

Industry isn't a good source of fracking info, but neither is 'Gasland' – survey

Nathaniel Gronewold, *Environment & Energy Publishing*, 6-16-14

HOUSTON -- Research by universities in Texas and Pennsylvania shows that knowledge of hydraulic fracturing and wastewater treatment in the nation's shale gas epicenter remains sparse, and the industry still has a way to go to build trust in those communities affected by the drilling boom.

While several years have passed since the shale gas revolution kicked off in the Marcellus Shale, people living in the counties hosting the most Marcellus drilling activity report roughly equal amounts of familiarity and unfamiliarity with the process of hydraulic fracturing. There is also relatively little understanding of what happens to the huge volumes of water used in the process, or what could happen to it.

Respondents to a social survey also listed the oil and gas industry as among the least-trusted sources of information on hydraulic fracturing and frack flowback water treatment. However, the controversial film "Gasland" ranked dead last in terms of trustworthiness and as a source of information on shale gas extraction in the Marcellus.

These are some of the findings reported in an article published this month in the journal *Energy Research & Social Science*. The article discusses the conclusions of a random survey of residents living in Marcellus Shale counties in Pennsylvania.

Researchers from Sam Houston State University, Texas A&M University and Pennsylvania State University contributed to the study.

In terms of basic knowledge of hydraulic fracturing, 43 percent of residents polled said they were generally unfamiliar with the technical process that uses pressurized water and proppant to free natural gas from shale and tight rock formations. Twenty percent answered that they were "extremely unfamiliar" with the processes and technologies involved in hydraulic fracturing.

Nine percent of the respondents participating in the study answered that they were "extremely familiar" with what goes on in hydraulic fracturing.

The researchers also sought to gauge residents' familiarity with how flowback water is treated and what technologies industry has at its disposal to safely treat and reuse the water for a variety of sources. Here again, people living in the Marcellus Shale region seem broadly unaware of the issue, with 33.2 percent of survey participants answering that they were "extremely unfamiliar" with how hydraulic fracturing wastewater was handled.

Overall, the research team concludes that the number of people living in the Marcellus region who express ignorance of hydraulic fracturing slightly outnumber those who claim to have at least some knowledge of what's going on in their communities. Residents were polled over a five-month period in 2012.

"The results indicate a more or less symmetrical distribution," the authors wrote. "Whereas two of every five respondents (40 percent) indicated having some level of familiarity with the process (scores 5 through 7 on the 7-point familiarity scale), roughly the same percentage (43 percent) reported being unfamiliar with this practice (scores 1 through 3 on the 7-point familiarity scale)."

Newspapers are top info source

In terms of where Marcellus residents were obtaining their information about hydraulic fracturing, newspapers scored the highest in the survey, with the natural gas industry itself ranked as the second-most common source of information. The Academy Award-nominated "Gasland" scored last as a source of information on hydraulic fracturing for those living in counties hosting Marcellus Shale activity.

University professors were reported to be among the least common sources of information. Conversely, respondents reported that they would trust information coming from university professors the most if they could get it. And although the natural gas industry is listed as the second-most common source of information on hydraulic fracturing and wastewater treatment, "the natural gas industry was viewed as among the least trustworthy sources of information," the study concluded.

Only the film "Gasland" scored lower in terms of trustworthiness.

A lack of understanding in wastewater handling and treatment options was also apparent in the findings reported by the research team. But when hydraulic fracturing wastewater is treated and reused, 77 percent of respondents agreed that this recycled wastewater would be safe for industrial uses. Fifty-two percent thought it would be suitable for municipal purposes, such as watering parks or golf courses.

Eleven percent agreed that retreated water could be safe for human consumption.

Control factors

The study also controlled for residents living in areas with a high concentration of natural gas wells versus those living in parts of the Marcellus showing lower levels of drilling activity. People living in areas more dense with wells generally showed greater familiarity with hydraulic fracturing than those living in areas experiencing less drilling.

The team concludes that the industry and government regulators need to do more to make information on drilling processes known and understood in the communities where it is happening the most, and to be open and honest about how wastewater is managed and what tools can be and are used to treat and reuse the wastewater.

Inviting curious members of the public to tour the industry's Marcellus Shale operations could be one vehicle for improving understanding of hydraulic fracturing and alleviating any opposition to natural gas development that may linger in communities, the academics advise.

"Indeed, some energy companies are currently actively organizing and leading tours of their drilling operations," the authors noted. "Anecdotal information from these drilling operation tours suggests they have been relatively successful in changing some of the extreme negative perceptions of skeptical individuals."

Gene Theodori in SHSU's Department of Sociology is listed as the lead in the study. He was aided by A.E. Luloff and Fern Willits, both in Penn State's Department of Agricultural Economics, Sociology and Education, and by David Burnett at Texas A&M's Global Petroleum Research Institute. A grant by the New York State Energy Research and Development Authority helped pay for the study.