

## Testimony

### House Commerce Committee Hearing

March 11, 2010, Williamsport, PA

### *Economic Development and Job Creation*

### *Pennsylvania College of Technology*

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Although the subject of economic development and job creation in our region encompasses a wide variety of industries and occupations, I will concentrate this testimony on the economic and job creation opportunities resulting from the natural gas exploration of the Marcellus Shale. **We believe that the economic and workforce opportunities presented by the Marcellus Shale development have the potential to have the single largest impact of anything ever experienced in our region. The magnitude of this opportunity will not only transform this region of the state, but will provide the foundational resources to greatly enhance the overall economic health and job creation opportunities for the entire state.**

With recent global pressures on energy, as well as key advances in new technology, the domestic natural gas market has re-emerged in locations that have not historically played a part in the recovery of this natural resource - - the northcentral and northern tier regions of Pennsylvania are among the most prolific of any natural gas plays in the United States. Terms such as "the mother lode" and "the best of the sweet spots" are often used by industry to describe the resource that lies a mile beneath our feet.

Techniques such as horizontal drilling and hydraulic fracturing (hydrofracing) have allowed gas to be unlocked from the pores of organic shale; some of which was buried approximately 400 million years ago and, until recently, not thought of as an economically recoverable resource. The Marcellus Shale deposit is of particular interest to the industry due to the potential size of the formation (called a "super giant" gas field by some), as well as its close proximity to the major population centers of the Northeast and Mid-Atlantic. The amount of recoverable gas located within the formation is currently unknown, and estimates of the amount of recoverable gas in the Marcellus Shale have recently ranged from 50 to 390 trillion cubic feet. Regardless of the researcher or estimate, most geologists place the recoverable gas reserve potential among the largest in the nation.

As this new Pennsylvania-based resource for energy develops, there will be many challenges that need to be addressed by government, industry, education, and community organizations. One of these challenges is supplying a consistent flow (or educational pipeline) of a skilled workforce to serve the needs of this emerging Pennsylvania industry. Although many of the supporting core skills needed by the industry exist in current education and training programs offered in Pennsylvania, new pre-employment programs and existing program enhancements that specifically relate to the skills needed by workers in the natural gas field are necessary to assist the industry in developing to its full economic capacity.

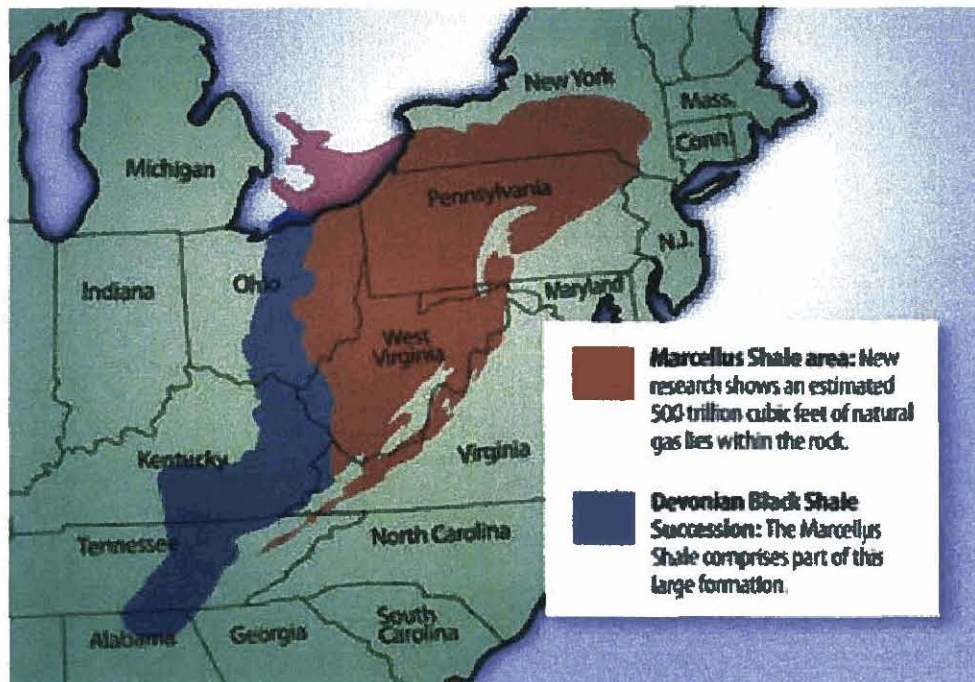


Figure 1: Map of Marcellus Shale Area

Currently, there are two main areas of Marcellus Shale development in Pennsylvania, with several smaller areas of development also occurring. The two main areas include an area in southwestern Pennsylvania and the other in north central Pennsylvania. A recent needs assessment published by the Marcellus Shale Education & Training Center (MSETC) examined the occupational needs in 14 counties in north central Pennsylvania and provided explicit occupational needs for the industry. **The majority of the 8,000 full-time equivalent jobs forecast in the next 5 years for these 14 counties include blue-collar jobs requiring noncredit training and various levels of occupational certifications (welding, safety, equipment operation, etc.).** The complete study can be found at [www.msetc.org](http://www.msetc.org).

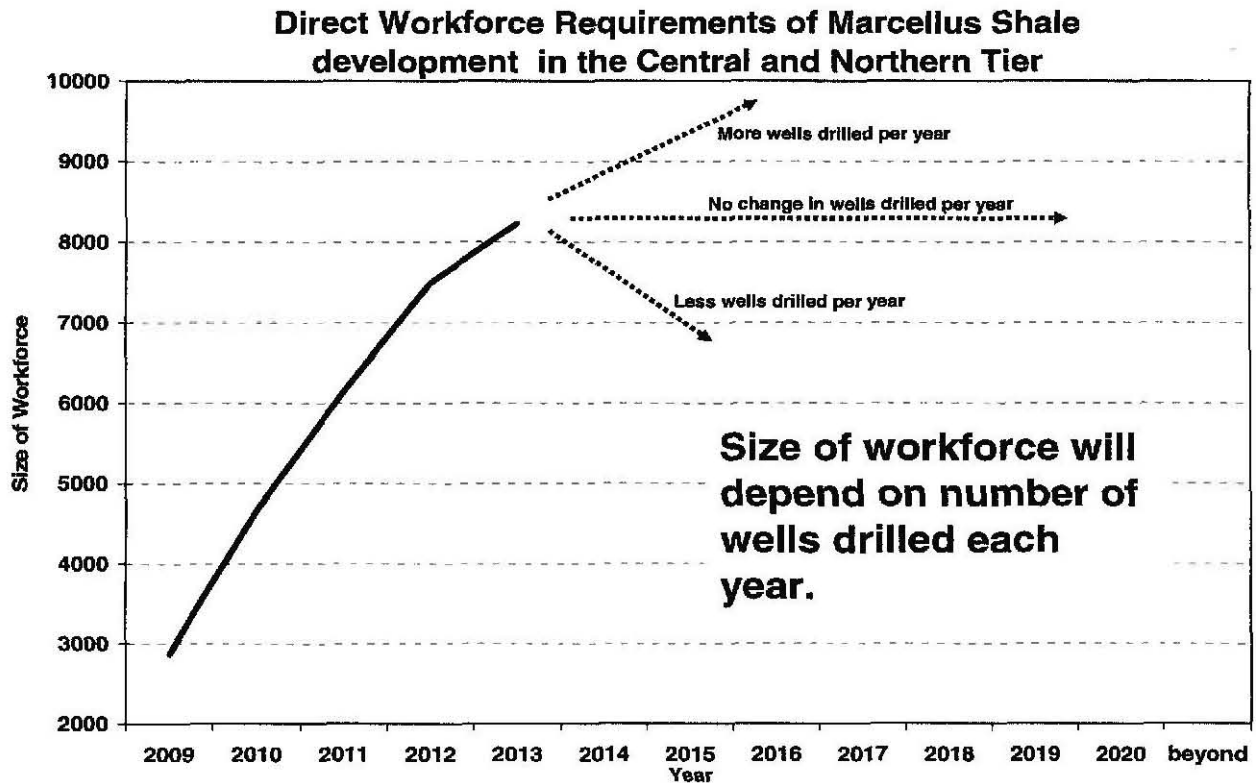


Figure 2: Direct Workforce Requirements

The Pennsylvania Economy League recently estimated that each direct job in the Pennsylvania oil and gas industry creates an additional 1.52 indirect and induced jobs throughout the economy. Utilizing the Pennsylvania Economy League's multiplier, the projected job increases by 2013 for north central Pennsylvania would raise the employment total to over 20,000 full-time equivalent jobs!

An analysis of the data using the MSETC workforce projection model indicates that the direct workforce needed to drill a single well in the Marcellus Shale region is comprised of over 410 individuals working within nearly 150 different occupations. The total hours worked by these individuals are the equivalent of 11.53 full-time, direct jobs over the course of a year.

The number of Marcellus Shale industry workers includes the vast majority of occupations directly associated with the drilling and completion process, but does not include many of the indirect jobs that will be created in a variety of occupations ranging from legal advice to gravel quarrying to steel pipe fabrication. The vast majority of jobs directly associated with the staking, scoping, permitting, engineering, logging, clearing, drilling, moving, finishing, cementing, completing, fracturing, and producing a well are included in the estimate, as well as the majority of jobs required to clear, dig, and construct collector pipeline and compressor station infrastructure for the well.

The majority of these jobs will be located in the immediate vicinity of the well being drilled; however, office workers and some geologic science, engineer, and supervisor jobs will be located at energy company offices or perhaps subcontractor company offices, which may or may not be located near the vicinity of the well site or even within a particular WIB region. The location of these jobs is difficult to determine, as many of these office locations vary from company-to-company and subcontractor-to-subcontractor, and companies may change the location of their offices as development locations emerge. The location of regional offices will also determine the location of long-term production jobs created in the region.

While extraction of this natural gas is still in the initial stages of development, energy companies have already invested hundreds of millions of dollars in exploration and development programs throughout Pennsylvania to drill gas wells to tap into the gas reserve and to build the necessary infrastructure to make these wells operational and connect them to the natural gas pipeline.

**Pennsylvania College of Technology and the MSETC have responded** to the workforce needs of the industry in five primary areas:

1. *Creating* noncredit courses directly related to the industry's needs:
  - a. Industrial forklift operator
  - b. API 1104 down-hand welding training and certification
  - c. CDL (with off-road component)
  - d. Instrumentation and controls
  - e. Pre-employment training
  - f. Natural gas measurement
  - g. Safety
2. *Adding* equipment specifically allocated to gas and oil technology.
3. *Convening* a statewide forum of education and training providers to share best practices and standardized curriculum.
4. *Preparing* industry-specific curriculum to share with the Commonwealth's career and technical education centers.
5. *Aligning* many of our current two and four-year degree programs in specific support areas including civil engineering, construction management, diesel technology, electric power generation, heavy construction equipment, welding, and fabrication.

**In summary**, we believe that the economic and workforce opportunities are huge. All regulating bodies and municipalities will be challenged to provide the appropriate and timely regulation and supporting infrastructure to effectively manage this opportunity to maximize its potential for our citizens and our environment. **The magnitude of this opportunity will not only transform this region of the state, but will provide the foundational resources to greatly enhance the overall economic health and job creation opportunities for the entire state.**