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American Views on Fracking

a report from the National Surveys on Energy and Environment

Introduction:

Since becoming an economically viable means of extracting oil and gas in the early 21st century, hydraulic fracturing (or "fracking" as the process is commonly known) has become a major component of the American and world energy sectors. In 2015, about half of the oil and natural gas produced in the United States came from these processes compared to less than 5% a decade ago. The rise of hydraulic fracturing has had enormous impacts on energy markets worldwide and has been widely credited with playing a large role in lower energy prices in recent years. However, there has also been tremendous controversy surrounding the environmental and health effects associated with the use of fracking both in the United States and abroad. It is against this backdrop that the Fall 2015 National Survey on Energy and the Environment (NSEE) examined American views on hydraulic fracturing.

Key Findings:

1. About one quarter of Americans report hearing a "great deal" or "good amount" about natural gas development using hydraulic fracturing, with a majority reporting that they have heard little or nothing about this energy extraction process.
2. Americans are highly divided on the extraction of oil and gas through hydraulic fracturing, with about a third supporting it and slightly more than a third opposing it.
3. Party affiliation is strongly associated with support for hydraulic fracturing, with Democrats twice as likely as Republicans to oppose it.
4. A plurality of U.S. residents indicate that hydraulic fracturing has had a positive effect on the national economy, but most also believe it has had negative effects on the nation's public health and environment.
5. Most Americans believe that experts are divided on whether fracking poses any risk, with only small portions indicating that experts have reached a conclusion either way.
6. By over a three to one margin, Americans consider "fracking" to be a negative --rather than positive--term.

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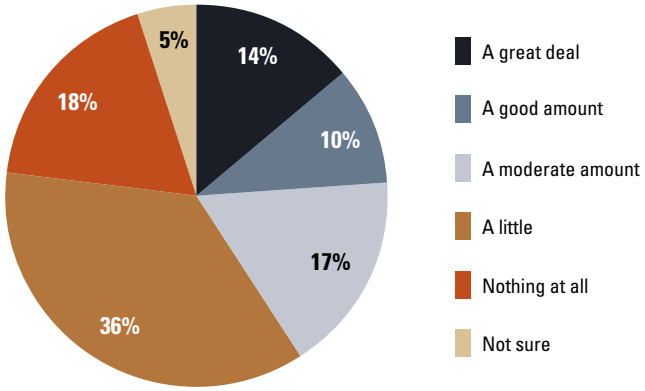
Relatively low public awareness of hydraulic fracturing

The Fall 2015 survey finds that most Americans (54%) indicate that they have heard "little" or "nothing at all" about hydraulic fracturing (see *Figure 1*), while only about a quarter (24%) of Americans report that they have heard "a good amount" or a "great deal" about it.

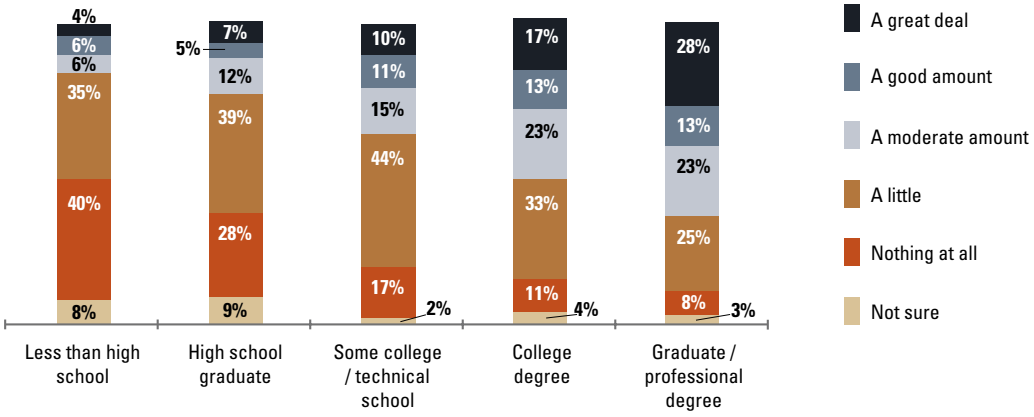
Figure 1
Awareness levels of hydraulic fracturing among Americans in 2015



Question: "How much have you heard about oil and natural gas development through the use of hydraulic fracturing?"

Familiarity with hydraulic fracturing is strongly associated with one's educational attainment. As shown in *Figure 2*, individuals with lower levels of education are far less likely than their more educated counterparts to report that they know "a good amount" or "great deal" about hydraulic fracturing. While slightly more than 1 in 10 individuals with only a high school diploma say they have heard a good amount or great deal about hydraulic fracturing, over 40% with a graduate or professional degree report these higher levels of awareness.

Figure 2
Awareness levels of hydraulic fracturing among Americans in 2015, by educational attainment

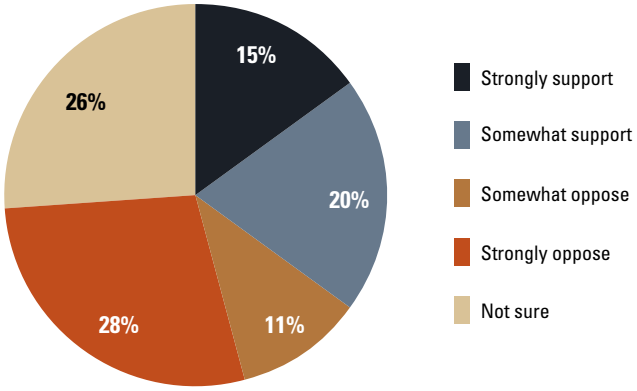


Question: "How much have you heard about oil and natural gas development through the use of hydraulic fracturing?"

Support and opposition for hydraulic fracturing divided along partisan lines

Americans are divided when it comes to support for hydraulic fracturing (see *Figure 3*). About a third (35%) of Americans say they support hydraulic fracturing, roughly four in ten (39%) say they oppose it, and a quarter (26%) are unsure about it. While overall support and opposition are roughly comparable, there is a divide in terms of the intensity of support and opposition, with nearly twice as many Americans strongly opposing it (28%) as strongly supporting (15%) it.

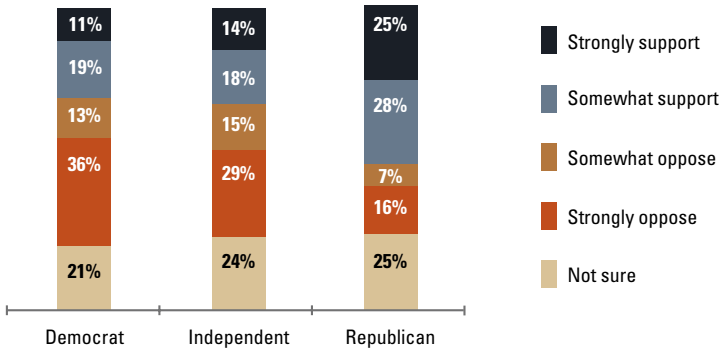
Figure 3
American support for hydraulic fracturing



Question: "In general, would you say that you strongly support, somewhat support, somewhat oppose, or strongly oppose the extraction of natural gas and oil in the United States through the use of hydraulic fracturing?"

As with many areas of energy and environmental policy, partisan affiliation is strongly associated with attitudes towards hydraulic fracturing. As can be seen in *Figure 4*, Democrats are twice as likely as Republicans to somewhat or strongly oppose hydraulic fracturing (49% versus 23%). Conversely, over half (53%) of all Republicans support hydraulic fracturing compared to just 30% of Democrats. Independents are more evenly divided on their levels of support, with 32% somewhat or strongly supporting fracking compared with 44% who are somewhat or strongly opposed.

Figure 4
American support for hydraulic fracturing, by partisanship

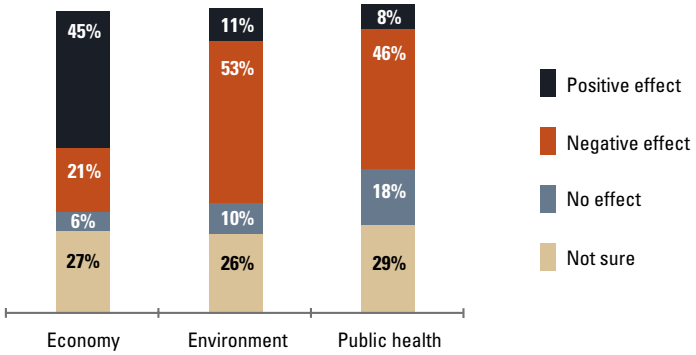


Question: "In general, would you say that you strongly support, somewhat support, somewhat oppose, or strongly oppose the extraction of natural gas and oil in the United States through the use of hydraulic fracturing?"

Hydraulic fracturing seen as positive for economy, negative for the environment

NSEE respondents were asked what they thought of the effects of hydraulic fracturing on the nation's economy, environment and public health. While Americans are twice as likely to indicate that fracking has had a positive rather than negative effect on the U.S. economy, most also perceived negative effects on the environment and public health. A solid plurality (45%) of Americans believe that fracking has had a positive impact on the nation's economy, but only about 1 in 10 believe this it has had a positive effect on the nation's environment or public health (see *Figure 5*). Conversely, a majority (53%) of Americans believe hydraulic fracturing has had a negative effect on the environment in the United States, while 46% indicate it has had negative effects on public health.

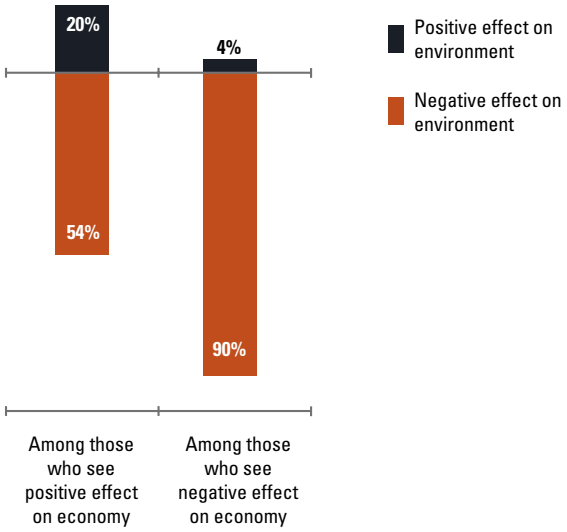
Figure 5
Perceptions of the effects of hydraulic fracturing on the economy, environment, and public health in the United States



Question: "For each of the aspects of life in the United States that I mention, please indicate if you think the use of hydraulic fracturing is having a positive effect, negative effect, or no effect. First: [items rotated] the economy; the environment; public health."

Do individuals that see positive effects from hydraulic fracturing in one area (e.g. the economy or the environment) also see positive effects in other areas? As demonstrated in *Figure 6*, there are few Americans who hold entirely positive views of hydraulic fracturing. Among those who note the positive effect hydraulic fracturing has had on the U.S. economy, only 20% say the process has positive effects on the environment compared to 54% who say it has had negative environmental effects. By contrast, nearly all (90%) of those who say hydraulic fracturing is bad for the economy also say it has negative effects on the environment. Such findings suggest that while many Americans simultaneously hold positive views about fracking's economic impact and negative views about its environmental impact, there are more Americans who see only the negative impacts of fracking than those who hold entirely positive views of it.

Figure 6
The relationship between views on the economic and environmental effects of hydraulic fracturing

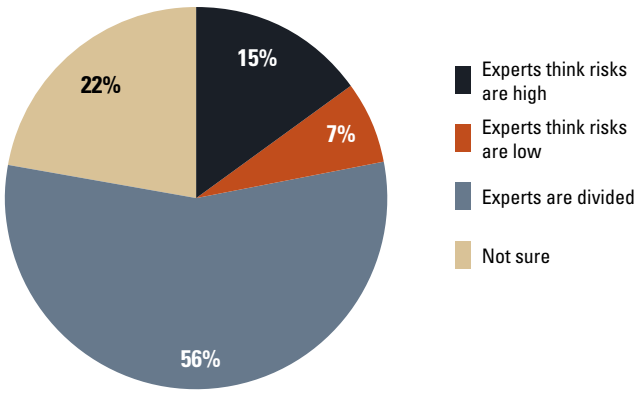


Question: "For each of the aspects of life in the United States that I mention, please indicate if you think the use of hydraulic fracturing is having a positive effect, negative effect, or no effect. First: [items rotated] the economy; the environment."
Note: "No effect" and "Not sure" responses for each of these questions are not shown.

Most Americans think that experts are divided about the risks posed by fracking

As the debates about hydraulic fracturing evolve in both the public and scientific spheres, a majority of Americans believe that experts remain divided on the risks (see *Figure 7*). A solid majority (56%) of U.S. residents think experts are divided on the risks posed by fracking, while only 15% believe that experts are in agreement that fracking poses high risks. By contrast, 7% believe that experts agree fracking poses little risk to the public.

Figure 7
American views on expert evaluations of hydraulic fracturing's risks

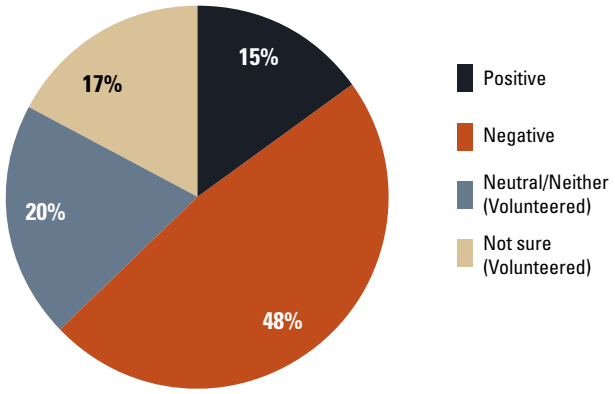


Question: "Now please tell me which of the following statements comes closest to your views: Most experts agree that the risks associated with hydraulic fracking are HIGH; most experts agree that the risks associated with hydraulic fracking are LOW; Most experts are divided on whether hydraulic fracking poses any risk."

Polarization around the term "Fracking"

While hydraulic fracturing has emerged as a key component of energy development in the United States, Americans are most likely to encounter this issue by way of its more common name, "fracking." Within media coverage and public debates about this energy extraction method, "fracking" regularly substitutes for the more formal "hydraulic fracturing." The NSEE results show that by over a 3 to 1 margin, Americans view fracking as a negative rather than positive term (see *Figure 8*).

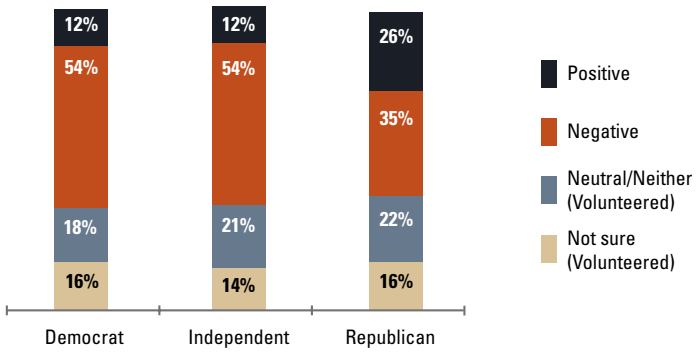
Figure 8
American views of the word "fracking"



Question: "In general when you hear the word "fracking," do you consider it a positive or negative term?"

While at least a plurality of Americans across partisan affiliations believe that fracking is a negative term, there are also substantial differences. As shown in *Figure 9*, while Republicans are fairly evenly divided on whether fracking is a positive (26%) or negative (35%) term, Democrats and Independents overwhelmingly view the term negatively.

Figure 9
American views of the word "fracking," by partisanship



Question: "In general when you hear the word "fracking," do you consider it a positive or negative term?"

Conclusion

A decade into hydraulic fracturing's transformation of the energy sector in the United States, Americans express varied degrees of knowledge and support for it. As with many areas of energy and environmental policy, views on fracking are substantially influenced by partisan leanings, with Republicans indicating more favorable views towards the practice than their Democratic counterparts. Future rounds of the NSEE hope to revisit this subject and continue to measure how Americans think about this prominent energy topic, adding nationally representative survey data to earlier state[1,2] and regional[3] analyses.

Methods

The report contains the results of a telephone survey of 911 adult (age 18 or older) residents of the United States between September 2 and September 24, 2015. Respondents were interviewed in English on both landlines (353) and cell phones (558) by the staff of the Muhlenberg College Institute of Public Opinion (MCIPO) in Allentown, Pennsylvania on the Institute's Computer Aided Telephone Interviewing (CATI) system. Of the 558 cell phone respondents, 428 had no landlines in their household. Both the landline and cell phone samples were provided by the Marketing Systems Group (MSG), Horsham, Pennsylvania. Both landline and cell phones were chosen randomly from sampling frames of United States landline and cell numbers provided by MSG.

With a randomly selected sample of 911 respondents the margin of error for the surveys is +/- 3.5% at a 95% level of confidence. Margins of error for questions with smaller sample sizes will be larger. In addition to sampling error, one should consider that question wording and other fielding issues can introduce error or bias into survey results. The sample data has been weighted by age, race, educational attainment, income and gender to reflect 2013 population parameters for these factors provided by the United States Census Bureau. The calculation of sampling error takes into account design effects due to the weighting identified above. In order to reach a representative sample of adult Americans both landlines and cell phones are called up to 10 times. The response rate for this survey as calculated using the American Association of Public Opinion Research (AAPOR) RR3 formula is 12%. Due to rounding, the totals provided in tables may not equal 100. The full instrument is available on CLOSUP's website at www.closup.umich.edu/nsee.php. The instrument was designed by Christopher Borick of Muhlenberg College, Barry Rabe of the University of Michigan, Erick Lachapelle of the University of Montreal, and Sarah Mills of the University of Michigan. For more detailed information on the methods employed please contact the MCIPO at 484-664-3444 or email Dr. Borick at cborick@muhlenberg.edu.

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Notes

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