

# Public Perceptions of Hydraulic Fracturing in Three Marcellus Shale States

## Introduction

Extraction from the Marcellus Shale—one of the most robust natural gas deposits in North America—represents the potential for economic growth and environmental degradation. There is little federal oversight concerning natural gas extraction resulting in dramatically different regulatory policy approaches in the nine states and one Canadian province in the Marcellus Shale region. These policy approaches span from how to appropriately tax the extracted gas to whether the drilling practice should be permitted.

The policy differences between states in the Marcellus Shale region are intensified due to the physical presence of natural gas wells in border counties; residents in New York and Maryland can look across the state line and see active drilling in neighboring states. Further, a key environmental argument against hydraulic fracturing—the contamination of ground water—is conceptualized differently across the states located at the intersection of the Marcellus Shale and the Chesapeake Bay Watershed. The active cross-pressures from environmental and business advocacy groups—as well as divergent regional policies—have resulted in New York, Maryland, and Pennsylvania having concurrent, but fundamentally different, policy debates concerning the regulation and extraction of the natural gas within their borders.



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# **Key Findings**

- 1. Residents of New York, Pennsylvania, and Maryland differ in their support for the extraction of natural gas deposits in their respective states. Pennsylvanians (54%) are the most supportive, followed by Marylanders (36%). New Yorkers (29%) express the lowest levels of support (see *Question 1*).
- 2. New Yorkers (66%) and Marylanders (57%) view the word "fracking" more negatively than their counterparts in Pennsylvania, at 47% (see *Question 2*).
- 3. A majority of Maryland residents recognize that Pennsylvania (55%) and West Virginia (53%) engage in high or moderate levels of hydraulic fracturing within their respective borders. In comparison, 47% of New Yorkers recognize that high or moderate levels of hydraulic fracturing are occurring in Pennsylvania (see *Question 3*).
- 4. Reflecting the different policy environments of their states, Pennsylvania and Maryland residents express starkly different perceptions on whether increasing taxes on drillers will discourage them from doing business in the state. While 59% of Marylanders agree that increased taxes discourage drillers from doing business, only 32% of Pennsylvanians agree (see *Question 4*).
- 5. New Yorkers and Marylanders express similar opinions on opportunities toward economic growth and policies toward hydraulic fracturing, with 46% of Maryland residents and 42% of New York residents agreeing that their respective state policies on the drilling practice have resulted in lost economic growth to neighboring states (see *Question 5*).
- 6. A majority of Maryland (58%), Pennsylvania (64%), and New York (67%) residents agree that natural gas drilling poses a major threat to their state's water resources (see *Question 6*).
- 7. When asked if the gas industry benefits from natural gas extraction at the expense of local communities, 60% of Maryland residents agree, compared to 69% of Pennsylvania and 72% of New York residents (see *Question 7*).



# **Background**

The potential trade-offs between economic growth and environmental degradation have been at the forefront of policy debates concerning the hydraulic fracturing and drilling practice colloquially known as "fracking." These debates have become increasingly contentious and diverse in three Marcellus Shale states—Pennsylvania, New York, and Maryland—with the proposal of policy initiatives ranging from bans on the drilling practice to severance taxes on the gas that is extracted. Citizens of these states express varying perspectives concerning the socio-political, economic, and environmental issues surrounding these evolving policy discussions.

In December 2014, Governor Andrew Cuomo formalized New York's six-year de facto moratorium to a ban on the drilling practice citing public health implications as a central part of his decision. A month earlier, Governor Martin O'Malley announced the findings of a three-year study resulting in the end of a temporary moratorium on hydraulic fracturing in Maryland with the future of fracking left uncertain by recent political changes and legislative developments. Soon after, newly-elected Governor Tom Wolf departed from the previous administration and proposed a new severance tax on extracted natural gas to replace the current Marcellus Shale Impact Fee in Pennsylvania.

While Governor Cuomo can tout the statewide ban on hydraulic fracturing as a major environmental policy accomplishment of his administration, the path to the ban was paved through a series of local-level policy and grassroots advocacy victories upheld by the courts. For example, the upstate, gas-rich New York town of Dryden banned the drilling practice through zoning laws, road use limitations, and noise ordinances. This ban was challenged by Anschutz Exploration Corporation, but was upheld in June 2014 by the New York Court of Appeals establishing a precedent for "home rule" by localities in regard to permitting hydraulic fracturing within their borders.<sup>1</sup>

In Maryland, the report commissioned by the outgoing O'Malley Administration estimated that permitting hydraulic fracturing in three Western Maryland counties (Garrett, Allegany, and Washington) would bring economic benefit to the state, but these benefits could be off-set by damages to the tourism and outdoor recreation industries.<sup>2</sup> A Republican gubernatorial victory in the Democratic stronghold of Maryland by Larry Hogan—who campaigned on an economic development platform—has heightened the stakes for environmentalists and companies that are interested in developing the gas deposits in the Western region. In the two previous legislative sessions, attempts to ban hydraulic fracturing have failed.<sup>3</sup> During the most recent session of the Maryland General Assembly, several bills ranging from a ban to increasing liability and regulatory standards for drilling companies to defining waste from hydraulic fracturing as a controlled hazardous substance were introduced.<sup>4</sup> Perhaps most important, is the bill placing a two year-moratorium on drilling that was passed by the 2015 Maryland General Assembly and is currently awaiting Governor Hogan's decision.<sup>5</sup>

Hydraulic fracturing took center stage in the 2014 Pennsylvania gubernatorial election between incumbent Tom Corbett and Tom Wolf. Currently, Governor Wolf is navigating a difficult balance—one where the citizenry embraces the economic benefits, but is increasingly concerned with the environmental impacts of hydraulic fracturing. For example, Governor Wolf's *Pennsylvania Education Reinvestment Act* is budgeted to be funded by a proposed severance tax on the value of extracted natural gas in the state, while campaign promises of new environmental regulations are yet to come to fruition (though there have been reports of a forthcoming proposal that addresses issues such as waste storage, public water resources, and noise pollution).<sup>6</sup>

This report includes data from previous National Survey on Energy and Environment surveys of Pennsylvania and New York residents with new data from Maryland. Issues such as comparative views of general support for the drilling practice to perspectives on key economic and environmental issues are included. Further, this report examines what citizens know about the levels of hydraulic fracturing that are taking place in neighboring states.



# Goucher College 2015 Maryland Hydraulic Fracturing Survey

The following survey question numbers Q1-Q7 refer to the Goucher College 2015 Maryland Hydraulic Fracturing Survey questions. These questions were replicated from the National Surveys on Energy and Environment (NSEE) 2014 Hydraulic Fracturing Survey of New York and Pennsylvania residents, conducted by the Muhlenberg College Institute of Public Opinion, in collaboration with the University of Michigan Center for Local, State, and Urban Policy (CLOSUP) and the University of Montreal.

#### **Perceptions of Fracking**

This section presents the general views of New York, Pennsylvania, and Maryland residents on hydraulic fracturing, including their relative support levels for the practice and positive or negative associations related to the word "fracking."

#### 01:

**NY/PA Question Wording:** "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?"

**MD Question Wording:** "Do you support or oppose the extraction of natural gas from shale deposits—known as hydraulic fracturing or fracking—here in Maryland?"

	NY	PA	MD
Strongly Support	10%	23%	18%
Somewhat Support	19%	31%	18%
Somewhat Oppose	29%	14%	19%
Strongly Oppose	27%	15%	26%
Not Sure	15%	17%	19%

In Pennsylvania, where hydraulic fracturing has revitalized a sluggish energy economy in many rural areas, 54% support the extraction of natural gas from shale deposits. Levels of support are significantly diminished across the northern and southern border of Pennsylvania; 29% and 36% support hydraulic fracturing in New York and Maryland, respectively.

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Q2:
"In general when you hear the word 'fracking' do you consider it a positive or negative term?"

	NY	PA	MD
Positive	14%	30%	22%
Negative	66%	47%	57%
Neutral/Neither	15%	19%	11%
Not Sure	4%	4%	10%

Fewer than half of the residents in Pennsylvania consider "fracking" a negative term, suggesting differing levels of resident exposure, comfort, and familiarity with the drilling practice than in New York or Maryland. Respectively, 66% and 57% of New York and Maryland residents consider "fracking" a negative term. Environmental groups in New York have relied heavily on the negative connotation associated with the term, using "Don't Frack New York" as a slogan for media, demonstrations, and citizen advocacy campaigns. In Maryland, similar rhetorical tactics are currently being used to rally citizen opposition.

#### **Cross-Border Views**

Data presented in this section pertain to the neighboring state(s) of the respondent (in parentheses): for New York residents, Pennsylvania; for Pennsylvania residents, New York, and for Maryland residents, Pennsylvania and West Virginia.

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**NY/PA Question Wording:** "In terms of your perception of hydraulic fracturing in NY/PA would you say there is..." (LIST READ): **MD Question Wording:** "In terms of your perceptions of hydraulic fracturing in PA/WV would you say there is..." (LIST READ):

	NY (PA)	PA (NY)	MD (PA)	MD (WV)
A High Level of Hydraulic Fracturing	22%	2%	22%	20%
A Moderate Level of Hydraulic Fracturing	25%	15%	33%	33%
Very Little Hydraulic Fracturing	4%	13%	15%	16%
No Hydraulic Fracturing	2%	16%	2%	3%
Not Sure	47%	54%	28%	28%

At the time of the respective statewide surveys, an accurate generalization of the level of hydraulic fracturing in Pennsylvania and West Virginia would be "high" or "moderate," and for Maryland and New York, "very little" or "no." Marylanders did the best job estimating the levels of hydraulic fracturing in neighboring states (West Virginia and Pennsylvania). While hydraulic fracturing was a topic of statewide political discourse at the time of each respective survey, more than half (54%) of Pennsylvania residents were not sure how much hydraulic fracturing was occurring in neighboring New York; New York residents expressed a similar lack of awareness, with 47% indicating they were not sure how much hydraulic fracturing was occurring in Pennsylvania. Maryland residents exhibited lower levels of cross-border uncertainty, with only 28% saying they were unsure how much hydraulic fracturing was happening in Pennsylvania and West Virginia.



#### **Views on Economic and Environmental Impacts**

This section presents respondents' views on the prospective economic and environmental impacts of fracking within their own state's borders.

#### 04:

"Now, I'm going to read you a list of statements regarding natural gas and fracking. For each statement that I read, please tell me if you agree or disagree with it..."

PA Question Wording: "...Increasing taxes on natural gas drillers in Pennsylvania will lead drilling firms to leave and so should be avoided."

MD Question Wording: "...Increasing taxes on natural gas drilling in Maryland will discourage drillers from doing business in the state."

	PA	MD
Strongly Agree	11%	21%
Somewhat Agree	21%	38%
Somewhat Disagree	23%	26%
Strongly Disagree	34%	10%
Not Sure	12%	5%

The divergent responses of Pennsylvania and Maryland residents on their perception of the relationship between taxation and business friendliness is particularly timely given the current policy conversations in each state. At the time of the survey, Pennsylvania was the only major gas-producing state without a severance tax—only 32% of Pennsylvania residents agree with the assertion that increasing taxes on natural gas will lead to firms leaving the state, while 57% disagree. In Maryland, where a three-year de facto moratorium recently ended and current policy debate centers around regulatory rather than tax measures, 59% agree that increasing taxes will discourage drillers from doing business in the state, and 36% disagree.

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#### **Q5**:

**NY Question Wording:** "New York has lost out on economic growth to Pennsylvania because it has a moratorium on hydraulic fracturing and Pennsylvania does not."

MD Question Wording: "Maryland has lost out on economic growth to neighboring states because of our state's policies on hydraulic fracturing."

	NY	MD
Strongly Agree	17%	15%
Somewhat Agree	25%	31%
Somewhat Disagree	18%	22%
Strongly Disagree	13%	12%
Not Sure	27%	20%

At the time of the survey, New York was imposing a study-period moratorium on the drilling practice, which would become a ban within the year. The Maryland survey was in the field after the study-period moratorium ended, but before any drilling permits were issued. Marylanders and New Yorkers express similarly divided opinions on whether their state had lost out on opportunities for economic growth because of their state's policies toward hydraulic fracturing. Forty-two percent of New Yorkers and 46% of Marylanders agree with this assertion, while 31% of New Yorkers and 34% of Marylanders disagree.

#### **Q**6:

NY Question Wording: "Natural gas drilling in New York poses a major risk to the state's water resources."

PA Question Wording: "Natural gas drilling in Pennsylvania poses a major risk to the state's water resources."

MD Question Wording: "Natural gas drilling in Maryland poses a major risk to the state's water resources."

	NY	PA	MD
Strongly Agree	42%	33%	29%
Somewhat Agree	25%	31%	29%
Somewhat Disagree	9%	14%	21%
Strongly Disagree	10%	11%	10%
Not Sure	14%	11%	11%

The issue of water contamination and hydraulic fracturing illustrates a key variation in cross-state perceptions. Pollution in the Chesapeake Bay has long been at the forefront of environmental concerns among Marylanders, yet Maryland residents express the lowest levels of agreement (58%) that natural gas drilling poses a threat to the state's water resources. Further, even though their states have taken dramatically different policy approaches in regard to environmental protection and drilling, New Yorkers (67%) and Pennsylvanians (64%) express similar levels of agreement on the particular risk associated with natural gas drilling.



Q7: "The gas industry benefits from natural gas extraction at the expense of local communities and citizens."

	NY	PA	MD
Strongly Agree	44%	42%	26%
Somewhat Agree	28%	27%	34%
Somewhat Disagree	10%	13%	19%
Strongly Disagree	7%	12%	11%
Not Sure	12%	6%	10%

A majority of New York (72%), Pennsylvania (69%), and Maryland (60%) residents agree that the gas industry benefits from natural gas extraction at the expense of local communities and citizens. While high levels of agreement are perhaps expected in New York and Maryland—where policy toward drilling is primarily discussed along environmental, rather than economic, lines—it is interesting that while Pennsylvania has enthusiastically embraced the drilling practice, 69% of its residents view the drilling companies in this light.

## **Conclusion**

The results indicate that public perceptions toward hydraulic fracturing are dependent on the state policy environments of the resident; for example, citizens in New York view hydraulic fracturing more negatively and are generally less supportive of the drilling practice than residents of both Maryland and Pennsylvania. Across nearly all questions, Marylanders find themselves somewhere between Pennsylvania and New York residents in their opinions toward hydraulic fracturing.

Citizens of each state expressed different views on the relationship between economic opportunity and the drilling practice. Marylanders and New Yorkers recognize that their state has potentially lost out on economic benefit due to their policies. Additionally, Marylanders agree that increasing taxes will discourage drillers from doing business in the state, while Pennsylvania residents do not view an increased tax burden as a deterrent to drilling companies. At the same time, given the on-going nature of the hydraulic fracturing debate in their respective states, New York and Pennsylvania residents demonstrated low levels of awareness concerning the drilling happening across their borders; Maryland residents demonstrated that they are acutely aware that fracking is occurring in Pennsylvania and West Virginia. The differences in views are likely related to the divergent personal experiences state residents have had with drilling companies and shale development.

Finally, a majority of residents in all three Marcellus Shale states link hydraulic fracturing with potential damage to their state's water resources and are cognizant that natural gas drilling may come at the expense of local communities. For Maryland, a state at the hydraulic fracturing crossroads, this may be the driving force behind whether they choose the policy path of Pennsylvania or New York.



## **Methods**

The findings here are drawn from three statewide telephone surveys conducted in 2014 and 2015.

#### **New York and Pennsylvania Samples**

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 is 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.

#### **Maryland Sample**

The findings here are drawn from a February 2015 telephone survey conducted by the Goucher Poll, which operates under the auspices of the Sarah T. Hughes Field Politics Center at Goucher College, in collaboration with the University of Michigan Center for Local, State, and Urban Policy (CLOSUP) and Muhlenberg Institute of Public Opinion as part of the National Surveys on Energy and Environment (NSEE) series. This survey secured respondents from 619 Maryland residents, drawn from all regions of the state and comprising statistically-representative profiles of the population. Both land lines and cell phones were sampled, with 316 interviews conducted on cell phones and 303 interviews conducted on land lines. The data is weighted by gender, age, race, and region to the results of the 2010 United States Census. The total number of completions results in a margin of error of +/- 3.9% at the 95% confidence level for the sample.

# **Future Publications**

Issues in Energy and Environmental Policy will 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.

# **Funding and Financial Disclosure**

For the Maryland data: All funding for this survey was provided by the Sarah T. Hughes Field Politics Center endowment at Goucher College. The author did not accept any stipend of supplemental income in the completion of the survey or this report. All interviews were conducted by live interviewers under the supervision of the Goucher Poll.

For the Pennsylvania and New York data: All funding for this survey was provided by general revenues of the Center for Local, State, and Urban Policy at the Gerald R. Ford School of Public Policy at the University of Michigan, the Muhlenberg Institute of Public Opinion at Muhlenberg College, and the University of Montreal. The authors did not accept any stipend of supplemental income in the completion of the survey. All interviews were conducted by live interviewers under the supervision of the Muhlenberg College Institute of Public Opinion.



## **Notes**

- 1. Mufson, S. (2014, December 18). Here's the grassroots political story behind the New York fracking ban. *Washington Post*. Retrieved from http://www.washingtonpost.com/blogs/wonkblog/wp/2014/12/18/heres-the-grassroots-political-story-behind-the-new-york-fracking-ban/
- 2. Maryland Department of the Environment. (2015, January 9). *Marcellus Shale Safe Drilling Initiative*. Retrieved from http://www.mde.state.md.us/programs/land/mining/marcellus/pages/index.aspx
- 3. For the 2013 Maryland General Assembly bill see Maryland Hydraulic Fracturing Moratorium and Right to Know Act, Maryland H. B. 1274 (2013 Reg. Sess.). Retrieved from http://mgaleg.maryland.gov/webmga/frmMain.aspx?pid=billpage&tab=subject3&id=hb1274&stab=01&ys=2013RS; for the 2014 Maryland General Assembly bill see Maryland Natural Gas Hydraulic Fracturing Rural Residential Drinking Water Protection Act, Maryland H. B. 0865 (2014 Reg. Sess.). Retrieved from http://mgaleg.maryland.gov/webmga/frmMain.aspx?pid=billpage&tab=subject3&id=hb0865&stab=01&ys=2014RS
- 4. For referenced legislation in the 2015 Maryland General Assembly see Maryland Environment—Hydraulic Fracturing—Prohibitions, Maryland S. B. 0029 (2015 Reg. Sess.). Retrieved from http://mgaleg.maryland.gov/webmga/frmMain.aspx?pid=bill page&tab=subject3&id=sb0029&stab=01&ys=2015RS; Maryland Civil Actions Hydraulic Fracturing Liability Act, Maryland S. B. 0458 (2015 Reg. Sess.). Retrieved from http://mgaleg.maryland.gov/webmga/frmMain.aspx?pid=billpage&tab=subject3&id=s b0458&stab=01&ys=2015RS; Maryland Public Health—Hydraulic Fracturing Chemicals—Information and Fund, Maryland H. B. 0952 (2015 Reg. Sess.). Retrieved from http://mgaleg.maryland.gov/webmga/frmMain.aspx?id=HB0952&stab=01&pid=billpage &tab=subject3&ys=2015RS; Maryland Environment—Exploration and Production Waste and Waste from Hydraulic Fracturing. Maryland H. B. 0458 (2015 Reg. Sess.). Retrieved from http://mgaleg.maryland.gov/webmga/frmMain.aspx?id=HB0458&stab=01 &pid=billpage&tab=subject3&ys=2015RS
- 5. Maryland S. B. 409. Retrieved from http://mgaleg.maryland.gov/2015RS/bills/sb/sb0409T.pdf
- 6. For full survey methodology, including sample demographics, see Goucher Poll. (2015, February). Goucher Poll releases results on politician approval ratings, local presidential hopefuls, transportation, vaccines, and the environment [News release]. Retrieved from http://www.goucher.edu/Documents/Poli\_Sci/hughes/Goucher%20Poll%20Wednesday%20Feb%2025%20Release%20FINAL.pdf
- 7. The Goucher Poll (Maryland data) uses a probe maneuver to ascertain a full range of opinion. For details, see full methodology report: Goucher Poll, 2015.
- 8. At the time of the surveys, no hydraulic fracturing was happening in Maryland or New York—however, the view that "very little" was occurring is not a dramatic departure from reality and may actually be reflective of a respondent's hesitancy to offer the more definitive "no" response rather than misinformation.
- 9. For related news articles see Niederberger, M. (2015, February 16). Wolf links tax on shale drillers, school aid in Monroeville visit. *Pittsburgh Post-Gazette*. Retrieved from http://www.post-gazette.com/news/education/2015/02/16/Wolf-pushes-Marcellus-Shale-tax-for-education-in-Monroeville/stories/201502160133; Levy, M. (2015, March 9). Pennsylvania governor Wolf advances tougher gas drilling rules. *The Huffington Post*. Retrieved from http://www.huffingtonpost.com/2015/03/09/wolf-administration-advan\_n\_6833166.html

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