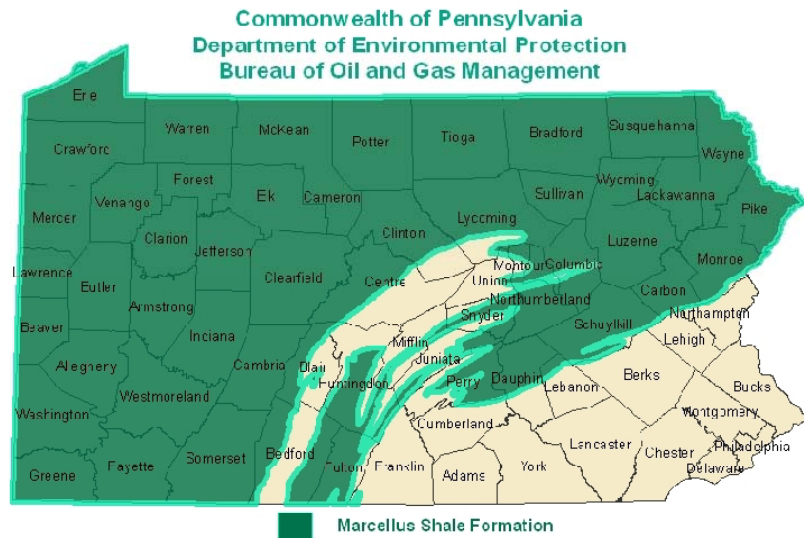


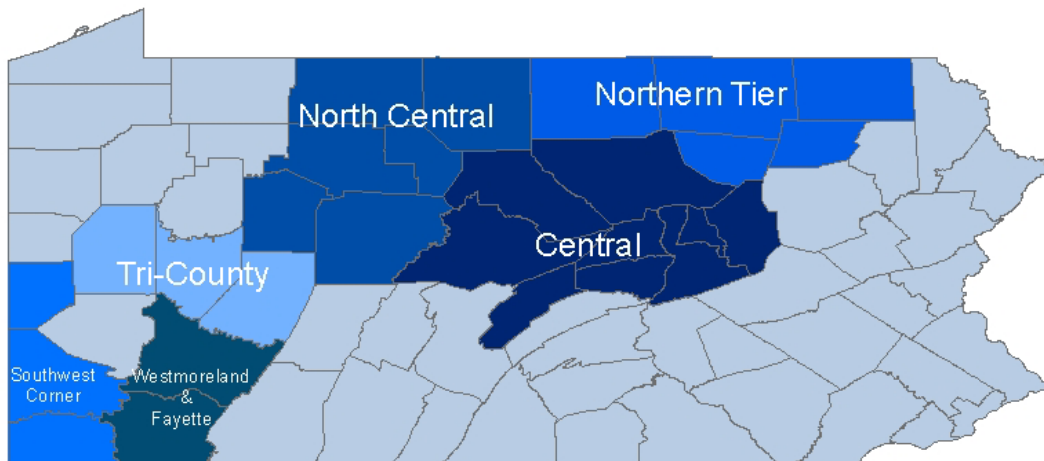
Summary of Pennsylvania's Six Workforce Investment Areas with Significant Marcellus Shale Activity

Pennsylvania's Marcellus Shale Formation

The Marcellus Shale is a rock formation that underlies much of Pennsylvania and portions of New York and West Virginia at a depth of 5,000 to 8,000 feet. It is believed to hold trillions of cubic feet of natural gas. This formation has long been considered prohibitively expensive to access but recent advances in drilling technology and rising natural gas prices have attracted new interest in this previously untapped formation.



The Center for Workforce Information & Analysis (CWIA) used the North American Industry Classification System (NAICS) to define the Marcellus Shale industry sector. Much of the information included in this document reflects data on a group of six industries identified as “core,” and a group of 30 identified as “ancillary” to the processes involved in accessing the resources in the Marcellus Shale formation. The six Workforce Investment Areas (WIAs) most closely involved in Marcellus Shale activities are Central, North Central, Northern Tier, Northwest, Tri-County, West Central, and Westmoreland-Fayette.



Demographics

Unemployment Rates

	April 2011 Preliminary Seasonally Adjusted Unemployment Rate
Central WIA	7.0%
Northern Tier WIA	6.5%
North Central WIA	8.2%
Southwest Corner WIA	6.8%
Tri-County WIA	6.8%
Westmoreland & Fayette WIA	7.5%
Pennsylvania	7.5%
United States	9.0%

Source: Pennsylvania Department of Labor & Industry, Local Area Unemployment Statistics

In April, all six WIAs had a lower unemployment rate than the nation, and five had rates lower than or equal to the state of Pennsylvania. Among the six WIAs, Northern Tier had the lowest rate at 6.5% and North Central the highest at 8.2%.

Most of the six WIAs had some population growth in the 1990s, including the Tri-County region which had a growth rate almost twice that of the state. In the 2000s, however, most regions had little to negative growth. North Central, Southwest Corner, and Westmoreland-Fayette had fewer people in 2010 than they did in 1990. The six WIAs' combined population was 93% white, non-Hispanic, and 49% male.

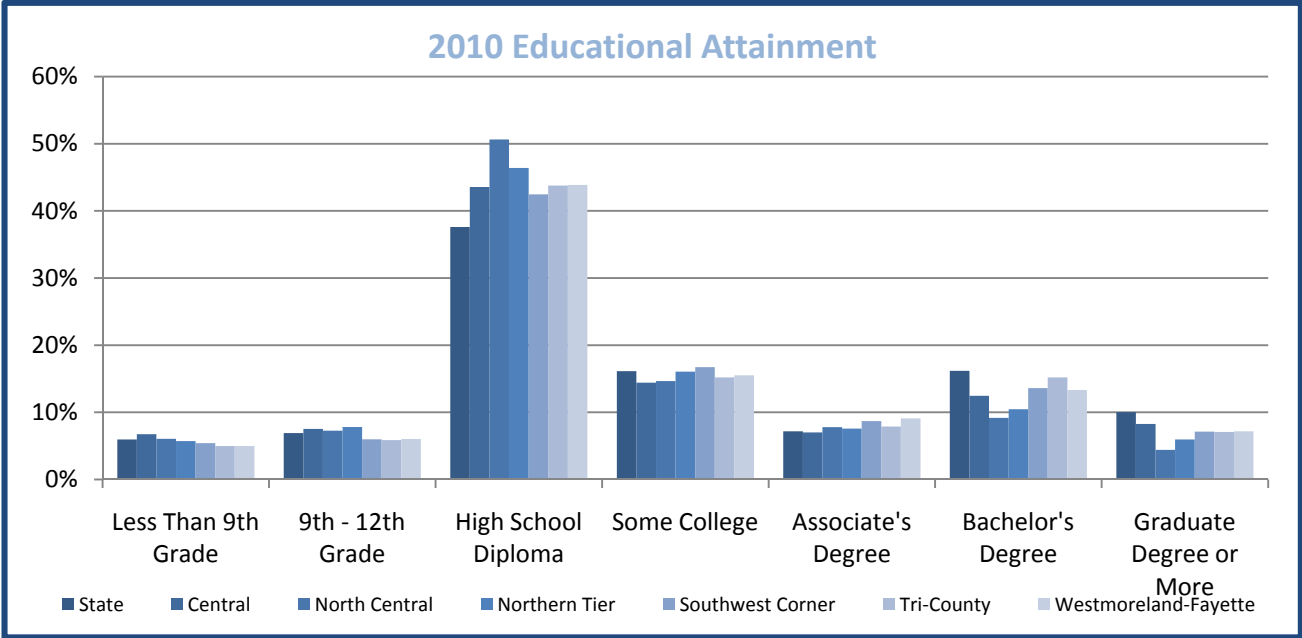
Population

	1990 Population	2000 Population	2010 Population	1990-2000 % Change	2000-2010 % Change
Central WIA	576,439	596,315	620,760	3.4%	4.1%
Northern Tier WIA	176,653	181,008	182,663	2.5%	0.9%
North Central WIA	228,819	234,416	224,780	2.4%	-4.1%
Southwest Corner WIA	430,227	424,981	417,045	-1.2%	-1.9%
Tri-County WIA	315,485	336,080	341,683	6.5%	1.7%
Westmoreland-Fayette WIA	515,672	518,637	501,775	0.6%	-3.3%
Six WIAs combined	2,243,295	2,291,437	2,288,706	2.1%	-0.1%
Pennsylvania	11,881,643	12,281,054	12,702,379	3.4%	3.4%
United States	248,709,873	281,421,906	308,745,538	13.2%	9.7%

Source: U.S. Census Bureau

Educational Attainment

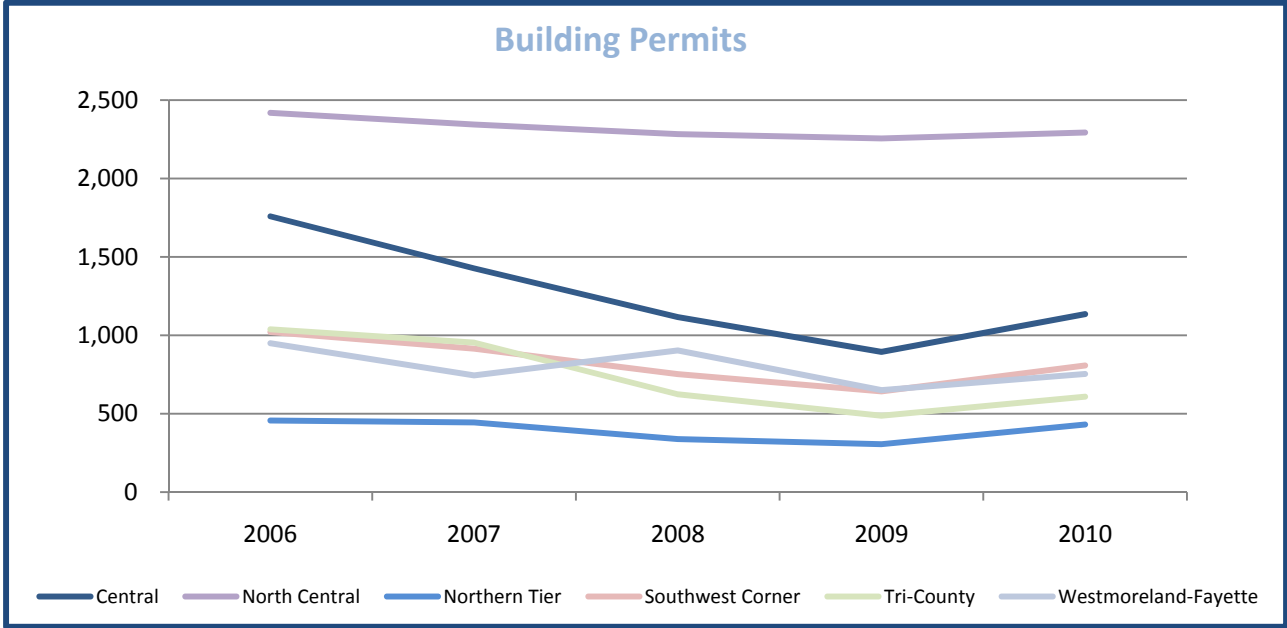
All regions have lower proportions of people who have attained a four-year degree or higher than the state. North Central has the smallest group of four-year and advanced degree holders. The region has about half the number of these degree holders as the state.



Source: Economic Modeling Specialists, Inc. ¹

Building Permits

Both the state and the regions have seen a decline in building permits since 2006, with an uptick starting in 2010. But while the state's increase was 10%, the regions showed stronger growth rates, ranging from 16% to 41%. The exception was the North Central region, which, though it had the largest overall number of building permits amongst the regions, showed only a 1.6 percentage increase.



Source: U.S. Census Bureau

Northern Tier	2007 Q4	2010 Q4	Change	% Change
Core	87	1,422	1,335	1534.5%
Ancillary	1,728	2,668	940	54.4.3%
Southwest Corner				
Core	627	1,425	798	127.3%
Ancillary	10,372	10,633	261	2.5%
North Central				
Core	1,988	2,321	333	16.8%
Ancillary	4,039	4,198	159	3.9%
Westmoreland & Fayette				
Core	415	1,059	644	155.2%
Ancillary	10,262	10,352	90	0.9%
Tri-County				
Core	2,190	2,835	645	29.5%
Ancillary	8,530	8,761	231	2.7%
Central				
Core	117	1,283	1,166	996.6%
Ancillary	9,602	10,476	874	9.1%
Pennsylvania				
Core	9,549	18,837	9,288	97.3%
Ancillary	202,996	199,377	-3,619	-1.8%

Source: Pennsylvania Department of Labor & Industry, Quarterly Census of Employment & Wages

Wages

Average wages in the Marcellus Shale WIAs ranged from \$33,782 to \$41,156, all of which were lower than the state average of \$45,747.

The average wage of the core industries in the regions ranged from \$58,414 to \$84,309, often close to twice the regional average wage. This was at least \$12,667 higher than the state average wage.

Ancillary industries also have high average wages, ranging from \$41,967 to \$63,080. Four out of the six WIA regions have an average wage in the ancillary industry group that is higher than the state average wage.

Employment

Marcellus Shale industries have added between 492 and 2,275 jobs in each of the six WIAs in a three year period. The Northern Tier region has seen the most growth, with the number of jobs in the core industries increasing by over 1,500%. The North Central region has had the smallest growth.

Northern Tier	Core	\$84,309
	Ancillary	\$41,967
	Region	\$35,010
Southwest Corner	Core	\$73,797
	Ancillary	\$63,080
	Region	\$41,156
North Central	Core	\$61,793
	Ancillary	\$43,849
	Region	\$33,782
Westmoreland & Fayette	Core	\$75,176
	Ancillary	\$59,321
	Region	\$36,192
Tri-County	Core	\$58,414
	Ancillary	\$61,289
	Region	\$39,736
Central	Core	\$68,124
	Ancillary	\$49,476
	Region	\$36,977
Pennsylvania	Core	\$73,150
	Ancillary	\$61,871
	Region	\$45,747

Source: Pennsylvania Department of Labor & Industry, Quarterly Census of Employment & Wages

New Hires

Most regions have had an increasing number of new hires each quarter since the fourth quarter of 2009. The North Central region has had the largest number of new hires in the core industries, with almost 500 in the fourth quarter of 2010. The Westmoreland & Fayette and Tri-County regions had the highest six quarter total of new hires in the ancillary industries.

New Hires

	2009 Q4	2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	Six Quarter Total
Northern Tier							
Core	16	36	64	90	108	86	400
Ancillary	78	67	119	85	132	77	558
Southwest Corner							
Core	28	81	196	163	240	336	1,044
Ancillary	273	242	391	314	173	200	1,593
Central							
Core	6	10	16	248	175	168	623
Ancillary	196	172	211	252	228	263	1,322
North Central							
Core	188	198	285	394	497	372	1,934
Ancillary	35	53	116	120	108	79	511
Tri County							
Core	65	103	214	140	111	124	757
Ancillary	312	362	507	338	296	440	2,255
Westmoreland & Fayette							
Core	8	28	50	36	32	43	197
Ancillary	192	381	633	521	293	406	2,426
Pennsylvania							
Core	687	1,278	1,720	1,672	1,755	1,647	8,759
Ancillary	7,603	9,980	14,641	10,979	9,158	11,092	63,453

Source: Pennsylvania Department of Labor & Industry, New Hires Program

Workforce Compatibility

The Marcellus Shale industries require certain numbers of high-skilled workers. Across the six WIA regions, the skilled worker requirements of most industries are reasonably compatible with the skills found in the local workforce. In many cases, one in four or one in five workers in the regional workforce are highly compatible with the skill needs of the Marcellus Shale industries. However, skill gaps can be found in most regions in the following industries: fossil fuel electric power generation; natural gas distribution; engineering services; geophysical surveying and mapping services; testing laboratories; industrial gas manufacturing; and commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance. ⁱⁱ

Northern Tier WIA Industry and Workforce Compatibility

CORE		% Skilled Workforce in Industry	% of Region's Workforce Compatible
211111	Crude Petroleum and Natural Gas Extraction	23.8%	21.6%
211112	Natural Gas Liquid Extraction	--	--
213111	Drilling Oil and Gas Wells	16.7%	21.6%
213112	Support Activities for Oil and Gas Operations	16.7%	22.1%
237120	Oil and Gas Pipeline and Related Structures Construction	39.8%	19.4%
486210	Pipeline Transportation of Natural Gas	43.8%	15.9%
ANCILLARY			
221112	Fossil Fuel Electric Power Generation	--	--
221210	Natural Gas Distribution	35.7%	13.7%
221310	Water Supply and Irrigation Systems	63.1%	23.4%
221320	Sewage Treatment Facilities	62.0%	24.1%
237110	Water and Sewer Line and Related Structures Construction	39.8%	19.4%
237310	Highway, Street, and Bridge Construction	--	--
238912	Nonresidential site preparation contractors	43.6%	21.0%
325110	Petrochemical Manufacturing	--	--
325120	Industrial Gas Manufacturing	31.9%	13.6%
331111	Iron & Steel Mills	--	--
331210	Iron & Steel Pipe & Tube Manufacturing from Purchased Steel	--	--
333131	Mining Machinery & Equipment Manufacturing	--	--
333132	Oil & Gas Field Machinery Manufacturing	--	--
423810	Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers	44.5%	17.8%
423830	Industrial Machinery and Equipment Merchant Wholesalers	--	--
423840	Industrial Supplies Merchant Wholesalers	44.1%	21.6%
484110	General Freight Trucking, Local	45.0%	21.6%
484220	Specialized Freight (except Used Goods) Trucking, Local	9.8%	25.9%
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	9.9%	25.9%
531190	Lessors of Other Real Estate Property	39.7%	24.0%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	31.5%	19.9%
541330	Engineering Services	46.0%	2.8%
541360	Geophysical Surveying and Mapping Services	46.4%	2.9%
541380	Testing Laboratories	38.3%	6.2%
541620	Environmental Consulting Services	29.6%	24.2%
562910	Remediation Services	21.6%	17.1%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	51.6%	14.1%
924110	Admin. Of Air & Water Resources & Solid Waste Management Programs	--	--
924120	Admin. Of Conservation Programs	--	--
926130	Regulation & Admin. Of Communications, Electric, Gas, & Other Utilities	--	--

Source: Economic Modeling Specialists, Inc. ¹

High Priority Occupations and the Marcellus Shale Industries

To compete in today's global economy, businesses need a skilled workforce, and our citizens need increasingly higher levels of education and knowledge. Workforce education and training programs need to be aligned with the actual skills required of jobs in our economy.

High Priority Occupations, or HPOs, are job categories, within selected industry clusters, that are in demand by employers, have higher skill needs and are likely to provide family-sustaining wages. Statewide and local HPOs are identified annually by the Pennsylvania Department of Labor & Industry using federal and state labor market data as well as projections based on U.S. Department of Labor models.

Training program funding under the Workforce Investment Act is based on local HPO lists. HPO lists also impact the Economic Development Stipend funding for the state's 14 community colleges as well as all programs of studies offered by the Bureau of Career and Technical Education (Pennsylvania Department of Education).

The development of a **Marcellus Shale HPO list** will help inform job seekers of the employment opportunities available to them in this emerging sector. In order for this growth to continue, job seekers must be aware of the variety of career options available to them and have the appropriate skills needed for the jobs created by these industries.

DRAFT HPO List for Marcellus Shale Industries

Cost Estimators	Office Clerks
Billing & Posting Clerks & Machine Operators	Operating Engineers
Bookkeeping, Accounting & Auditing Clerks	Plumbers, Pipefitters & Steamfitters
Construction Laborers	Production, Planning & Expediting Clerks
Customer Service Representatives	Pump Operators
Derrick Operators, Oil & Gas	Rotary Drill Operators, Oil & Gas
Electrical & Electronic Engineering Technicians	Roustabouts, Oil & Gas
Electrical Power-Line Installers & Repairers	Sales Representatives, Scientific & Technical
Environmental Engineering Technicians	Secretaries
Gas Compressor & Gas Pumping Station Operators	Service Unit Operators, Oil, Gas & Mining
Geological & Petroleum Technicians	Supervisors - Construction Trades & Extraction Workers
Geoscientists	Supervisors - Mechanics, Installers & Repairers
Industrial Engineers	Supervisors - Production & Operating Workers
Industrial Machinery Mechanics	Supervisors - Transportation & Vehicle Operators
Inspectors, Testers, Sorters, Samplers & Weighers	Telecommunications Line Installers & Repairers
Laborers & Freight, Stock & Material Movers	Truck Drivers, Heavy & Tractor-Trailer
Logging Equipment Operators	Welders, Cutters, Solderers & Brazers
Maintenance & Repair Workers	Welding, Soldering & Brazing Machine Operators
Mining & Geological Engineers	Wellhead Pumpers
Mobile Heavy Equipment Mechanics	

ⁱ Economic Modeling Specialists, Inc.'s data are compiled from nearly 90 different federal, state, and private sources, including the Bureau of Economic Analysis, U.S. Census Bureau, and Bureau of Labor Statistics.

ⁱⁱ Compatibility data are derived using data from the Bureau of Labor Statistics, O*NET, and Economic Modeling Specialists, Inc.'s compatibility matrix.