

UC SANTA BARBARA

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## **The Fracking Debate**

While an entire ocean separates the United States from the United Kingdom, when the issue of fracking arises, the great divide — philosophically speaking — narrows considerably.

Concerns about short-term and long-term impacts of horizontal drilling for shale energy are prevalent in both countries. According to a new study by UC Santa Barbara researchers and colleagues, key issues include the risk of water contamination as well as preferences for renewable energy sources over fossil fuels to meet national energy needs.

Drawing on more than a decade of research developed by the Center for Nanotechnology in Society (CNS) and Cardiff University in Wales, the study demonstrates how deliberative public engagement methods can be applied to these aims. This is the first qualitative, interdisciplinary, cross-national study of U.S. and U.K. public perceptions of shale extraction. The results appear in the journal *Nature Energy*.

“This study found surprisingly high levels of environmental and societal concern about hydraulic fracturing in areas with no direct experience with the technology,” said co-author Barbara Harthorn, director of the CNS and a professor in the Department of Anthropology. “This method provides strong evidence that diverse members of the public are able to weigh in thoughtfully and critically about local and collective energy system decisions and their impacts.”

Shale gas and oil production in the U.S. has increased rapidly in the past decade. Understanding public views is a crucial first step in creating more informed energy debates and promoting better decision-making.

The researchers held a series of carefully formatted, daylong deliberation workshops with diverse members of the public in four cities: Los Angeles, Santa Barbara, London and Cardiff. These in-depth discussions enabled the investigators to look beyond existing evidence on public views about hydraulic fracturing based primarily in already impacted areas.

The results showed that shale development was widely seen as a short-term fix leading to an unwanted dependency on finite fossil fuels at the expense of renewables development. Participants in both countries noted that the majority of proposed benefits would be relatively short-term (specialized jobs of limited duration), while the risks would almost certainly be longer-term (environmental degradation).

The study found that those surveyed viewed potential impacts as inequitably distributed, arguing that the economic and employment benefits attributed to shale development were not unique and would apply equally to significant investment and scaling-up of renewable technologies.

Different concerns in the two countries reflected different models of governance of extractive industries. In the U.S., some participants wanted more standardized federal guidelines and long-term accountability. Conversely, in the U.K., where regulation is predominantly at the national level, there were calls for more local control. Regardless of location, participants expressed deep-seated distrust of government and institutions.

“In California, past and current experiences with the regional oil industry minimized concern for some about future shale development,” said co-author Tristan Partridge, a postdoctoral scholar at CNS and in the Department of Anthropology. “However, for others, personal experiences of water shortages and earthquakes amplified this sense of risk.”

In the U.K., where onshore oil and gas extraction is less common, participants drew on tangential experiences of coal and heavy industries when making sense of what shale development might mean for them in the future.

“This — and other research we have conducted — shows that the public in both countries clearly want a move toward a cleaner, more sustainable energy system in the future,” said corresponding author Nick Pidgeon, a professor of environmental psychology at Cardiff University. “The results confirm that shale development is not compatible with that vision.”

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The University of California, Santa Barbara is a leading research institution that also provides a comprehensive liberal arts learning experience. Our academic community of faculty, students, and staff is characterized by a culture of interdisciplinary collaboration that is responsive to the needs of our multicultural and global society. All of this takes place within a living and learning environment like no other, as we draw inspiration from the beauty and resources of our extraordinary location at the edge of the Pacific Ocean.