

U.S. Overstates Leaks by Gas-Drillers, Says Study

University of Texas Researchers Challenge Methane Emissions by Fracking

Russell Gold, Wall Street Journal, 9-18-13

Natural-gas drilling sites aren't leaking as much methane into the atmosphere as the federal government and critics of hydraulic fracturing had believed, according to the first study of emissions at multiple drilling sites.

The study, led by researchers at the University of Texas at Austin and published on Monday by the Proceedings of the National Academy of Sciences, is likely to ease some concerns about the impact of natural-gas extraction on the climate.

Measuring emissions at 190 sites, the study found less "fugitive methane" than previous work by the Environmental Protection Agency and some university researchers, which relied on estimates. Methane, the primary ingredient in natural gas, is a potent greenhouse gas.

Critics of fracking have contended that large amounts of methane leak from gas drilling sites, with some suggesting the problem was so great that it would be better for the environment to burn coal instead of natural gas.

More work must be done on other potential sources of methane leaks, for example from pipelines, before researchers can say definitively that producing and burning natural gas is better for the environment than using coal to generate electricity.

But the measurements of gas emissions found that wells emitted about 20% less greenhouse gases than the EPA had estimated—which is less than the amount emitted by burning coal. The study also found much higher-than-expected leakage from pneumatic switches, which are used to turn equipment on and off at well sites.

David Allen, a chemical engineering professor at the University of Texas and lead researcher, said he believed the better data will help guide policy makers.

"If the goal is to reduce emissions, a critical first step is to know what the emissions are," he said.

Nine large fossil fuel companies, including Exxon Mobil Corp., Royal Dutch Shell PLC, Anadarko Petroleum Corp. and Pioneer Natural Resources Co. contributed about \$250,000 to fund this study, as did the nonprofit Environmental Defense Fund.

University of Texas officials said the research was independent and the 14 authors declared "no conflict of interest" in the paper. However, a university spokesman said he was looking into a report that one of the authors worked for a petroleum engineering firm.

After the study was published, Physicians, Scientists & Engineers for Healthy Energy, a group that has been critical of fracking, called the study "fatally flawed" by the small sample size and oil-industry influence. The UT researchers say their methodology was independent and sound.

The study also found that the extra equipment used in so-called "green completions" was effective at capturing methane gas that could be put into in pipelines and sold, eliminating venting into the atmosphere. "For those

wells with methane capture or control, 99% of the potential emissions were captured or controlled," the paper notes.

The federal government will require green completions for all natural gas wells beginning in January 2015. The rule doesn't require such equipment on fracked wells in North Dakota, Texas and elsewhere that produce mostly crude oil.

The amount of methane leakage has been a source of significant controversy. In 2011, Cornell University scientists suggested the EPA estimates were far too low—and that natural-gas production wasn't helping slow carbon emissions. Their assertion was attacked by other scientists, but little data was available until this new paper.

"The study shows the EPA got it right in requiring hydraulically fractured natural gas wells to use green completions," said Eric Pooley, a spokesman for the Environmental Defense Fund. The nonprofit also is financing additional studies examining methane leakage when gas is transported.

The study isn't a definitive picture of the gas-drilling industry today, Mr. Pooley said, because all of the wells it examined were operated by large companies; regulators have found smaller companies have often been less successful at complying with environmental regulations.

"But it tells us where the industry is headed is a good place," he said.

Exxon spokesman Richard Keil said the study points to areas for improvement. "We will proceed as diligently at addressing them as things we were already aware of," he said, adding that the company, the nation's largest natural-gas producer, plans to look at improving pneumatic switches.