

Public Perceptions of Shale Gas Extraction and Hydraulic Fracturing in New York and Pennsylvania

a report from the National Surveys on Energy and Environment

Introduction

The Marcellus Shale play in the northeastern corner of the United States holds one of the most robust deposits of natural gas in North America. Stretching from Virginia and West Virginia northward to central New York State, the Marcellus Shale deposit contains an estimated 141 trillion cubic feet of natural gas.¹ While the deposit is a unified geographic feature, it lies beneath numerous political jurisdictions, including at least some portion of nine states and one Canadian province. With little federal intervention in the regulation of natural gas extraction from shale due to oil and gas industry exemptions in various statutes, state governments retain a primary role in deciding whether or not drilling occurs and, if so, what regulatory and taxation policies are adopted.²

This situation has created striking differences in the policy approaches that states have adopted toward energy policy throughout the Marcellus Shale region and around the United States. But perhaps the most extreme example of policy variation among neighbors exists along both sides of the 306-mile border that separates the Commonwealth of Pennsylvania and the State of New York. This state border, which intersects the heart of the Marcellus Shale play, reflects a divide between one of the most active settings for natural gas exploration in the United States and a counterpart where the shale play remains largely untouched. In some places along the border New York residents can look south across the state line and see Pennsylvania drill sites engaged in the process of releasing natural gas from the same shale formation that sits beneath their own property. While this reflects fundamental differences in how state government officials have approached this common resource in the two states, both of these governing regimes continue to face considerable controversy.

Any opinions, findings, conclusions, or recommendations expressed in this report are those of the author(s) and do not necessarily reflect the views of the Center for Local, State, and Urban Policy.

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Given the large economic, environmental, and social implications from the issue of shale gas and the process to extract it of hydraulic fracturing combined with horizontal drilling (or “fracking” as it is commonly known), it is not surprising that this matter has become a major political issue in both Pennsylvania and New York. In 2014 the issue has become particularly prominent, with major policy alternatives being proposed in both Albany and Harrisburg that would dramatically alter the future of shale gas extraction in two of the most populous and energy-rich states in the nation. Both states have continued to debate the relative risks and benefits of shale development in weighing possible next policy steps.³

In New York, Democratic Governor Andrew Cuomo’s long-awaited decision on the fate of the state’s six-year-old moratorium on fracking draws closer. Since 2008 New York has not allowed hydraulic fracturing and horizontal drilling within its borders in order to more fully ascertain potential risks from the process, leaving the state free of any shale gas extraction. Numerous state agencies have reviewed various aspects of the environmental and public health risks related to fracking while the moratorium has continued to freeze any drilling activity. Meanwhile, numerous local governments across the state have also adopted ballot propositions or resolutions that opine on the future of drilling, although authority remains largely in state hands. Cuomo has pledged to render a decision on this matter in the near future, although it has become increasingly unlikely that a decision will arrive before the fall 2014 election. For further exploration of the New York case, please see Ruth Tabak’s January 2014 report *State of the Debate: Natural Gas Fracking in New York’s Marcellus Shale*.⁴

Pennsylvania enthusiastically embraced shale development in recent years, most notably through passage of so-called Act 13 in 2012. This legislation established a series of regulatory provisions that were generally supported by industry and further encouraged drilling through the Commonwealth’s decision to become the first major energy-producing state without a severance tax on produced oil and gas. Act 13 was partially reversed in a 2014 Supreme Court decision but the administration of Republican Governor Tom Corbett continues to be seen as actively supporting industry expansion. The issue of hydraulic fracturing has also surfaced as a central issue in the 2014 gubernatorial race. While Corbett contends that his approach to shale has paid handsome economic dividends to Pennsylvania and that he should be allowed to sustain that approach in a second term, Tom Wolf, the Democratic nominee for governor, has made the adoption of an extraction tax on shale gas and a tougher regulatory regime a key component of his campaign. For further exploration of the Pennsylvania case, please see Barry Rabe and Christopher Borick’s 2013 article, “Conventional Politics for Unconventional Drilling? Lessons from Pennsylvania’s Early Move into Fracking Policy Development.”⁵

It is against this backdrop that the National Surveys on Energy and Environment (NSEE) has sought to gain insight into the views of New Yorkers and Pennsylvanians regarding shale gas and hydraulic fracturing. The survey examines comparative views on such matters as public awareness of hydraulic fracturing, general support for shale gas drilling, and perceptions of economic and environmental effects of hydraulic fracturing within the Marcellus Shale play. In addition, the study examines what New Yorkers and Pennsylvanians know and think about hydraulic fracturing activity in their neighboring states and their views about the effects that hydraulic fracturing across the border may have on their lives.

Previous survey analysis by NSEE and other survey research institutes has tended to focus on public views within a single state, both in Pennsylvania and New York and also in other states around the nation. This survey builds on NSEE work that pursued comparative analysis involving Pennsylvania, the State of Michigan, and the Canadian province of Quebec in 2013. But this new analysis also explores cross-border awareness and support for the actions of a neighboring jurisdiction with markedly different policies on the same issue. For an expanded analysis of this new survey project, please see Christopher Borick, Erick Lachapelle, and Barry Rabe, *The Great Divide: An Examination of Public Perceptions of Shale Gas Extraction and Hydraulic Fracturing in New York and Pennsylvania*, which was presented in July 2014 in Montréal at the Annual Meeting of the International Political Science Association.⁶



Methods

The findings presented here are drawn from an April and May 2014 telephone survey conducted by the Muhlenberg Institute of Public Opinion, in collaboration with the University of Michigan Center for Local, State, and Urban Policy (CLOSUP) and the University of Montreal as part of the National Surveys on Energy and Environment (NSEE) series. This survey secured responses from 405 New York residents and 411 Pennsylvania residents, drawn from all regions of each state and comprising statistically-representative profiles of their respective citizens. Both land lines and cell phones were sampled in both states, with the New York sample made up of 252 land lines and 153 cell phones and the Pennsylvania sample made up of 256 land lines and 155 cell phones. The data was weighted by gender, age, race and educational attainment to the results of the 2010 United States Census. The American Association of Public Opinion Research (AAPOR) RR3 response rate for the combined sample was 16%. The total number of completions results in a margin of error of +/- 5% at the 95% confidence level for each state sample.

Future Publications

Issues in Energy and Environmental Policy will soon publish a related series of papers examining various aspects of shale development in North America and the European Union. This will include continued exploration of public opinion, as reflected in this report, but will also explore emerging policy issues in various American states, Canadian provinces, and European Union Member States.

Key Findings

1. Residents of New York and Pennsylvania are giving similar levels of attention to the issue of hydraulic fracturing, with 44% of New Yorkers and 49% of Pennsylvanians either closely or somewhat closely following the debate around the issue of natural gas drilling in shale gas deposits in their states (see *Question 2* in Frequency Report).
2. While a majority of Pennsylvanians (54%) support the extraction of shale gas in their state, fewer than 3 out of 10 New Yorkers (29%) support this form of drilling within their state borders (see *Question 4*).
3. New York residents are two to almost three times more likely than their counterparts in Pennsylvania to give the risks to Americans' health, safety and the environment from hydraulic fracturing the highest, most serious rating (10 on a scale from 0 to 10). See *Questions 5* and *29*.
4. A majority of New Yorkers (51%) and Pennsylvanians (55%) believe that most experts are divided on the risks posed by hydraulic fracturing; yet, New Yorkers are more likely than Pennsylvanians (23% to 16%) to indicate that experts are in agreement that the risks from hydraulic fracturing are high (see *Question 7*).
5. Both Governor Cuomo and Governor Corbett's handling of the shale gas issue in their states draws more negative reviews than positive appraisals; however, Corbett's ratio of positive to negative (19% to 47%) ratings is substantially worse than Cuomo's ratio of 27% positive to 36% negative (see *Question 8*).
6. Pennsylvanians are less likely than their counterparts in New York to view the word "fracking" negatively, with 47% of residents of the Keystone State indicating a negative reaction to the term compared with 66% of Empire State residents (see *Question 25*).
7. New Yorkers are more likely than Pennsylvanians (44% to 33%) to report that they are either somewhat or very aware of the level of hydraulic fracturing in their neighboring state (see *Question 11*).
8. New Yorkers are over twice as likely as Pennsylvanians to accurately identify their neighboring state's policy regarding shale gas extraction: 47% of New York residents accurately noted that Pennsylvania permits hydraulic fracturing compared with only 21% of Pennsylvanians who accurately identified New York's policy that places a moratorium on hydraulic fracturing (see *Question 13*).

9. A fairly similar percentage of Pennsylvania and New York residents believe that their neighboring state's policy regarding shale gas extraction should have an effect on their own state's policy on this matter. In New York, 48% of residents state that Pennsylvania's policy allowing hydraulic fracturing should affect New York's decision on allowing this practice, while 45% of Pennsylvanians state that New York's moratorium on shale gas extraction should affect their state's policy on this issue (see *Questions 18A and 18B*).
10. A plurality of New Yorkers (42%) and Pennsylvanians (50%) expressed the view that Pennsylvania has gained economically because of New York's moratorium on shale gas drilling and Pennsylvania's policy allowing hydraulic fracturing (see *Questions 22A and 22B*).
11. A solid majority of Pennsylvanians (62%) support their state adopting a severance tax on shale gas extraction, with 57% maintaining the view that the imposition of such a tax will not cause drillers to leave the state (see *Questions 23 and 24*).

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Muhlenberg College/ University Of Michigan / University Of Montreal 2014 NY/PA Hydraulic Fracturing Survey Frequency Report

**Q1: (OPEN ENDED) Thank you for helping us with the research.
So that we may confirm that you are eligible to participate what is your current age?**

	NY	PA
18-34	24%	21%
35-49	23%	25%
50-64	30%	29%
65 and Over	22%	24%
Refused/Over 18	4%	2%

**Q2: I would like to ask you some questions about natural gas drilling in PA/NY.
How closely have you been following the debate around the issue of natural gas drilling in shale gas deposits in PA/NY?
Would you say you have been following this issue very closely, somewhat closely, not too closely, or not at all?**

	NY	PA
Very Closely	11%	13%
Somewhat Closely	33%	36%
Not Too Closely	33%	33%
Not at All	21%	18%
Not Sure	2%	0%

**Q3: To extract natural gas from shale formations a process known as “hydraulic fracturing” or “fracking” is used.
Would you say that you have heard a lot about this technique, a little about it, or you have never heard about it before?**

	NY	PA
A Lot	34%	37%
A Little	55%	52%
Never Heard	11%	10%
Not Sure	1%	1%

**Q4: In general, would you say that you strongly support, somewhat support, somewhat oppose,
or strongly oppose the extraction of natural gas from shale deposits in NY/PA?**

	NY	PA
Strongly Support	10%	23%
Somewhat Support	19%	31%
Somewhat Oppose	29%	14%
Strongly Oppose	27%	15%
Not Sure	15%	17%

Q5: On a scale from 0 to 10, where 0 indicates “no risk” and 10 indicates “extreme risk,” how serious a risk do you believe hydraulic fracturing poses to Americans’ health, safety, and environment?

	NY	PA
0	7%	6%
1	1%	4%
2	2%	7%
3	5%	5%
4	7%	10%
5	18%	27%
6	9%	8%
7	11%	10%
8	12%	9%
9	6%	6%
10	23%	8%

Q6: (OPEN ENDED) What would you say is the most important risk related to hydraulic fracturing in NY/PA?

recoded into categories

	NY	PA
Water Problems	42%	44%
Pollution/Contamination	8%	9%
Health Issues	9%	5%
Land Destruction/Damage	4%	4%
Earthquakes	1%	2%
Gas Leaks/Explosions	3%	5%
Safety Issues/Dangers	2%	2%
Environmental Damage	8%	8%
No Risk/None	10%	9%
Don't Know	6%	8%
Other	6%	4%

Q7: Now please tell me which of the following statements comes closest to your views:

	NY	PA
1. Most experts agree that the risks associated with hydraulic fracking in your state are HIGH	23%	16%
2. Most experts agree that the risks associated with hydraulic fracking in your state are LOW	12%	18%
3. Most experts are divided on whether hydraulic fracking poses any risk	51%	55%
Not Sure	15%	11%



Q8: In general, do you approve or disapprove of the way that Governor (Corbett in PA/Cuomo in NY) has handled the issue of natural gas drilling in the state?

	NY	PA
Approve	27%	19%
Disapprove	36%	47%
Not Sure	36%	35%

Q9: When it comes to regulating where drilling sites can be located, which level of government do you think should have the primary control, if any? Do you think the federal government, state government, or local government should have primary control for regulating where drilling sites can be located or should this decision be made solely by private land owners without any government influence?

	NY	PA
Federal	14%	8%
State	29%	27%
Local	29%	33%
Private Decision	24%	26%
Not Sure	5%	7%

Q10: How important would you say that natural gas drilling is to the overall condition of the NY/PA economy? Would you say that natural gas drilling is very important, somewhat important, not too important, or not at all important to the PA/NY economy?

	NY	PA
Very Important	23%	36%
Somewhat Important	41%	47%
Not Very Important	15%	8%
Not at All Important	11%	3%
Not Sure	10%	7%

Cross-Border Views

All data presented in this section pertain to the neighboring state of the respondent: Pennsylvania for New York residents, and New York for Pennsylvania residents, unless specified.

Q11: Beyond NY/PA hydraulic fracturing has been a public issue in neighboring states including NY/PA. Are you very aware, somewhat aware, not very aware, or not aware at all about the level of hydraulic fracturing in NY/PA?

	NY	PA
Very Aware	16%	10%
Somewhat Aware	28%	23%
Not Very Aware	15%	20%
Not Aware at All	36%	42%
Not Sure	5%	6%

Q12: In terms of your perception of hydraulic fracturing in NY/PA would you say that there is (LIST READ):

	NY	PA
A High Level of Hydraulic Fracturing	22%	2%
A Moderate Level of Hydraulic Fracturing	25%	15%
Very Little Hydraulic Fracturing	4%	13%
No Hydraulic Fracturing	2%	16%
Not Sure	47%	54%

Q13: Which of the following do you think best describes NY/PA policy regarding hydraulic fracturing? (LIST READ) :

	NY	PA
NY/PA Allows Hydraulic Fracturing	47%	8%
NY/PA Does not Allow Hydraulic Fracturing	3%	21%
Not Sure	50%	71%

Q14: In general do you think that the level of hydraulic fracturing in NY/PA has a positive effect, a negative effect, or no effect on quality of life in NY/PA?

	NY	PA
Positive	9%	15%
Negative	27%	15%
No Effect	31%	31%
Not Sure	34%	38%

Next I'm going to ask you to think about the effects of hydraulic fracturing in New York/Pennsylvania on life in New York/Pennsylvania. For each area that I mention please tell me if hydraulic fracturing (or lack of hydraulic fracturing) in New York/Pennsylvania has a positive effect, a negative effect, or no effect on New York/Pennsylvania.

Q15: First, water quality in NY/PA.

	NY	PA
Positive Effect	4%	8%
Negative Effect	38%	27%
No Effect	29%	32%
Not Sure	28%	34%

Q16: Next, energy prices in NY/PA.

	NY	PA
Positive Effect	16%	23%
Negative Effect	28%	15%
No Effect	29%	29%
Not Sure	27%	34%



Q17: The overall economy in NY/PA.

	NY	PA
Positive Effect	16%	23%
Negative Effect	24%	17%
No Effect	35%	28%
Not Sure	27%	32%

Q18A: (FOR NEW YORK ONLY) Pennsylvania allows hydraulic fracturing within its borders with high levels of drilling taking place in recent years. Should the fact that there is a great deal of hydraulic fracturing in Pennsylvania have a major effect, minor effect, or no effect on New York's decision to allow or not allow hydraulic fracturing in the state?

	NY
Major Effect	19%
Minor Effect	29%
No Effect	34%
Not Sure	18%

Q18B: (FOR PENNSYLVANIA ONLY) New York State continues to maintain a moratorium on hydraulic fracturing while state agencies study the issue. Should the fact that there is a moratorium on hydraulic fracturing in New York have a major effect, minor effect, or no effect on Pennsylvania's decision to allow or not allow hydraulic fracturing in the state?

	PA
Major Effect	22%
Minor Effect	23%
No Effect	39%
Not Sure	16%

Now I would like to read you a list of statements regarding natural gas and fracking. For each statement that I read please indicate if you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with these statements.

Note: Questions 19-21 were asked of Pennsylvania and New York residents about their own state.

Q 19: The gas industry benefits from natural gas extraction at the expense of local communities and citizens.

	NY	PA
Strongly Agree	44%	42%
Somewhat Agree	28%	27%
Somewhat Disagree	10%	13%
Strongly Disagree	7%	12%
Not Sure	12%	6%

Q20: Natural gas reserves under NY/PA are a public resource and should benefit all citizens of the state.

	NY	PA
Strongly Agree	43%	53%
Somewhat Agree	26%	28%
Somewhat Disagree	17%	10%
Strongly Disagree	9%	5%
Not Sure	6%	5%

Q21: Natural gas drilling in NY/PA poses a major risk to the state's water resources.

	NY	PA
Strongly Agree	42%	33%
Somewhat Agree	25%	31%
Somewhat Disagree	9%	14%
Strongly Disagree	10%	11%
Not Sure	14%	11%

Q22A: (NEW YORK ONLY) New York has lost out on economic growth to Pennsylvania because it has a moratorium on hydraulic fracturing and Pennsylvania does not.

	NY
Strongly Agree	17%
Somewhat Agree	25%
Somewhat Disagree	18%
Strongly Disagree	13%
Not Sure	27%



Q22B: (PENNSYLVANIA ONLY) Pennsylvania has gained economic growth from New York because it allows hydraulic fracturing and Pennsylvania does not.

	PA
Strongly Agree	17%
Somewhat Agree	33%
Somewhat Disagree	14%
Strongly Disagree	5%
Not Sure	32%

Q23: (PENNSYLVANIA ONLY) Increasing taxes on natural gas drillers in Pennsylvania will lead drilling firms to leave and so should be avoided.

	PA
Strongly Agree	11%
Somewhat Agree	21%
Somewhat Disagree	23%
Strongly Disagree	34%
Not Sure	12%

Q24: (PENNSYLVANIA ONLY) Many states have created “severance taxes” in which drillers pay a tax that is based on the value of natural gas and oil that they extract from below the ground. Pennsylvania does not currently have such a tax but instead has an “impact fee” on drillers that is lower than severance taxes in most other states. Do you think that PA should adopt such a tax or not?

	PA
Yes	62%
No	29%
Not Sure	9%

Q 25: In general when you hear the word “fracking” do you consider it a positive or negative term?

	NY	PA
Positive	14%	30%
Negative	66%	47%
Neutral/Neither	15%	19%
Not Sure	4%	4%

Q 26: (OPEN ENDED) In general when you hear the word “fracking,” what is the first thing that comes to mind?

	NY	PA
Breaking of Ground/Rock	3%	11%
Drilling	14%	11%
Economic Growth	4%	8%
Natural Gas and Oil	8%	12%
Pollution	9%	8%
Water Issues	12%	9%
Environmental Issues/Chemicals	10%	4%
Generally Positive	1%	4%
Generally Negative	12%	4%
Nothing/Not Sure	9%	8%
Explosions/Fires/Earthquakes/Noise	3%	4%
Energy/Energy Independence	4%	5%
Politics/Taxes	1%	2%
Resources	1%	2%
Health Concerns	2%	2%
Corporations/Big Business/Greed	<1%	2%
Other	7%	4%

Q27: Have you or anyone in your family signed a lease with a natural gas company for rights to extract natural gas from land that you or someone in your family owns?

	NY	PA
Yes	3%	8%
No	96%	91%
Not Sure	1%	9%

Q28: Which of the following would you say is the most credible source of information on the risks and benefits associated with natural gas drilling in NY/PA? Would it be:

	NY	PA
Federal Government	4%	4%
State Government	9%	14%
Municipalities/Local Gov	9%	7%
Environmental Groups	33%	33%
The Gas Industry	5%	6%
Television	7%	7%
Newspapers	5%	3%
The Internet	8%	10%
None of the Options	10%	7%
Other Options	3%	3%
Don't Know	6%	6%



Q29: As you may have heard, evidence of contaminated drinking water in Dimock Township (PA) has been linked to intensive hydraulic fracturing in Susquehanna County (PA).

On a scale from 0 to 10, where 0 indicates “no risk” and 10 indicates “extreme risk” how serious a risk do you believe hydraulic fracturing poses to Americans’ health, safety, and environment?

	NY	PA
0	5%	4%
1	1%	4%
2	2%	5%
3	4%	6%
4	10%	12%
5	15%	25%
6	9%	9%
7	9%	9%
8	12%	9%
9	7%	7%
10	25%	11%

Political And Societal Questions

Now I’d like to ask you a few general questions about politics and society. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with the following statements (RANDOMIZE ORDER):

Q30: Free markets, not government programs, are the best way to supply people with the things they need.

	NY	PA
Strongly Agree	28%	40%
Somewhat Agree	32%	33%
Somewhat Disagree	19%	14%
Strongly Disagree	12%	7%
Not Sure	9%	7%

Q31: Government should redistribute wealth to make society more equal.

	NY	PA
Strongly Agree	16%	16%
Somewhat Agree	29%	22%
Somewhat Disagree	18%	18%
Strongly Disagree	28%	36%
Not Sure	9%	8%

Questions About Respondents

Q32: Finally, I have a few questions about you. First, what is your current marital status?

	NY	PA
Single	33%	26%
Married	52%	57%
Separated	1%	1%
Divorced	4%	7%
Widowed	9%	8%
Partnered	1%	1%
Not Sure	<1%	<1%

Q33: Which of the following categories best describes your current voting status?

	NY	PA
Democrat	42%	40%
Republican	22%	32%
Independent	23%	17%
Other	4%	4%
Not Registered to Vote	7%	6%
Not Sure	1%	1%

Q34: Which of the following best describes your political beliefs?

	NY	PA
Very Conservative	8%	12%
Somewhat Conservative	21%	26%
Moderate	27%	39%
Somewhat Liberal	25%	14%
Very Liberal	13%	4%
Not Sure	6%	5%

Q35: What is your highest level of education?

	NY	PA
Less than High School	6%	3%
High School Graduate	28%	32%
Some College or Technical School	28%	30%
College Graduate	22%	24%
Graduate or Professional Degree	15%	11%
Not Sure	<1%	1%



Q36: Which of the following categories best describes your racial identity?

	NY	PA
White/Caucasian	56%	80%
African-American	16%	10%
Hispanic/Latino	19%	6%
Asian	6%	2%
Native American	<1%	<1%
Mixed Race	3%	2%
Other	2%	1%
Not Sure	<1%	<1%

Q37: Which of the following categories best describes your religious affiliation?

	NY	PA
Catholic	44%	33%
Protestant	26%	48%
Jewish	8%	1%
Muslim	<1%	<1%
Hindu	<1%	<1%
Other Religion	12%	12%
Atheist	9%	4%
Not Sure	1%	2%

Q38: Which of the following categories best describes your family income?

	NY	PA
Under 20K	15%	9%
20-40K	14%	26%
40-60K	22%	27%
60-80K	21%	16%
80-100K	12%	6%
Over 100K	15%	13%
Not Sure	2%	3%

Q39: Gender

	NY	PA
Male	49%	49%
Female	51%	51%

Endnotes

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The **Center for Local, State, and Urban Policy (CLOSUP)**, housed at the University of Michigan's Gerald R. Ford School of Public Policy, conducts and supports applied policy research designed to inform state, local, and urban policy issues. Through integrated research, teaching, and outreach involving academic researchers, students, policymakers and practitioners, CLOSUP seeks to foster understanding of today's state and local policy problems, and to find effective solutions to those problems.

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