

# Spin overtaking facts in Marcellus Shale debate

Kevin Begos, Associated Press, 9-25-11

Some insist Marcellus Shale natural gas is a huge economic boom for America, while others are certain it's an environmental catastrophe.

Gas drilling from the Marcellus pollutes groundwater, or it never pollutes groundwater. It's cleaner than coal or oil, except that it's dirty. It provides a boost to hard-hit rural economies; but then again, maybe it doesn't.

The one point of agreement? Scientists say advocates on both sides increasingly spin every shred of research to fit their own views, and ignore the bigger picture.

Consider Duke University biologist Rob Jackson, who has degrees in chemical engineering, ecology, and statistics, and worked for Dow Chemical Co. for four years. He co-authored a report that went viral in May, showing that residential water wells near drilling operations in Pennsylvania's Marcellus Shale had disturbingly high rates of methane contamination.

The gas drilling industry insists that the process called hydraulic fracturing, or fracking, does not contaminate aquifers or water wells. Critics of the industry, who believe it does, rushed to embrace the Duke study.

"Our data has been used primarily by people opposed to fracking," Jackson told The Associated Press. "But that's not how I see our data. I think our data provides a mixed story."

The study of 60 wells showed high concentrations of methane in 85 percent of those that were within 1,000 yards of a drilling site. In a finding that pleased the industry, the Duke researchers did not find any evidence of fracking chemicals in the well water.

Jackson acknowledged that the Duke study didn't answer all the questions about the issue and that it needs follow-up. But that's simply the way science works, he noted.

But the public debate is turning away from reason.

At a recent drilling industry conference, Josh Fox, director of the anti-drilling documentary "Gasland," suggested the issue was the very survival of civilization.

"What I'm witnessing in Pennsylvania is a systematic destruction of the state," Fox said at a news conference. "What we're doing is contemplating taking our civilization off of an insane cliff."

Fox didn't mention that Pennsylvania had up to 325,000 oil and gas wells before gas-fracking even started, according to the Pa. Department of Environmental Protection. Some date back to 1859, and DEP says thousands of those old wells were probably improperly plugged and that no one even knows where many of them are. The figures don't include abandoned coal mines, which can also leak gas.

All can contaminate drinking water.

Some in the industry have responded with their own exaggerations and florid prose.

At the same conference Chesapeake Energy Corp. CEO Aubrey McClendon called critics of shale gas drilling fear-mongering extremists who want Americans to live in a world where "it's cold, it's dark and we're all hungry."

Other executives have claimed that there's never been a single reported case of fracking contaminating water supplies.

And DEP Secretary Michael Krancer criticized the Duke researchers for an editorial in which they said they "would like to see shale gas become largely unnecessary" in the future. Krancer said that was evidence of their bias against gas drilling, an opposition that is "not based on science or fact."

Kathryn Klaber, president of the gas-industry group Marcellus Shale Coalition, said the role of an industry critic in the Duke report "raises a host of questions regarding academic veracity."

Yet Terry Engelder, a Penn State University geologist who was one of the first to claim there are huge gas reserves in the Marcellus, found the Duke results "neither surprising or new."

"It could be cherry-picked depending on which camp you come from," said Engelder, who has degrees from Penn State, Yale and Texas A&M, and has worked with companies such as Saudi Aramco and Petrobras.

Jackson said he's disappointed that Pa. DEP officials were "downright hostile" to their paper from the beginning. Duke researchers would like to work with the gas industry and DEP on Marcellus issues, he said.

Engelder said scientists are frustrated by how complex issues get oversimplified.

"So we're back to this era that often scientific data is boiled down to a punch line that can easily be taken out of context," he said.

Engelder knows firsthand.

Drilling foes have questioned him for predicting that the Marcellus could contain hundreds of trillions of cubic feet of recoverable gas. But the record shows his comments weren't that simple.

In early 2008 Engelder and another geologist first estimated that the region contained about 50 trillion feet of recoverable gas. Then, after getting new data from actual wells, they upped that to 363 trillion. But not without a warning.

"Geologists are still trying to size this play," Engelder said in 2008. "We don't really know how much gas is there and how much can be recovered."

There are signs the messy public policy debate is causing people to question Penn State and Duke \_ two institutions with distinguished reputations.

Jackson said he found it was beneficial that his team of researchers was from out of state.

"There were many homeowners who were more willing to work with us because we were not from Pennsylvania," he said.

That perception may have come because Penn State has accepted huge donations from people with ties to the

gas industry.

Some independent experts said Penn State hasn't always handled that situation well.

This year, geologists at Penn State and the University of Wyoming released an industry-funded report on Marcellus Shale projections and economic impacts. It contained a disclaimer that none of the scientists or institutions "makes any warranty or representation, express or implied, with respect to the accuracy, completeness or usefulness of the information contained in the report."

"I'm just shocked by that," said Mark Frankel, who follows science and ethics issues at the American Association for the Advancement for Science. "That sends a very mixed message that doesn't help with our ability to communicate. And it raises the question: If they disclaim all of those things what are they saying about the science that is done by members of their faculty?"

Some believe the entire tone on the debate needs to change.

"I think what's happened with many of these controversies is that the issues have been framed as, is there a problem or not?" said Baruch Fischhoff, a professor at Pittsburgh's Carnegie Mellon University who studies risk and decision-making. "As opposed to, what kind of gambles do we want to take?"

Fischhoff notes that the stakes are high \_ a tremendous amount of money, environmental issues, and national energy issues. But he believes there are solutions to the controversial issues.

"There's a deal to be cut that would benefit all sides, and we can't reach it because the distrust is so deep. That can't be good," Fischhoff said.

For now, there are no signs of things getting easier for scientists or the public, Frankel said.

"I think it's a new world for scientists," he said. "They're going to have to answerable to a whole bunch of people they don't know, who are interested in other things. You just sort of lose control in ways that have not been the case before, as a scientist."