Federal research significant in environmental rule-making

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Federally-sponsored science plays a more significant role in bringing together stakeholders and facilitating environmental governance debates than all other types of research, according to an international team of researchers.

The researchers examined the role of federal government-sponsored research in the environmental rule-making process, specifically the U.S. Bureau of Land Management's proposal in 2012 to regulate hydraulic fracturing, or fracking, on federal and tribal lands. The researchers found that stakeholders cited federal government-sponsored research more often than industry knowledge, trade group knowledge, and academic research. The researchers report their results in April 29 issue of the *Annals of the American Association of Geographers*.

"Different stakeholders who have different perceptions about whether hydraulic fracturing is good or bad use government research as a key tool to argue for or against their position," said Jennifer Baka, assistant professor of geography at Penn State.

Stakeholders weighing in on the matter during public comment periods referenced two government-sponsored studies in particular—the 2011 Secretary of Energy Advisory Board (SEAB) report on responsible shale gas development in the United States, and the Environmental Protection Agency's study examining the potential risks to drinking water from fracking.

"The hydraulic fracturing debate is so polarized," said Baka. "You have these hardcore views for or against it, but reality is a shade of grey. We found that the central object stakeholders were using to form their opinions was federal government-sponsored research."

Stakeholders view government research as being more neutral and credible than studies sponsored by industry or environmental nongovernmental organizations. The SEAB and EPA studies allowed stakeholders to debate how best to regulate fracking. This discussion reduced the polarization seen in the public comments.

Supporters of the Bureau of Land Management proposal pointed to the studies as evidence that the country needs a federal effort to implement environmental regulations, while opponents viewed it as an example of government overreach.

"Stakeholders are arguing about the interpretation of the analysis," Baka said. "But nonetheless they are coming together to talk about the research."

The researchers also examined how knowledge of hydraulic fracturing shapes and is shaped by the regulatory process.

"One of the key controversies of hydraulic fracturing is how disclosure of fracking fluids should take place," Baka said. "My team is studying why we have settled on disclosure and what is in the fluids as the key area of controversy as opposed to other potential environmental risks."

One way the regulatory landscape has shaped the controversy and knowledge of fracking is through the trade secret exemption. The trade secret exemption allows companies to forgo disclosing company knowledge, to encourage innovation and experimentation without the risk of a competitor ripping off their product design. Hydraulic

fracturing companies have used the exemption to limit the amount of information they must disclose to the public about what is in the fracking fluids.

The trade secret exemption also prevents the government from acquiring this knowledge. There have been efforts at the state level to access this information, but there is variation across the states about how to do so.

When asked what role the federal government should play in this regulatory landscape, stakeholders pointed to the government's ability to fund research projects and facilitate debates.

The results of the study highlight the potential implications of slashing federal research budgets. Under President Donald Trump, the administration has proposed decreasing the EPA's budget by more than 31 percent. Doing so would create a knowledge vacuum, and stakeholders say that no viable alternative exists.

"The federal government has deeper pockets and can marshal tremendous resources that no state can," Baka said. "It can fund this research, convene these multi-stakeholder commissions and truly put out a product that can inform debates. It plays an important role in the discussion of what we want our future energy landscape to look like."

More information: *Annals of the American Association of Geographers*, www.tandfonline.com/doi/full/1 … 4694452.2019.1574549

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