improved their performance in controlling methane leaks.

"Recent EPA data show emissions of methane from field production of natural gas since 2005 have dropped, even as oil and natural gas production has risen dramatically, thanks to industry leadership and investment in new technologies," he wrote. "Additionally, increased use of natural gas has helped drive carbon emissions to more than 20-year lows."

Septoff said Earthworks is now working on incorporating census data into the map so that users can differentiate risk by income brackets, ethnicity and age.