

## ***Marcellus Shale Direct Workforce***

*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](http://www.clintoncountypa.com).*

The Marcellus Shale Education & Training Center (MSETC) recently released a study assessing the direct workforce needs required to support Marcellus Shale development in Pennsylvania from 2011 to 2014. The study expands two prior regional studies published by MSETC and outlines the key occupations associated with natural gas development in the Marcellus Shale Region of Pennsylvania and the number of direct jobs that will be needed to bring a gas well into production between 2011 and 2014. The purpose of the study is to provide individuals, job seekers, communities, businesses, workforce and economic development professionals, and government officials at all levels with the ability to estimate the direct workforce requirements for Marcellus Shale development.

The study reveals that energy companies operating in Pennsylvania are projecting a 60% increase in the number of wells being drilled by 2014 compared to the number of wells drilled in 2011. The model utilized by the study indicates that each well requires a workforce of approximately 420 individuals working across 150 different occupations. The resulting impact on Pennsylvania's job market will be significant.

The total number of direct jobs needed to keep pace with the growth of the industry will range between 18,596 and 30,684. Of these jobs, 9,800 to 15,900 will be new jobs. The method of forecasting jobs for this study is based on rig count and wells to be drilled and companies forecasted rig counts in ranges rather than a specific number which subsequently results in job estimates being provided in ranges.

The study also breaks down the growth impact by regions within Pennsylvania. Job growth in Northeast Pennsylvania (which includes Clinton County), which has already seen tremendous initial growth, is forecasted to grow at a relatively moderate rate.

In the Southwest region the rate of industry growth will be significant as the industry works to build out the infrastructure for gas processing. With the recent dramatic increase in interest in high-BTU gas and the premium price commanded for liquids-rich natural gas, the Southwest region appears poised for resurgence in shale gas development related to the Marcellus, Utica, and other Upper Devonian Shale formations.

The Northwest region of the state will see an increase in the number of wells drilled. Growth in the Northwest has been limited so far and growth will initially be concentrated in the southern and eastern boundaries of that region. There has been no drilling activity in the Southeastern region of Pennsylvania, however there will be an increase in the growth of service industries which support the natural gas industry.

The study points out that the number of Pennsylvanians that make up the natural gas industry workforce in Pennsylvania is also growing. Since the technologies used in development are relatively new, early stages of development in Pennsylvania relied heavily on out-of-state employees with experience and knowledge developing high-pressure natural gas. Although there is still tremendous variability across energy, service, and support companies associated with natural gas development, the study's interviews

and survey data revealed that the percentage of new industry hires who are Pennsylvania residents now averages between 65-75%.

The direct workforce assessment also looks at difference in production practices related to natural gas liquids versus dry gas, and multi-well pad development versus a single well per well pad. The study indicated, over the short term, processing of natural gas liquids adds about two new employees for every 10 wells drilled.

In both 2010 and 2011 more than 76% of all wells drilled were on multi-well pads up from no wells drilled on multi-well pads in 2007. Multi well pads reduce the overall environmental footprint and increase overall efficiency of well pad development; simply because less surface area needs to be disturbed and fewer well pads need to be constructed to reach the same amount of natural gas.

The assessment focuses solely on the direct workforce needs of the industry and does not include indirect or induced employment impacts. The projections are not intended to serve as a measure of the total employment created by Marcellus Shale natural gas development or to estimate the economic impact of such development. Other recently released workforce studies estimate overall employment and economic impact of natural gas drilling in Pennsylvania using “multipliers” to estimate job creation in sectors other than those directly associated with the bringing of a Marcellus well into production (i.e., lodging, food, retail...). This report provides the best estimate currently available of the direct workforce required to bring a Marcellus well into production and should be viewed as a subset of total employment created by Marcellus Shale development.

Funding for this assessment was provided by the Pennsylvania Department of Community and Economic Development (DCED). No industry funding was utilized in the development of this assessment. The Marcellus Shale Education & Training Center (MSETC) is a cooperative venture between Penn State Extension and the Pennsylvania College of Technology. For a full copy of the report, visit [www.msetc.org](http://www.msetc.org) or contact the Marcellus Shale Education & Training Center at (570) 327-4775.



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