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Fracking for Natural Gas: Public Opinion on State Policy Options

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Introduction

This report presents the views of Pennsylvania citizens on a range of issues related to extraction of natural gas through “fracking” procedures.

This report responds to a discovery of potentially massive deposits beneath the Marcellus Shale and a series of related issues concerning the economy, environmental protection, and public safety. The findings are drawn from an October 2011 telephone survey conducted by the Muhlenberg Institute of Public Opinion, in collaboration with the University of Michigan Center for Local, State, and Urban Policy. This survey secured responses from 525 residents of the state, drawn from all regions and comprising a statistically-representative profile of citizens. It examines general public attitudes on this issue as well as consideration of a series of policy options that have been introduced in state and local government circles.

Key Findings

1. While fairly divided on this matter, more Pennsylvanians believe that natural gas drilling has thus far provided more benefits than problems for Pennsylvania. A larger number anticipate greater future benefits than problems for the state.
2. Pennsylvanians strongly believe that firms engaged in natural gas drilling should be taxed by the state. Support is greatest to use funds from such a tax for either road and bridge repair or environmental protection measures. Support is lowest to use funds from such a tax to either provide citizens with a rebate check or to balance the state budget.
3. Pennsylvanians strongly view natural gas deposits as a public resource. This sentiment is further reflected in strong support for disclosure to the public of all chemicals that are injected into the ground for the fracking process.
4. Pennsylvanians have significant doubts about the credibility of the media, environmental groups, and scientists on this issue. They also believe that Governor Tom Corbett is too closely aligned with the preferences of energy extraction groups on this issue.

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Natural Gas Fracking in Pennsylvania: Issue Overview

Pennsylvania is located at the epicenter of a growing national and international debate about the vast sources of natural gas that may be extracted through a procedure that has commonly become known as “fracking.” This entails injections of water and chemicals deep below the surface that fractures rock structures and provides access to vast natural gas deposits. Much of the Commonwealth sits atop the Marcellus Shale, a geological formation that appears to be one of the world’s premier sites for massive natural gas extraction.

Pennsylvania is not a newcomer to the arena of energy development. Indeed, the modern global oil industry was born in the middle of the 19th Century when Edwin Drake struck oil in the northwestern town of Titusville. As energy historian Daniel Yergin has noted, “Pennsylvania was the Saudi Arabia of its day,” reflected in substantial extraction of oil, coal, and natural gas well into the 20th century. However, those deposits appeared to be depleted in more recent decades, reducing markedly the scale of energy development in the state. The so-called “Shale Gale” thus represents a potential return for Pennsylvania to a role of national preeminence in development of energy.

Natural gas is a particularly attractive energy source for several reasons. In comparison with other fossil fuels such as coal and oil, it tends to produce fewer air emissions when combusted to generate energy. In turn, it releases significantly lower levels of carbon dioxide, a greenhouse gas, than these other fuels. Natural gas is already used widely in the generation of electricity and in the heating of homes and commercial establishments and there is a significant infrastructure of pipelines to transport natural gas across North America. Moreover, extraction of energy sources on the scale envisioned with the Marcellus Shale could provide a substantial source of economic development for Pennsylvania and other states in the region, with possibly significant expansion of employment opportunities.

At the same time, considerable controversy has been linked with the practice of fracking, both in Pennsylvania and around the globe. The actual use of fracking technology began in the 1940s, though on a very small scale. In recent years, a series of environmental and safety concerns have emerged as the use of these technologies has increased. These include possible contamination of groundwater, the management of “flowback” wastes that must be disposed after fracturing shale rock, emission of methane and other air contaminants through drilling procedures, and uncertainty about what chemicals are being injected deep into the ground to cause fracking.

All of these issues are currently on the table as state and local officials across Pennsylvania come to terms with this issue and attempt to determine whether public policies should be developed to address fracking. Policy options currently under review in Harrisburg, local communities around Pennsylvania, and in many other jurisdictions around the United States include such issues as taxation of the extracted energy, regulation, and chemical disclosure.

Methodology

The findings included in this report are drawn from telephone surveys using random digit dialing samples that include both landlines and cell phones. They represent responses from 525 Pennsylvania citizens who were interviewed between October 6 and November 2, 2011. This produces a margin of error of 5.5 percent, calculated at a 95 percent level of confidence. Percentages throughout this report are rounded upward at the 0.5 percent mark, thus many totals in the results will not equal 100 percent. All data summarized in this report is weighted by age, gender, race, ethnicity, educational attainment, and region to reflect population estimates in Pennsylvania. The survey was funded by Muhlenberg College and conducted by the Muhlenberg Institute of Public Opinion, in collaboration with the Center for Local, State, and Urban Policy of the Gerald R. Ford School of Public Policy of the University of Michigan. The survey instrument was developed by Professor Christopher Borick of Muhlenberg College and Professor Barry Rabe of the University of Michigan.



Public Awareness and General Views

There is a significant divide in both the level of attention citizens are giving to this issue and their views on its current and anticipated impacts for Pennsylvania. There has been substantial media coverage across the state on this issue in recent years as well as growing attention from national and international media. In turn, a popular and controversial documentary film was released in 2010 that warned of potential environmental risks from initial experience with fracking in the state. Our findings suggest a wide distribution in terms of the degree to which Pennsylvanians are following this issue. More respondents believe that this drilling has thus far provided greater benefits than problems in Pennsylvania (41 to 33 percent); that level increases (50 to 32 percent) when considering anticipated future impacts. But there is considerable concern (60 to 28 percent) that drilling poses a major risk to state water resources.

Table 1
How closely Pennsylvanians follow the issue of gas drilling in the Marcellus Shale

Response	Percentage
Very closely	12%
Somewhat closely	36%
Not too closely	26%
Not at all	25%
Not sure (volunteered)	1%

Q1 How closely have you been following the debate around the issue of natural gas drilling in the Marcellus Shale in Pennsylvania?

Table 2
Pennsylvanians' views regarding benefits vs. problems so far from drilling

Response	Percentage
More benefits	41%
More problems	33%
About equal (volunteered)	26%

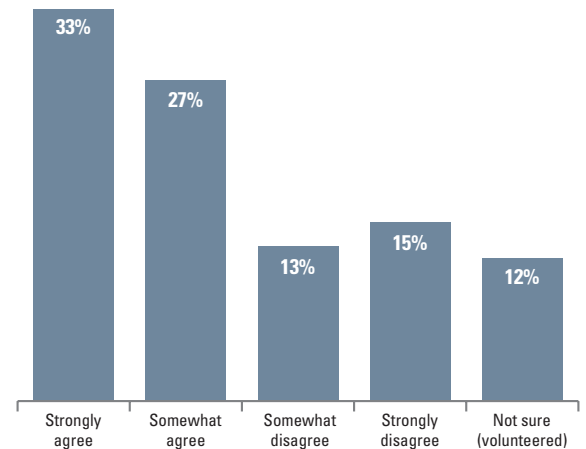
Q2: In general do you feel that drilling for natural gas in the state has SO FAR provided more benefits or problems for the citizens of Pennsylvania?

Table 3
Pennsylvanians' views regarding expected future benefits vs. problems from drilling

Response	Percentage
More benefits	50%
More problems	32%
About equal (volunteered)	17%

Q3: In general do you feel that drilling for natural gas in the state WILL provide more benefits or problems in the FUTURE for the citizens of Pennsylvania?

Figure 1
Percentage of Pennsylvanians who agree or disagree that drilling poses a major risk to water resources



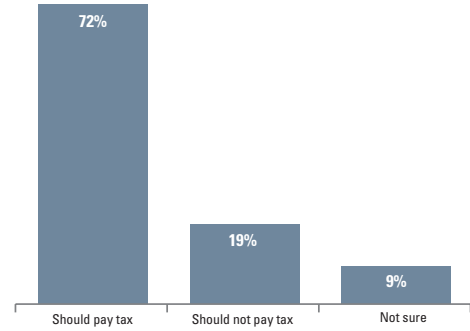
Q4: Do you feel that natural gas drilling in Pennsylvania poses a major risk to the state's water resources?

Taxation

Many states have established taxes on the extraction of energy or other minerals. The National Conference of State Legislatures reports that about one-half of the states have one or more of these, most commonly known as “severance taxes,” in operation. In some cases, such as Oklahoma, Texas, and Wyoming, these taxes have been in effect for many decades and provide a substantial amount of total state revenues. In the case of Alaska, taxes have been revised and increased significantly in the past decade, producing the largest single source of revenue for that state. Pennsylvania does not currently have a severance or energy extraction tax, although there have been numerous proposals in the past few years to establish some version of a tax or fee system, including a plan put forth by Governor Tom Corbett in early October of 2011.

Pennsylvanians offer broad support for an extraction tax, with nearly three out of four indicating that firms extracting natural gas in the commonwealth should pay a tax. Their support did shift depending upon the ways that funding generated by such a tax would be utilized, as respondents were asked to consider a number of revenue use options that are in place in other jurisdictions. Support was greatest in cases where tax revenue would be allocated to either road and bridge construction or environmental protection. Support was lowest in cases where tax revenue would be allocated to provide each citizen with a rebate check or to help balance the state’s budget. These options were rotated throughout the survey process so as not to influence the level of support or opposition by their order of presentation. Respondents also responded very favorably (72 to 21 percent) to a separate question that offered the option of reducing other taxes in exchange for increasing revenues through a tax on natural gas drilling.

Figure 2
Pennsylvanians’ views on whether drilling firms should be taxed or not



Q5: In the last year there has been considerable debate regarding the possible taxation of natural gas extraction in Pennsylvania. Do you feel that firms extracting natural gas in Pennsylvania should pay a tax on the natural gas that is drilled for in the state or not?

Table 4
Pennsylvanians’ support for a drilling tax if the revenue was used to repair and protect the environment

Response	Percentage
More likely to support	66%
Less likely to support	7%
No effect on support	22%
Not sure (volunteered)	4%

Q6: If the money from a tax on natural gas was used to help repair and protect Pennsylvania’s environment would it make you more likely, less likely or have no effect on your support for a natural gas tax?

Table 5
Pennsylvanians’ support for a natural gas tax if the revenue was used to repair roads and bridges

Response	Percentage
More likely to support	70%
Less likely to support	10%
No effect on support	19%
Not sure (volunteered)	1%

Q7: If the money from a tax on natural gas was used to help repair roads and bridges in Pennsylvania would it make you more likely, less likely or have no effect on your support for a natural gas tax?



Table 6
Pennsylvanians' support for a natural gas tax if the revenue was used to develop renewable energy sources

Response	Percentage
More likely to support	62%
Less likely to support	14%
No effect on support	22%
Not sure (volunteered)	2%

Q8: If the money from a tax on natural gas was used to help develop renewable energy sources would it make you more likely, less likely or have no effect on your support for a natural gas tax?

Table 7
Pennsylvanians' support for a natural gas tax if the revenue was used to help balance the state budget

Response	Percentage
More likely to support	45%
Less likely to support	29%
No effect on support	23%
Not sure (volunteered)	2%

Q9: If the money from a tax on natural gas was used to help balance the state budget in Pennsylvania would it make you more likely, less likely or have no effect on your support for a natural gas tax?

Table 8
Pennsylvanians' support for a natural gas tax if the revenue was used to help local governments address problems caused by drilling

Response	Percentage
More likely to support	59%
Less likely to support	12%
No effect on support	24%
Not sure (volunteered)	5%

Q10: If the money from a tax on natural gas was used to help local governments address problems caused by natural gas drilling would it make you more likely, less likely or have no effect on your support for a natural gas tax?

Table 9
Pennsylvanians' support for a natural gas tax if the revenue was used to provide a check to every Pennsylvanian

Response	Percentage
More likely to support	38%
Less likely to support	33%
No effect on support	28%
Not sure (volunteered)	3%

Q11: If the money from a tax on natural gas was used to provide a check to every Pennsylvanian would it make you more likely, less likely or have no effect on your support for a natural gas tax?

Table 10
Pennsylvanians' support for a natural gas tax if the revenue was used to hire DEC staff to more closely monitor drilling

Response	Percentage
More likely to support	49%
Less likely to support	23%
No effect on support	23%
Not sure (volunteered)	5%

Q12: If the money from a tax on natural gas was used to hire more staff in the Pennsylvania Department of Environmental Conservation so that the agency can more closely monitor natural gas drilling would it make you more likely, less likely or have no effect on your support for a natural gas tax?

Table 11
Pennsylvanians' support for a natural gas tax if the revenue was used to lower other state taxes

Response	Percentage
Strongly support	40%
Somewhat support	32%
Somewhat oppose	11%
Strongly oppose	10%
Not sure (volunteered)	8%

Q13: One possible use of money generated from a tax on natural gas drilling in Pennsylvania would be to use that money to lower other taxes in the state. Would you strongly support, somewhat support, somewhat oppose, or strongly oppose the creation of a tax on natural gas drilling if the money was used to lower other taxes?

Policy options

Pennsylvania is currently beginning to explore a number of possible policy options, both statewide and at the local level, to determine whether government should have some role in overseeing the anticipated expansion of natural gas drilling. Federal jurisdiction in this area is quite limited, due in part to a provision of the 2005 Energy Policy Act that prohibits federal regulation of drinking water related to fracking. A wide range of policies are under consideration in various states. For example, both New York and Maryland have placed a moratorium on this type of drilling while further review is undertaken. Some states, such as Texas and California, have explored legislation that would mandate some disclosure of chemicals used in this process. This section explores public attitudes toward this energy source and finds far greater support for the proposition that these natural gas discoveries are perceived as a “public resource” rather than a “private resource.” It also finds overwhelming support for chemical disclosure by firms involved in fracking and very minimal belief that firms should be able to avoid such disclosure on the grounds that the chemical mixtures are trade secrets.

Impact of State Regulations

One central question whenever an individual state government considers policy engagement in environmental or energy affairs is the possible economic impact of unilateral state action. In the Pennsylvania context, Governor Corbett has maintained the position that both taxation and burdensome regulation on the fledgling natural gas industry in the state would result in the loss of jobs in the commonwealth. About one-third of Pennsylvania citizens do have some concerns about the potential impact of regulation or taxation on the economic development of shale gas resources. However, majorities do not share these concerns (58 percent in the case of regulation and 51 percent in the case of taxation).

Table 12

Pennsylvanians’ views on whether natural gas reserves are a public resource and should benefit the citizens

Response	Percentage
Strongly agree	54%
Somewhat agree	27%
Somewhat disagree	9%
Strongly disagree	8%
Not sure (volunteered)	3%

Q14: Natural gas reserves under Pennsylvania soil are a public resource and should benefit the citizens of the state.

Table 13

Pennsylvanians’ views on whether natural gas reserves are a private resource and should benefit private energy developers and land owners

Response	Percentage
Strongly agree	13%
Somewhat agree	21%
Somewhat disagree	15%
Strongly disagree	48%
Not sure (volunteered)	4%

Q15: Natural gas reserves under Pennsylvania soil are a private resource and should benefit private energy developers and land owners.



Table 14
Pennsylvanians' views on whether drilling companies should not have to disclose the chemicals used in drilling

Response	Percentage
Strongly agree	5%
Somewhat agree	7%
Somewhat disagree	10%
Strongly disagree	73%
Not sure (volunteered)	5%

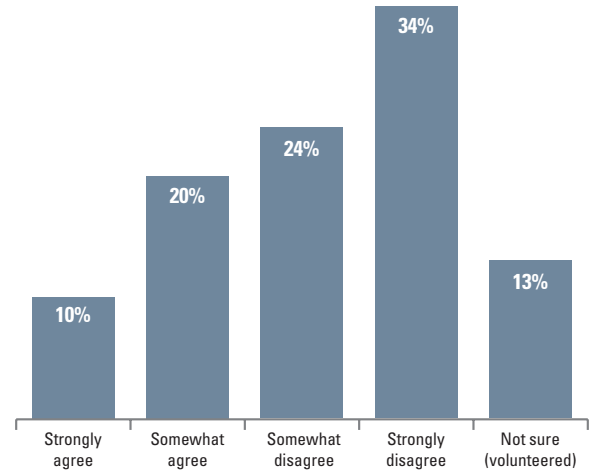
Q16: Natural gas drilling companies should not have to disclose the chemicals they inject underground in the drilling process because they contend that those chemicals are a trade secret that belong to them.

Table 15
Pennsylvanians' views on whether drilling companies should have to disclose the chemicals used in drilling

Response	Percentage
Strongly agree	84%
Somewhat agree	7%
Somewhat disagree	3%
Strongly disagree	3%
Not sure (volunteered)	3%

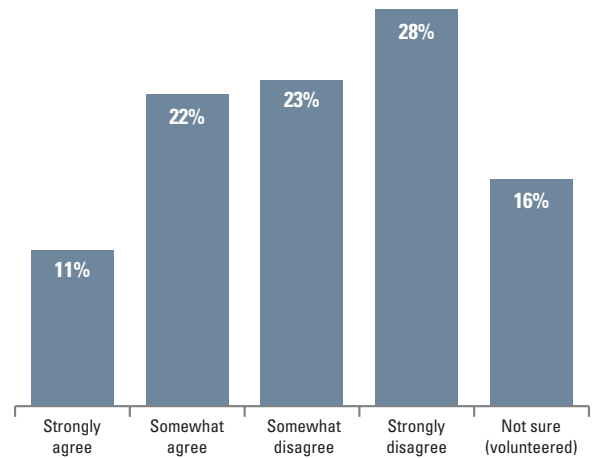
Q17: Natural gas drilling companies should have to disclose the chemicals they inject underground in the drilling process because of the public's right to know about the health risks posed by these chemicals

Figure 3
Pennsylvanians' views on whether tighter drilling regulations will lead drilling firms to leave the state



Q18: Tighter regulations on the extraction of natural gas in Pennsylvania will lead drilling firms to leave the state.

Figure 4
Pennsylvanians' views on whether a natural gas tax will cause drilling firms to hire fewer employees in the state



Q19: A tax on natural gas drillers in Pennsylvania will cause drilling companies to decrease the number of employees that they hire in the state.

Public Confidence in Authorities

Emergence of any new energy or environmental issue raises questions about where the public should turn for credible information and insight. It also raises questions about the trust in prominent authorities who might provide that information and leadership. The survey finds considerable distrust in the role of media and environmental groups, reflecting concern that they may be overstating environmental impacts. Scientists receive somewhat better marks in this regard but they too face some public doubts. Moreover, the role of Pennsylvania Governor Tom Corbett on this issue receives very negative assessment, both in terms of his overall performance in this area and in avoiding excessive influence by natural gas companies. Collectively, these findings raise serious questions of where Pennsylvanians should turn for credible information and leadership on this issue.

Table 16
Pennsylvanians' views on whether environmental impacts of drilling are being overstated by the media

Response	Percentage
Strongly agree	20%
Somewhat agree	24%
Somewhat disagree	19%
Strongly disagree	22%
Not sure (volunteered)	15%

Q20: Concerns regarding the environmental impacts of natural gas drilling in Pennsylvania are being overstated by the media.

Table 17
Pennsylvanians' views on whether environmental impacts of drilling are being overstated by environmental groups

Response	Percentage
Strongly agree	22%
Somewhat agree	26%
Somewhat disagree	16%
Strongly disagree	23%
Not sure (volunteered)	12%

Q21: Concerns regarding the environmental impacts of natural gas drilling in Pennsylvania are being overstated by environmental groups.

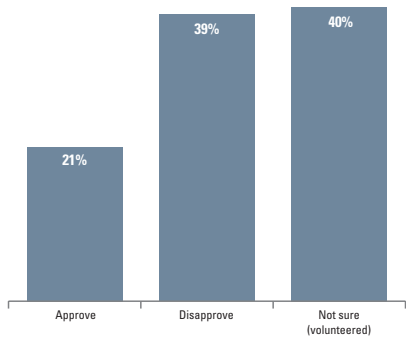
Table 18
Pennsylvanians' views on whether environmental impacts of drilling are being overstated by scientists

Response	Percentage
Strongly agree	15%
Somewhat agree	19%
Somewhat disagree	17%
Strongly disagree	25%
Not sure (volunteered)	25%

Q22: Concerns regarding the environmental impacts of natural gas drilling in Pennsylvania are being overstated by scientists.



Figure 5
Pennsylvanians’ approval or disapproval of the way Governor Corbett has handled the issue of natural gas drilling



Q23: Do you approve or disapprove of the way that Pennsylvania Governor Tom Corbett has handled the issue of natural gas drilling in the state?

Conclusions

This report provides an initial effort to examine public opinion on a wide range of issues related to the possible expansion of fracking on a large scale in Pennsylvania. It finds that the public views current and future benefits from fracking as greater than problems stemming from this practice. The public does support a number of possible points of state government involvement, such as taxation and mandatory chemical disclosure. It also appears that the public has considerable distrust of a number of potential authorities on this subject. We will expand upon these findings in subsequent reports and publications while also undertaking further research that will compare public opinion on the issue in Pennsylvania with other jurisdictions.

Table 19
Pennsylvanians’ views on whether Governor Corbett’s decisions on taxation of drilling are influenced too much by natural gas companies

Response	Percentage
Strongly agree	33%
Somewhat agree	27%
Somewhat disagree	12%
Strongly disagree	5%
Not sure (volunteered)	23%

Q24: Governor Corbett’s decisions on taxation of natural gas drilling in Pennsylvania are influenced too much by natural gas companies.

Table 20
Pennsylvanians’ views on whether Governor Corbett’s decisions on regulating drilling are influenced too much by natural gas companies

Response	Percentage
Strongly agree	33%
Somewhat agree	27%
Somewhat disagree	10%
Strongly disagree	4%
Not sure (volunteered)	26%

Q25: Governor Corbett’s decisions on regulating natural gas drilling in Pennsylvania are influenced too much by natural gas companies.

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