

**Presentation to the Economic & Workforce Development
Workgroup,
Governor's Marcellus Shale Advisory Commission
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Marcellus Shale: *Overview of the Economic Impact*

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Background (PA)

High Unemployment

- 511,000 unemployed; unemployment rate 8.0%
- 210,600 long-term unemployed (43 % of all); significantly up compared to 2007
44,400 (16 % of all)

Hiring & Job Vacancies

- 457,000 New Hires during the fourth quarter of 2010
- 180,000+ online job postings (March 2011); 28,000 more than last year
- 83% postings less than three months old; diverse range with jobs at \$25,000 to \$73,000

Question Essential to Labor Market Management: Where are the jobs?

Varied Facets of this Recession (PA)

- **Geographic Differences:** Since beginning of recession handful of Pennsylvania counties have seen employment increases (Bradford, Greene, Indiana, and Sullivan)
- **Industry Differences:** Consistent growth in very few industries
- **Occupational Differences:** Construction jobs impacted in this recession
- **Local Area Unemployment Rate:** Some areas rebounding better
- **Common denominator for local areas that have weathered the Great Recession:** *Growth Industries*

The driving force behind 'relevant' Labor Market Information is researching these growth industries.

Resulting Research by PADLI: How do we define and document growth in Marcellus Shale Industry Sector?

Marcellus Shale Research (PADLI)



In 2009, PADLI used a national industrial classification system to define the Marcellus Shale sector. We reached out to TX, OH, NY to learn from their efforts. We identified a group of six industries as “core,” and a group of 21 as “ancillary” for the Marcellus Shale sector.

• **Examples of jobs in ‘core’ are:** Roustabouts, Rotary Drill Operators, Service Unit Operators, Wellhead Pumpers, and Construction Laborers

• **Examples of jobs in ‘ancillary’ or supply chain are:** Truck Drivers – Heavy and Tractor, Civil Engineers, Industrial Machinery Mechanics, Maintenance & Repair Workers, and Construction & Building Inspectors

Draft – September 30, 2010

**MARCELLUS SHALE
INDUSTRY SNAPSHOT
UPDATE¹**

EXECUTIVE SUMMARY

- The Center for Workforce Information & Analysis (CWAIA) has defined two groups of industries where Marcellus Shale employment is most prominently going to be found; a group of six industries identified as Core Industries and a group of 21 industries identified as Ancillary & Supply Chain Industries.²
- Employment in the Core Industries has increased from 10,287 in 2008, to 11,481 in 2010, an increase in employment of 1,144, or more than 11 percent.
- The most recent count of employment in the Ancillary & Supply Chain Industries is 115,625.
- Job postings, as determined by Help Wanted Online (HWOL)³, increased by approximately 117 percent in July 2010 over the same period the previous year. July 2010 also saw an increase of approximately 28 percent in job postings within the Ancillary & Supply Chain Industries compared to the same time period the previous year.
- The number of new hires⁴ within the Core Industries in the second quarter of 2010 increased by approximately 130 percent over the same period one year prior. Within the Ancillary & Supply Chain Industries, the increase was approximately 25 percent.
- An inverse correlation was found between regional Marcellus Shale well drilling activity and regional unemployment rates; Workforce Investment Areas (WIAs) where Marcellus Shale wells were drilled were more likely to experience a decrease in the WIA unemployment rate, while WIAs with no drilling activity were more likely to experience an increase in the unemployment rate.
- Staffing pattern⁵ analysis of the identified industries determined there are 36 distinct occupations with employment of at least 100 individuals each in the Core Industries (16 are High Priority Occupations, or HPOs) and 54 distinct occupations, each with employment of at least 1,000 in the Ancillary & Supply Chain Industries (34 are HPOs).⁶
- Several occupations employed in these industries are projected to perform very well over the next 10 years; Construction Laborer employment is projected to increase by nearly 2,500, Gas Compressor & Gas Pumping Station Operator employment is projected to increase more than 28 percent, and Truck Drivers, Heavy & Tractor Trailer are projected to have more than 2,100 openings each year.

October 2010

¹ This report is an update of the “Marcellus Shale Industry Snapshot” published in April 2010. For a copy of that report, please visit www.paworkforce.state.pa.us, or contact CWAIA at (877) 787-6466

² Industries, throughout this document, are those defined by the Bureau of Labor Statistics (BLS) North American Industry Classification System (NAICS).

³ The HWOL data series measures the number of new first-time online jobs and jobs reported from the previous month on more than 1,200 major internet job boards.

⁴ Federal law dictates that all employers must report all new hires within 20 days of their start date.

⁵ A staffing pattern for an industry includes the proportion of individuals working in each occupation within that industry.

⁶ Occupations are classified according to the BLS Standard Occupation Classification (SOC) system.

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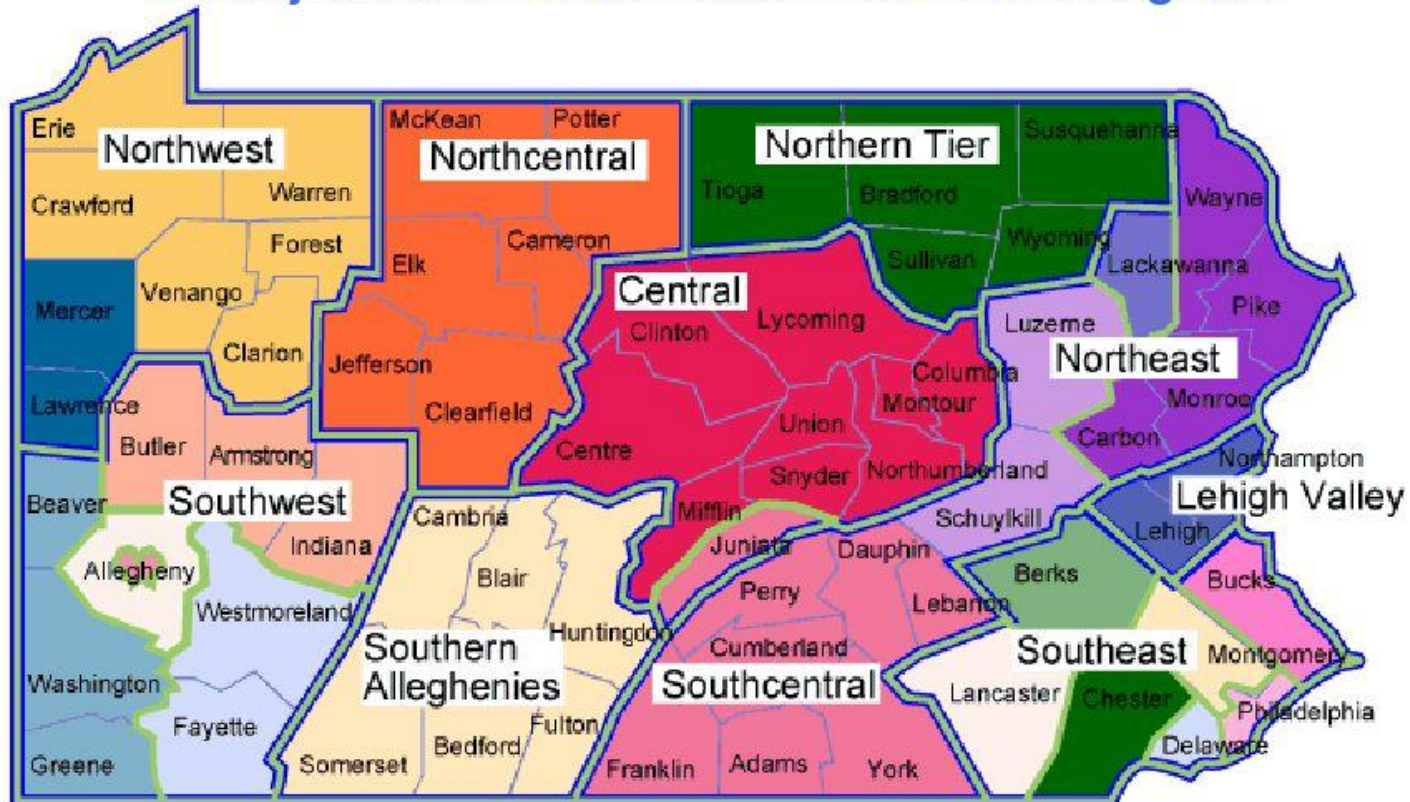
Analysis Based on Workforce Investment Areas (WIA)



pennsylvania

DEPARTMENT OF LABOR & INDUSTRY

Pennsylvania Workforce Investment Board Regions



Impact of Marcellus Shale Industries (PA): Employment, Establishments, Wages



Employment (2008Q1 to 2010Q3):

- Core industries, up 8,700 (94 percent)
- Ancillary industries, up 1,900 (2 percent)
- All industries declined 113,000 (2 percent)
- Marcellus Shale Industries (**141,000 total employment**): 2.4 percent of total PA employment

Establishments (2008Q1 to 2010Q3):

- Added close to 500 establishments (277 core, 205 ancillary)
- This represents a 50 percent growth in core industries and a 3 percent growth in the ancillary industries (1 percent growth for all PA industries)
- Marcellus Shale Industries (8,757 total establishments): 2.6 percent of total PA establishments

Wages (2010):

- The average wages in core industries at \$69,995 (\$24,500 greater than statewide average of \$45,491); average wages in ancillary industries at \$63,967 (\$18,500 higher than statewide average)

Impact of Marcellus Shale (PA): Statewide in Core Industries

<i>Core Industries resulting in direct jobs in Marcellus Shale</i>	2008Q1		2010Q3		Vol. Change	
	Est.	Emp.	Est.	Emp.	Est.	Emp.
Crude Petroleum & Natural Gas Extraction	179	2,373	218	3,691	39	1,318
Natural Gas Liquid Extraction	13	86	22	333	9	247
Drilling Oil & Gas Wells	67	1,533	115	3,466	48	1,933
Oil & Gas Operations	109	2,177	262	5,484	153	3,307
Oil & Gas Pipeline & Related Structures Construction	60	1,773	92	3,663	32	1,890
Pipeline Transportation of Natural Gas	132	1,311	128	1,300	-4	-11
	560	9,252	837	17,937	277	8,685

Impact of Marcellus Shale Industries (PA): Local Area Employment



	2008Q1	2010Q3	Vol. Change	Pct. Change
Northern Tier (762)				
Core	87	1,196	1,109	1274.7%
Ancillary	668	1,325	657	98.4%
Southwest Corner (220)				
Core	670	1,210	540	80.6%
Ancillary	7,791	8,087	296	3.8%
Central (162)				
Core	115	875	760	660.9%
Ancillary	5,239	5,771	532	10.2%
North Central (108)				
Core	1,980	2,294	314	15.9%
Ancillary	2,508	2,720	212	8.5%
Tri County (76)				
Core	2,219	2,792	573	25.8%
Ancillary	5,692	5,745	53	0.9%
Westmoreland & Fayette (65)				
Core	430	955	525	122.1%
Ancillary	7,585	7,594	9	0.1%

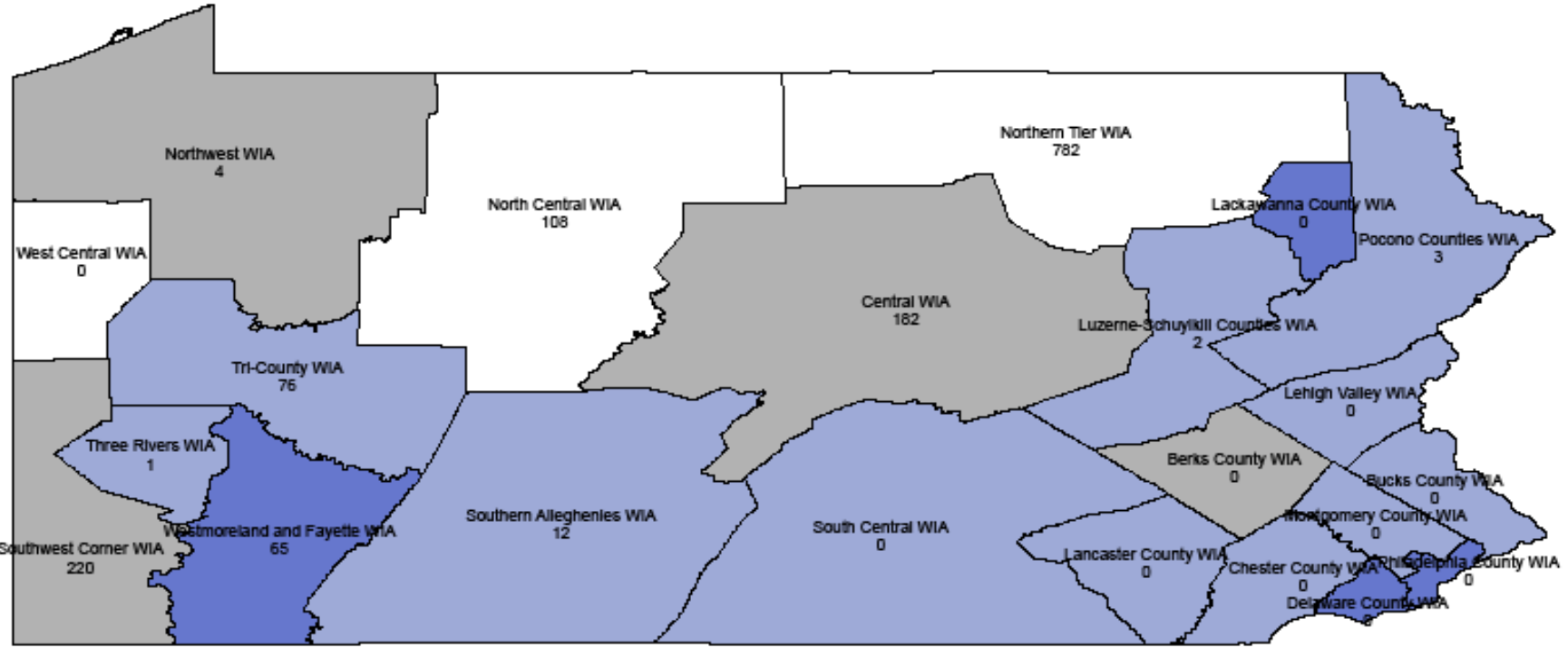
Impact of Marcellus Shale Industries: Unemployment

- An inverse correlation is found between regional Marcellus Shale well drilling activity and regional unemployment rates
- Workforce Investment Areas (WIA) most closely involved in Marcellus Shale activities are **Central, North Central, Northern Tier, Northwest, Tri-County, West Central and Westmoreland-Fayette**
- These WIAs were more likely to experience a decrease in unemployment rate, while WIAs with no drilling activity were more likely to experience an increase in the unemployment rate.

All WIAs are not responding as strongly

Unemployment Rate Change, June 2009 to January 2011 vs. Wells Drilled in 2010

Well counts based on PA Department of Environmental Protection web site data; map below by Workforce Investment Area (WIA)



UR change June 2009 to January 2011

White: Decrease of more than 1.9% Grey: Decrease between 0.7% and 1.8% Light Blue: Decrease between 0% and 0.6% Dark Blue: No decrease

Workforce Investment Areas (WIA) with most Marcellus Shale wells drilled (Northern Tier, North Central, Southwest Corner, and Central) saw Unemployment Rates (UR) decrease by at least 0.7, with Northern Tier & North Central decreasing by more than 1.9.

Impact of Marcellus Shale Industries: New Hires



Levels of New Hires (2009 Q4 to 2011 Q1):

- 48,000 new hires within the Marcellus Shale core and ancillary industries
- 9,000 new hires in core and ancillary in first quarter of 2011 alone
- New hires across six WIAs with Marcellus Shale activities doubled in 2011 (than 2010 first quarter); new employees continue to be hired and rate is increasing quickly
- North Central WIA had highest volume of new hires in the Marcellus Shale core industries, with nearly 2,000

Where are the New Hires from:

- 71% of New Hires in 2010 were from PA (9 % came from West Virginia, 5% from New York, 3% from Texas and Ohio, and 2% Colorado).
- The current level of New Hires from other states is not significantly different from what is seen in other industries
- More research in underway in this area

Impact of Marcellus Shale Industries: Current Job Postings

Local WIA	Mar-2010	Mar-2011	Pct. Increase
Northern Tier	41	76	85.4%
Southwest Corner	12	24	100.0%
Central	37	82	121.6%
North Central	53	71	34.0%
Tri-County	30	48	60.0%
Westmoreland & Fayette	39	63	61.5%
Total	212	364	71.7%

Impact of Marcellus Shale Industries: Current Job Postings (Statewide)

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Job Categories with the highest postings (Core/Ancillary Marcellus Shale)
Engineering Services
Iron and Steel Mills
Crude Petroleum and Natural Gas Extraction
Industrial Gas Manufacturing
Natural Gas Distribution
Testing Laboratories
Specialized Freight Trucking, Long-Distance
Activities associated with Oil and Gas Operations
Oil and Gas Pipeline and Related Structures Construction
Oil and Gas Field Machinery and Equipment Manufacturing
Water Supply and Irrigation Systems

Impact of Marcellus Shale Industries: Recap



Employment: Core industries, up 8,700 (94 percent); ancillary industries, up 1,900 (2 percent);

141,000 total employment, 2.4 percent of total PA employment

Establishments: **8,757 total establishments**, 2.6 percent of total PA establishments

Wages: More than \$20,000 on average than wages for all industries in PA

New Hires: 48,000 new hires within the Marcellus Shale core and ancillary industries

Unemployment Rate: Lower in areas experiencing Marcellus Shale activities

Job Postings: Almost 2,400 job postings statewide in core and ancillary industries associated with Marcellus Shale sector

Thank You!



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