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Natural Gas Development: Views of New York and Pennsylvania Residents in the Marcellus Shale Region

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What is the Issue?

The opportunities and challenges posed by the extraction of natural gas from the Marcellus Shale geologic formation have been widely discussed and debated. Production of domestic energy, potential economic growth and job creation, and associated social, economic, and environmental impacts are among the many issues currently being examined.

Although New York and Pennsylvania are neighboring states, their approaches to managing Marcellus Shale natural gas development have differed. For example, in Pennsylvania regulators have continued to issue drilling permits while they review and enhance environmental safeguards, and the legislature has thus far declined to enact a statewide severance tax, restricting the ability of local municipalities to generate revenue directly from the industry. In contrast, New York State has been more cautious, prohibiting the permitting of most Marcellus activity while environmental regulations are fully reviewed by the New York State Department of Environmental Conservation (DEC) and a Supplementary Generic Environmental Impact Statement (SGEIS) is approved.

While regulators and their decisions have differed across the two neighboring states, how do residents living in the Marcellus Shale region in New York and Pennsylvania view issues associated with the development of natural gas? What impacts are expected? How much trust do they place in various sources of information? To address these questions, a survey of people living in the Marcellus region of Pennsylvania and NYS was conducted. Questionnaires seeking residents' attitudes and beliefs were sent to a random sample of 6,000 households in 29 counties in the Marcellus Shale area of New York and Pennsylvania in October 2009, with follow-up mailings over the next five months. The Pennsylvania sample yielded a 36 percent response rate, and the New York sample yielded a 32 percent response rate.¹

Overall Support

When asked: "Considering everything, how do you feel about natural gas extraction from the Marcellus Shale region?" both New York and Pennsylvania residents were more likely to support than to oppose the industry's development, but opposition was more widespread in New York than in Pennsylvania. In New York, 40% support the industry; 31% opposed it. In Pennsylvania, 47% were supportive and 19% were opposed. However, the percentages of those who neither supported nor opposed developing the Marcellus Shale were also sizable in both states (30% in New York, 34% in Pennsylvania), indicating that many residents were undecided in their views about large-scale gas development in the area.

How much do residents feel they know about the potential impacts?

While a majority of survey respondents indicated support or opposition to natural gas drilling, neither New York nor Pennsylvania residents felt they had much first-hand knowledge about the potential impacts.² Asked to rate how much they knew about specific topics, more than half felt they had "no knowledge" or "very little knowledge" about issues related to jobs, regulations, government, legal implications, and drilling procedures. Although perceived knowledge was slightly higher for economic, social, and environmental (including water) impacts of drilling, 40 percent or more of respondents indicated that they had no or very little knowledge. Despite Pennsylvania's experience with gas drilling, none of these figures differed between New York and Pennsylvania residents.

What impacts are expected?

Development of the Marcellus Shale is likely to transform many aspects of community life in the region. However, many respondents in both New York and Pennsylvania seemed uncertain about the nature and potential magnitude of such effects. When asked about specific potential impacts, about one in five reported they didn't know what would happen. And in many cases, more than half believed that such things as the quality of public schools, healthcare, affordable housing, crime and violence, friendliness of the community, and recreational opportunities would remain about the same (see Table 1).

Among the respondents who did expect changes from Marcellus Shale development, more believed conditions would get worse rather than better with respect to overall quality of life, affordable housing,

Table 1: How much do you expect Marcellus Shale gas development to impact each of the following?

	New York (N=456)a				Pennsylvania (N=1461)			
	Get better	Stay the same	Get worse	Don't know	Get better	Stay the same	Get worse	Don't know
Overall quality of life***	12.8	40.4	25.6	21.1	13.8	49.9	16.7	19.6
Availability of good jobs	42.8	32.1	2.7	22.4	41.2	34.1	2.1	22.7
Quality of public schools	8.9	63.8	6.5	20.8	9.1	65.1	4.3	21.6
Quality of health care	8.7	65.2	5.4	20.8	7.6	67.7	3.9	20.8
Availability of affordable housing	10.3	47.4	20.4	21.9	8.4	52.7	19.2	19.7
Roads and Streets	10.8	36.8	35.9	16.6	10.2	43.2	30.0	16.6
Freedom from crime/violence	3.1	48.8	24.9	23.1	3.3	53.1	23.0	20.7
Quality of natural environment*	4.3	24.2	52.9	18.6	4.1	31.2	46.6	18.1
Neighborhood friendliness	3.4	61.2	11.9	23.5	4.0	66.4	8.9	20.7
Drinking water	3.4	27.9	44.5	24.3	3.0	34.5	39.6	22.9
Recreation opportunities*	5.4	52.7	20.0	22.0	5.2	59.0	14.2	21.6
Cultural events	5.8	61.7	7.6	24.8	5.5	65.7	4.8	24.0
Job training opportunities	29.8	41.2	4.5	24.6	30.3	43.7	3.9	22.0
Overall cost of living	10.1	38.2	29.4	22.2	9.2	43.1	26.9	20.8

a-Numbers of cases vary from the totals due to non response to the items

*Significant .05; ***Significant .001

¹ Willits, F.K., K. Braiser, M. Filteau, D.K. McLaughlin, R. Stedman. 2010. Community Satisfaction and Change: A Study of Communities in the Marcellus Shale Region. University Park, PA, Department of Agricultural Economics and Rural Sociology, Penn State.

² Additional tables of survey results are available alongside this publication at www.cardi.cornell.edu

roads and streets, freedom from crime, the quality of the natural environment, drinking water, recreation, and overall cost of living. Respondents from New York were more likely to believe that things might improve after development with respect to job availability and job training. New York and Pennsylvania survey participants differed significantly in their expectations of change only in regard to impacts on the overall quality of life, the quality of the natural environment and recreational opportunities. In each of these cases, New York residents were more likely than their Pennsylvania counterparts to anticipate that development of the gas industry would lead to worsening of these aspects of community life.

Attitudes about potential risks and benefits

To arrive at a more detailed understanding of residents' opinions, survey respondents were asked whether they agreed, were neutral, or disagreed with ten statements dealing with possible risks and benefits of developing the natural gas industry in the region (see Table 2). New York respondents were less likely than Pennsylvania respondents to express attitudes supportive of the industry. A majority of the respondents in both states agreed that extraction of natural gas resources should be encouraged in order to decrease reliance on imported energy resources and that the negative impacts of natural gas extraction could be prevented if development proceeded carefully. However, New York respondents were more likely to disagree with both of these items than were Pennsylvanians.

related to natural gas. Cooperative Extension and other educators were trusted at least "some" by most residents, although this sentiment was more apparent among New Yorkers. Pennsylvania residents were more likely to trust the natural gas industry, but somewhat less likely to trust local environmental groups. Sizable proportions of residents in both states reported little or no trust in the gas industry, local and state environmental groups and local task forces.

Conclusions

Despite the presence of gas resources that transcend state boundaries, regulations and resident attitudes differ significantly between New York and Pennsylvania. Development is rapidly unfolding in Pennsylvania, while drilling in New York will not proceed until satisfactory review of the SGEIS. Although significant numbers of survey respondents in both states expressed feelings of uncertainty or neutrality, New York residents were more likely to oppose development, more concerned about specific negative impacts of development, and less trusting of information sources. These differences are especially stark given the low levels of knowledge reported by both groups about potential impacts. We believe that these findings suggest the need for continued dissemination of information on the processes and impacts of gas development. Compared to sources of information such as the gas industry, local and state environmental groups and local task forces, New York and Pennsylvania respondents reported relatively high levels of trust in

Table 2: How do you feel about each of the following?

Item	New York (N=456)a					Pennsylvania (N=1461)				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Negative impacts can be prevented***	11.9	39.5	27.6	13.7	7.3	17.3	43.0	28.1	8.5	3.1
Know enough about impacts to move forward***	5.5	14.6	41.6	21.7	16.7	6.2	22.6	44.1	19.1	8.0
Benefits outweigh costs***	6.8	17.8	43.2	18.7	13.5	8.4	24.4	45.9	14.2	7.1
Worry about catastrophic accident***	10.9	24.4	40.8	18.0	5.9	7.3	20.8	36.8	25.9	9.2
Negative aspects can be fixed***	3.6	15.5	35.1	30.3	15.5	3.9	18.8	42.6	25.3	9.3
Only a few people will benefit	15.7	32.8	35.3	12.5	3.6	13.8	33.9	31.4	16.4	4.6
Extraction should be encouraged to decrease reliance in imported energy***	16.2	34.6	33.9	6.8	8.4	20.5	35.9	34.2	6.1	3.3
Industry will provide employment/keep kids in area**	7.5	20.3	43.2	18.9	10.0	8.3	25.3	42.9	18.4	5.1
Will create long lasting environmental problems***	14.0	23.4	46.2	12.2	4.1	7.9	18.9	48.5	19.3	5.4
Development makes me optimistic about the future of our communities***	8.0	19.2	45.1	17.4	10.3	6.6	26.3	48.5	14.0	4.6

a-Numbers of cases vary from the totals due to nonresponse to the items. ** Significant .01; *** Significant .001

New York respondents were also less likely than those in Pennsylvania to agree that enough is known about the impacts to warrant moving forward. New Yorkers were less inclined to agree that the benefits outweigh the costs of natural gas extraction, that any negative impacts could be fixed, that development makes them optimistic about the future of their communities, and that the industry will provide employment to keep children in the area. Pennsylvanians were less likely to agree that the industry will create long lasting environmental problems and that they worry about a catastrophic accident occurring. Despite these differences, the answer given most frequently by both groups was "neutral," indicating that many respondents did not have strong positive or negative views about the issues addressed.

Information and Trust

Differences were apparent in the extent to which respondents trusted various sources of information. More than 70% of Pennsylvania and New York respondents reported that they had either "some" or "a great deal" of trust in scientists and researchers as sources of information

research and education-based sources. Accordingly, more education can provide a neutral space for dialog and learning. Encouraging residents to access these resources and learn about the issues surrounding Marcellus Shale natural gas development will foster a more informed dialogue.

Additional Information

For additional information on issues associated with development of the Marcellus Shale natural gas industry in New York and Pennsylvania, see the following:

<http://extension.psu.edu/naturalgas>

<http://naturalgas.cce.cornell.edu>

http://www.dep.state.pa.us/dep/deputate/minres/oilgas/new_forms/marcellus/marcellus.htm

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