Natural Gas Drilling Effects on Municipal Governments Throughout Pennsylvania's Marcellus Shale Region, 2010 (Part I)

This column is presented weekly by the Public Education sub-committee of the Clinton County Natural Gas Task Force in an effort to provide accurate, up-to-date information on activities surrounding the Marcellus Shale formation and the natural gas exploration industry. For more information on Task Force activities, visit the Task Force page on the Clinton County government website at www.clintoncountypa.com.

The information in this article is part of a larger economic impact study conducted by the Marcellus Shale Education and Training Center (which is a partnership of Penn College of Technology and Penn State Extension). External funding for the project came from the Pennsylvania Department of Community and Economic Development.

As the natural gas industry continues to spread throughout the Marcellus shale, little is documented about how the drilling activities are affecting local governments. Understanding how natural gas drilling activities affect municipal revenues, services, and expenditures will help communities plan for and better utilize their resources. The gas industry can also have an impact on a local government's ability to retain and hire qualified employees, especially if municipal service demands are increasing.

As part of a larger study focusing on the economic impacts of Marcellus shale development, municipalities in 12 Pennsylvania counties were surveyed in fall 2010. The survey results provide insights into what occurred across the Commonwealth's Marcellus shale region during 2010 and what other municipalities could potentially experience as drilling activity expands across the state.

Methods

A survey was sent to all the townships, boroughs, and cities in Bradford, Clinton, Fayette, Greene, Lycoming, Somerset, Sullivan, Susquehanna, Tioga, Washington, Westmoreland, and Wyoming Counties, which totaled 494 jurisdictions. The survey went to the chair of the township supervisors or borough or city council president in each municipality during fall 2010, and a follow-up postcard and subsequent mailings were sent to non-responders. Responses were received from 293 of these municipal governments, for an overall response rate of 59 percent.

Marcellus Shale Development

Of the survey responses, 131 (about 45 percent) reported that Marcellus development activity is occurring within their municipalities. Such activity included drilling, as well as pipeline construction, major truck traffic, pipe yards or other staging areas, and worker camps.

Natural gas wells have been drilled in 97 (about 74 percent) of the responding municipalities that reported gas activity, with 7 (about 6 percent) reporting more than 25 wells in their municipality alone. Pipeline construction was reported in a little less than half of the municipalities (44 percent), while 3 percent reported they didn't know. As gas wells begin producing natural gas, we can expect pipeline construction to increase. Some municipalities may experience pipeline construction without having any actual wells drilled.

Changes in Municipal Revenue

Of these municipalities directly experiencing development activities, about 75 percent said that Marcellus shale development had not affected their tax or nontax revenue. About 18 percent said that revenues had increased, and one reported revenues had decreased due to Marcellus development. The level of drilling activity was not closely related to whether a municipality reported higher revenues. Of the 23 municipalities reporting higher revenues, only 5 said their earned income tax collections had increased, 5 reported higher real property tax collections, and 3 reported that the local services tax had increased. An additional 5 reported higher permit fee collections.

The number of municipalities reporting higher earned income and local services tax collections seems unusually low since higher employment in these townships to drill the wells should increase the number of workers and residents owing these taxes. The low responses may be occurring for several reasons, including how taxes are paid when employees work in multiple municipalities, that not all municipalities levy these taxes, or problems with withholding and submitting the taxes.

State law specifies that taxpayers working in multiple municipalities only pay these two taxes in one municipality, rather than in each municipality where they work. Earned income tax is paid to the Pennsylvania municipality where the taxpayer lives, regardless of where they work—unless they work in Philadelphia or live in a jurisdiction that does not levy the tax (in which case it is paid to the jurisdiction where they primarily work)—and the local services tax is also paid to their primary place of occupation.

Because natural gas development work moves frequently from site to site, without regard for municipal boundaries, many company employees typically work in many different municipalities each year. Only one will receive their earned income tax and municipal services tax payments.

The local tax impacts clearly require more study to clarify what is occurring and why. Regardless of the cause, the low numbers of municipal officials reporting higher tax revenues indicate that the majority of municipalities where drilling is occurring believe they are not receiving more tax revenues as a result of the activity.

Changes to Municipal Services and Expenditures

Taxes and revenues are only one half of the potential financial impact on local governments. Equally important are the impacts on local services and on local government expenditures. About 67 percent of the 131 municipalities experiencing Marcellus activity said the services they provide have not changed. About 28 percent reported that their services have increased due to natural gas development activity, and 4 percent (5 municipalities) said their services have decreased overall due to Marcellus.

All the municipalities that had to increase services identified roads as being affected, and 13 (10 percent of all the 131 municipalities) said building and code enforcement had increased. Four percent said police service needs had increased, as did 2 percent that cited fire and emergency services. The latter relatively low percentage likely reflects that few municipalities themselves directly provide fire and emergency services and instead rely upon volunteers, so they either may be unaware of such change or consider such changes as not affecting their local government.

Of the municipalities saying the need for municipal services have decreased, four said that municipal road services had decreased, and one said the need for vegetation control had decreased. The road service responses likely reflect that gas companies are repairing and rebuilding roads in affected communities, and so the need for the municipality itself to do such repairs in these four jurisdictions has decreased.

There are service-need differences between the municipalities based on the amount of drilling activity, but these differences were not significant. About 71 percent of the municipalities with Marcellus activity said that their local government's total expenditures had not been affected by the gas development. Twenty-six percent said expenditures had increased overall, and one reported that expenditures had decreased. Three of the municipalities (2 percent) did not know how gas development had affected their expenditures.

Most of the respondents reporting higher expenditures cited greater road maintenance costs and, indeed, this was 22 percent of all the municipalities with Marcellus activity. Higher spending on clerical services (8 percent of all municipalities), permitting and code enforcement, legal services (both 3 percent), and police (2 percent) were also mentioned by respondents. There was little clear pattern in expenditures by the level of drilling activity.

The number of responses clearly has an influence on the accuracy of impacts by drilling level. But the lack of clear patterns across revenues, services, and expenditures likely also occurs because drilling is only one of multiple activities related to Marcellus that can affect municipal budgets. Prior to a well being drilled, significant work must be done conducting seismic and other studies, obtaining permits, building access roads and well pads, and creating staging areas for companies and workers. These often occur in neighboring municipalities, rather than directly where the drilling is taking place. In addition, traffic and pipelines (and pipeline construction) by necessity, cross municipal boundaries.

Changes in Municipal Workforce

In addition to financial and service changes, the natural gas industry has the potential to affect a municipality's ability to retain and hire experienced, qualified employees. About 73 percent of the responding municipalities employ at least 6 full-time employees, and 80 percent have at least 6 part-time employees. About 17 percent reported having no full-time employees, while 9 percent reported having no part-time employees.

Many municipal employees have the skills needed by the gas industry, so there is the possibility of them being hired away due to Marcellus activity. This possibility does not seem to be occurring. About 90 percent of the municipalities said they have not lost employees to the natural gas industry or Marcellus-shale-related activity in the past two years. Similarly, only 4 percent of the municipalities said that natural gas drilling activities have affected their ability to find and hire qualified employees.

Of the municipalities whose hiring efforts have been affected, about half said that the employees are "much more difficult to find," and one-third said employees are "somewhat more difficult" to find. No municipalities indicated that employees were "much easier to find."

Next week's column will offer additional survey results, including overall community changes and impacts due to natural gas activity and what such changes mean to communities.

The survey was written by Timothy W. Kelsey, professor of agricultural economics and Melissa M. Ward, graduate student of rural sociology and human dimensions of natural resources and the environment, Penn State, with Tracy Brundage (Penn College), Jim Ladlee (Penn State), Jeff Lorson (Penn College), Larry Michael (Penn College), and Tom Murphy (Penn State).