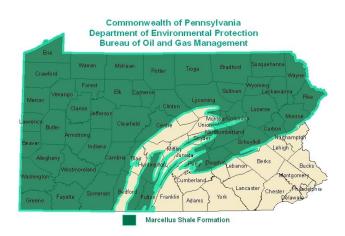
Central

Pennsylvania's Marcellus Shale Formation

The Marcellus Shale is a rock formation that underlies much of Pennsylvania and portions of New York, Ohio 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, Southwest Corner, Tri-County, West Central, and Westmoreland-Fayette.

Population Demographics

The Central WIA encompasses Centre, Clinton, Columbia, Lycoming, Mifflin, Montour, Northumberland, Snyder, and Union Counties. The region's unemployment rate was 7.7% in September, which was below the state and national rates. Within the Central WIA, Centre County had the lowest rate at 5.6%, which was also the lowest county rate in the state, and Northumberland County had the highest rate at 9.0%.



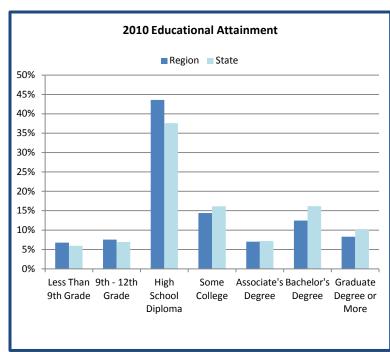
Unemployment Rates

	September 2011 Preliminary
Area	Seasonally Adjusted
	Unemployment Rate
Centre County	5.6%
Clinton County	8.1%
Columbia County	8.6%
Lycoming County	8.3%
Mifflin County	8.4%
Montour County	6.4%
Northumberland County	9.0%
Snyder County	7.9%
Union County	7.8%
Central WIA	7.7%
Pennsylvania	8.3%
United States	9.1%

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

While 85.7% of the population had a high school degree or above, only 20.7% had achieved a four-year degree or higher. The state had a similar percentage of those with a high school degree and higher -87.1% - but a larger percentage of people who have achieved a more advanced degree.

The region had a 2010 population of 620,760, which was a gain of over 44,000 residents since 1990. The region has incrementally grown over the last two decades, and has shown larger percentage growth than the state. In 2010, the region was 91.0% white, non-Hispanic, and 50.1% male.



Source: Economic Modeling Specialists, Inc.

Population

Area	1990 Population	2000 Population	2010 Population	1990-2000 % Change	2000-2010 % Change
Central WIA	576,439	596,315	620,760	3.4%	4.1%
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

Industry Demographics

Across the Central WIA and the state as a whole, the industries making up the Marcellus Shale sector had a predominantly male workforce despite the fact that the overall workforce was divided almost evenly between males and females, with females having a very slight edge. Across the state, most industries had a higher percentage of employment in the 45 to 54 year old age range than any other age group. The industry groups in the tables below encompass, but are not limited to, all of the industries defined by the CWIA as core and ancillary to the Marcellus Shale industry sector.

Industry Gender Demographics, 4th Quarter 2010

NAICS Code	NAICS Title	Penns Male	sylvania Female
2111	Oil and Gas Extraction	81.1%	18.9%
2131	Support Activities for Mining	92.3%	7.7%
2211	Electric Power Generation, Transmission and Distribution	83.1%	16.9%
2212	Natural Gas Distribution	74.2%	25.8%
2213	Water, Sewage and Other Systems	73.4%	26.6%

2371	Utility System Construction	88.9%	11.1%
2373	Highway, Street, and Bridge Construction	85.8%	14.2%
2389	Other Specialty Trade Contractors	89.0%	11.0%
3251	Basic Chemical Manufacturing	77.9%	22.0%
3311	Iron and Steel Mills and Ferroalloy Manufacturing	89.6%	10.4%
3312	Steel Product Manufacturing from Purchased Steel	87.3%	12.7%
3331	Agriculture, Construction, and Mining Machinery Manufacturing	86.0%	14.0%
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	75.6%	24.4%
4841	General Freight Trucking	88.9%	11.1%
4842	Specialized Freight Trucking	87.4%	12.6%
4862	Pipeline Transportation of Natural Gas	88.6%	11.4%
5311	Lessors of Real Estate	56.3%	43.7%
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	76.5%	23.5%
5413	Architectural, Engineering, and Related Services	74.8%	25.2%
5416	Management, Scientific, and Technical Consulting Services	54.0%	46.0%
5629	Remediation and Other Waste Management Services	81.7%	18.3%
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	85.5%	14.5%
9241	Administration of Environmental Quality Programs	71.4%	28.6%
9261	Administration of Economic Programs	61.0%	39.0%
All Indus	stry Groups	49.4%	50.6%

Source: U.S. Census Bureau, Local Employment Dynamics

Industry Age Demographics, 4th Quarter 2010

NAICS	NAICS Title Pennsylvania					
Code	NAICS THE		25-34	35-44	45-54	55+
2111	Oil and Gas Extraction	7.8%	28.0%	21.0%	26.5%	16.7%
2131	Support Activities for Mining	15.4%	32.8%	22.2%	19.4%	10.1%
2211	Electric Power Generation, Transmission and Distribution	3.0%	14.3%	18.4%	37.7%	26.5%
2212	Natural Gas Distribution					
2213	Water, Sewage and Other Systems	3.1%	12.0%	20.2%	33.2%	31.4%
2371	Utility System Construction	8.2%	21.3%	22.5%	28.2%	19.9%
2373	Highway, Street, and Bridge Construction	5.5%	17.5%	23.3%	32.0%	21.8%
2389	Other Specialty Trade Contractors	10.6%	21.2%	23.3%	26.4%	18.6%
3251	Basic Chemical Manufacturing	2.6%	14.8%	23.2%	33.0%	26.4%
3311	Iron and Steel Mills and Ferroalloy Manufacturing	2.3%	10.2%	20.6%	33.5%	33.4%
3312	Steel Product Manufacturing from Purchased Steel	3.9%	12.2%	21.2%	31.9%	30.9%
3331	Agriculture, Construction, and Mining Machinery Manufacturing	5.3%	17.4%	22.7%	29.3%	25.3%
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	7.0%	16.3%	21.5%	28.7%	26.5%
4841	General Freight Trucking	4.2%	13.0%	24.4%	32.5%	25.9%
4842	Specialized Freight Trucking	6.5%	16.1%	22.6%	30.0%	24.8%
4862	Pipeline Transportation of Natural Gas	2.3%	14.8%	21.1%	40.4%	21.4%
5311	Lessors of Real Estate	7.7%	16.3%	18.8%	27.0%	30.2%
5324	Commercial and Industrial Machinery and Equipment Rental and Leasing	7.6%	26.2%	27.4%	25.2%	13.5%

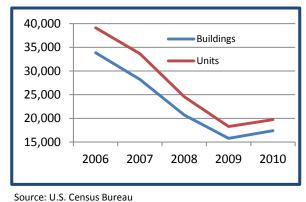
5413	Architectural, Engineering, and Related Services	5.6%	22.6%	21.9%	25.7%	24.2%
5416	Management, Scientific, and Technical Consulting Services	6.6%	26.8%	24.8%	23.4%	18.4%
5629	Remediation and Other Waste Management Services	8.6%	21.5%	24.8%	28.4%	16.7%
8113	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	9.0%	18.4%	22.4%	29.1%	21.1%
9241	Administration of Environmental Quality Programs	2.7%	15.4%	21.8%	31.8%	28.3%
9261	Administration of Economic Programs					
All Industry Groups		13.0%	20.0%	20.9%	24.6%	21.5%

Source: U.S. Census Bureau, Local Employment Dynamics

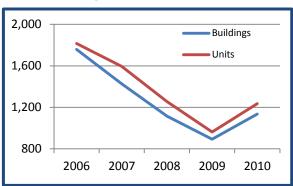
Building Permits

Both the state and the region have seen a decline in building permits since 2006, with an uptick starting in 2010. But while the state saw a 10% increase between 2009 and 2010, the Central region had a 27% increase. This correlates with the large increase in jobs in the Marcellus Shale industries in 2009-2010.

Statewide Building Permits



Central Building Permits



Source: U.S. Census Bureau

Employment

Marcellus Shale industries have added over 2,800 jobs to the regional economy since early 2008. Core industries have increased more than tenfold, and the region's already well-established ancillary industries have grown by 15.7%.

Average Employment, 1st Quarter 2008 - 1st Quarter 2011

Industry Group	2008 Q1	2011 Q1	Change	% Change
Core	115	1,597	1,482	1288.7%
Ancillary	8,913	10,314	1,401	15.7%

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

Wages

In 2010, the core industries had an average annual wage of \$68,124 in the Central region, which was well above the statewide average wage for all industries of \$45,747 and almost twice the regional average of \$36,977. The Central WIA's ancillary industries also had a high average wage of \$49,476. The state's average wage for core industries was \$73,150 and for ancillary was \$61,871.

New Hires

Core industries have had growing numbers of new hires in recent years, with a high of 191 in the second quarter of 2011. Ancillary industries also showed an uptick in the amount of new hires in second quarter 2011.

New Hires

Central	2008 Q2	2009 Q2	2010 Q2	2011 Q2	Volume Change 2008Q2 – 2011Q2	Percent Change 2008Q2 – 2011Q2
Core	0	1	98	191	191	N/A
Ancillary	252	291	225	396	144	57.1%

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

Workforce Compatibility

These data provide an understanding of how well the skills of a region's labor force meet the workforce needs of an industry. The first number is the proportion of industry jobs that require higher levels of experience, training, and education. The second number is the proportion of the region's workforce that has the higher skills the industry seeks. For example, in sewage treatment facilities (NAICS 221320) over 61% of the occupations within the industry require significant levels of on-the-job training and/or post-secondary education, indicating that the industry is very skilled. Furthermore, over 25%-- 1 in 4—of the region's workers have the skill sets required to meet the occupational needs of the industry sector. Given this information, an analyst can conceivably conclude that the industry is a good fit for the capabilities of the regional workforce.

In the Central region, most industries are reasonably compatible with the local workforce. However, potential workforce skill gaps can be found in fossil fuel electric power generation; natural gas distribution; engineering services; geophysical surveying and mapping services; testing laboratories; and commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance.

Industry and Workforce Compatibility

NAICS Code (Core)	NAICS Title	% Skilled Workforce in Industry	% of Region's Workforce Compatible
211111	Crude Petroleum and Natural Gas Extraction	22.5%	19.2%
211112	Natural Gas Liquid Extraction		
213111	Drilling Oil and Gas Wells	17.2%	17.3%
213112	Support Activities for Oil and Gas Operations	17.2%	17.3%
237120	Oil and Gas Pipeline and Related Structures Construction	42.4%	16.6%
486210	Pipeline Transportation of Natural Gas	37.7%	15.8%

NAICS Code (Ancillary)	NAICS Title	% Skilled Workforce in Industry	% of Region's Workforce Compatible
221112	Fossil Fuel Electric Power Generation	63.1%	11.7%
221210	Natural Gas Distribution	37.3%	12.2%
221310	Water Supply and Irrigation Systems	60.8%	16.1%
221320	Sewage Treatment Facilities	61.6%	25.7%
237110	Water and Sewer Line and Related Structures Construction	43.3%	17.9%
237310	Highway, Street, and Bridge Construction	38.7%	17.5%
238912	Nonresidential site preparation contractors	44.0%	22.0%
325110	Petrochemical Manufacturing		
325120	Industrial Gas Manufacturing		
331111	Iron and Steel Mills	33.2%	17.2%
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel		
333131	Mining Machinery and Equipment Manufacturing		
333132	Oil and Gas Field Machinery and Equipment Manufacturing		
423810	Construction and Mining (except Oil Well) Machinery and Equipment Merchant Wholesalers	44.5%	22.4%
423830	Industrial Machinery and Equipment Merchant Wholesalers	43.4%	23.0%
423840	Industrial Supplies Merchant Wholesalers	44.0%	23.0%
484110	General Freight Trucking, Local	8.1%	25.9%
484220	Specialized Freight (except Used Goods) Trucking, Local	8.7%	26.3%
484230	Specialized Freight (except Used Goods) Trucking, Long-Distance	9.3%	26.3%
531190	Lessors of Other Real Estate Property	34.5%	26.7%
532412	Construction, Mining, and Forestry Machinery and Equipment Rental and Leasing	33.2%	20.8%
541330	Engineering Services	47.7%	3.0%
541360	Geophysical Surveying and Mapping Services	43.6%	2.8%
541380	Testing Laboratories	33.7%	8.7%
541620	Environmental Consulting Services	24.6%	24.9%
562910	Remediation Services	18.8%	17.7%
811310	Commercial and Industrial Machinery and Equipment (except Automotive and Electronic) Repair and Maintenance	49.3%	13.1%
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.