Pennsylvania defines industry clusters to serve as the basis for data-driven workforce development policies. An industry cluster includes industries closely linked by common products, labor pools, technologies, supplier chains and training needs. They take on strategic importance for long-term economic planning as changes that benefit one group member will generally impact other members of the cluster.

Industry clusters are comprised of specific six-digit North American Industry Classification System, or NAICS, codes. They are mutually exclusive, so that no two clusters contain the same NAICS code. Currently, there are 12 clusters identified, along with several critical sub-clusters. Combined, these 12 industry clusters account for nearly 82 percent of all employment in the Commonwealth.

Cluster Summary

The Energy (ENGY) cluster includes industries associated with the production and distribution of energy, as well as the waste disposal industries associated with the remediation and environmental cleanup related to energy production. In the cluster you will find a wide variety of industries, from petroleum refineries to battery manufacturing to generator manufacturing.

	2007	2012
Employer Units	5,178	5,917
Number of Jobs	119,758	142,586
Percent of Total Pennsylvania Jobs	2.12%	2.56%
Average Annual Wages	$62,422	$71,952
Location Quotient	1.03	1.13

The extraction of Marcellus Shale natural gas has caused substantial gains in this cluster, with employment increasing nearly 30 percent over the time period. Pennsylvania's competitiveness in this sector can also be seen in comparison with the nation, as the Location Quotient (LQ) has grown from relatively average to a significant 1.13. This competiveness is further evident in specific local areas as seen on page 3. The cluster pays an average wage greater than the statewide average for all jobs ($48,391,) and the average has gone up 15% in the time period.

Center for Workforce Information & Analysis
651 Boas St.
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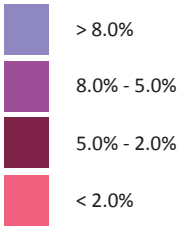
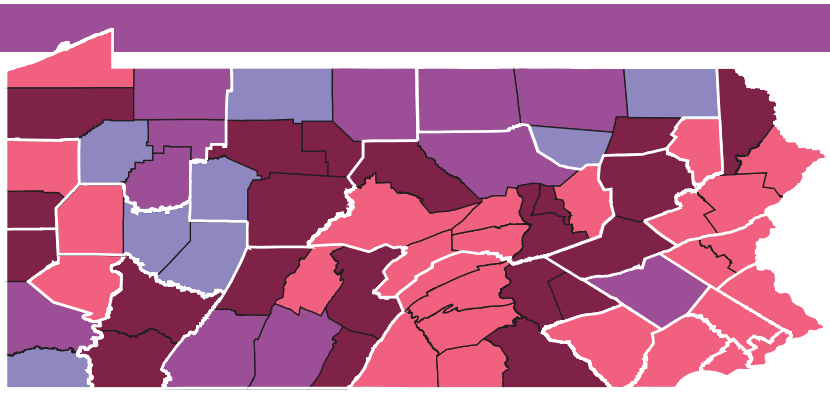
Fall 2014

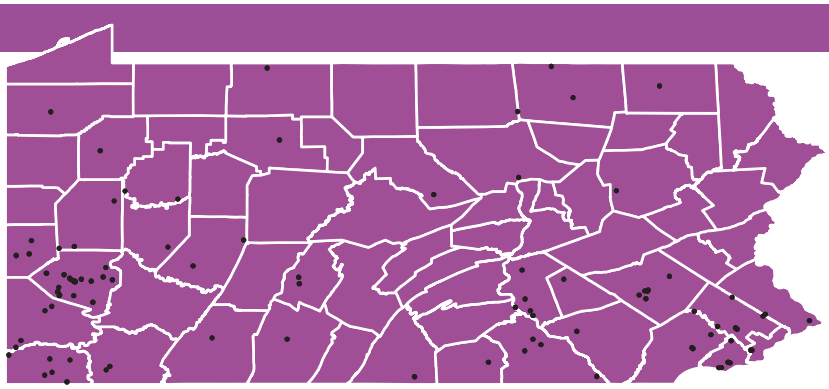
Percent Employment by County





Major Employers

- East Penn Manufacturing Company
- Tyco Electronics Corporation
- Exelon Generation Company LLC
- PECO Energy Power Company
- PPL Electric Utilities Corporation
- Waste Management of PA Inc

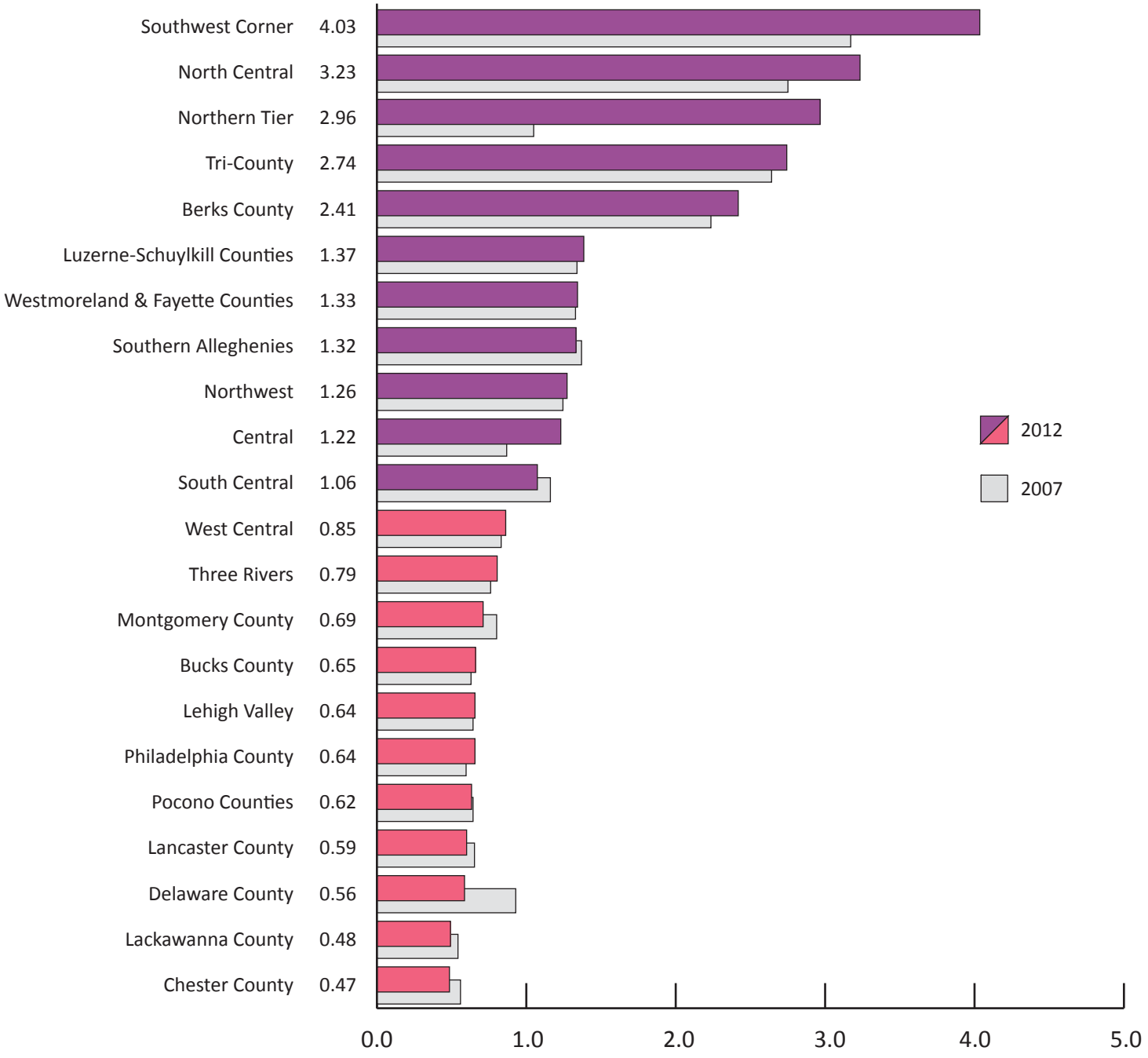


Top Industries Based on Employment

- Support Activities for Oil & Gas Operations
- Oil & Gas Pipeline Construction
- Solid Waste Collection
- Power & Communication System Construction
- Electric Power Distribution
- Water Supply & Irrigation Systems
- Primary Battery Manufacturing
- Fuel Dealers
- Bituminous Coal Underground Mining
- Natural Gas Distribution
- Recyclable Material Merchant Wholesalers
- Current-Carrying Wiring Device Manufacturing
- Crude Petroleum & Natural Gas Extraction
- Air, Water & Waste Program Administration
- Sewage Treatment Facilities
- Drilling Oil & Gas Wells
- Nuclear Electric Power Generation
- Fossil Fuel Electric Power Generation
- Mining Machinery & Equipment Manufacturing
- Environment & Conservation Organizations

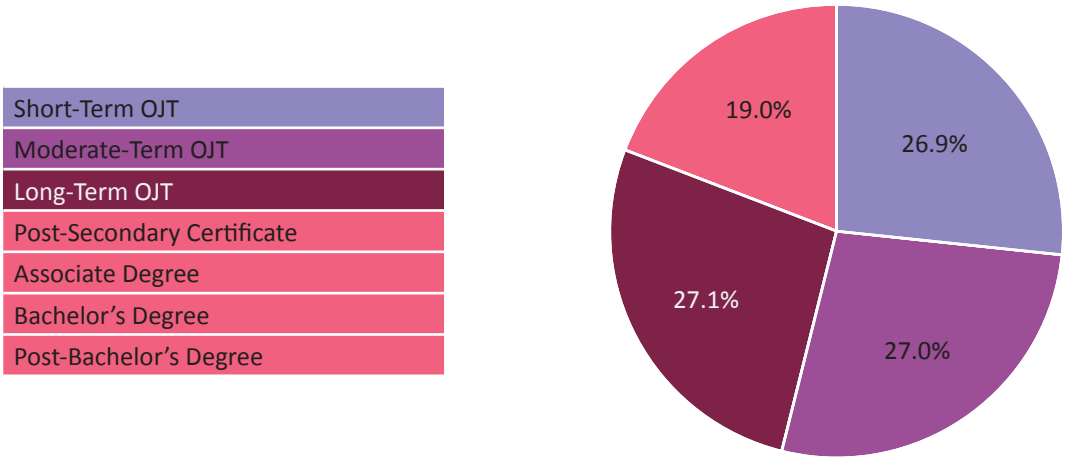
Employment Concentration

A location quotient, or LQ, compares a cluster's share of local employment to its share of national employment. This value can be used when evaluating the strength of an industry cluster within an area. A quotient greater than one indicates that the cluster has, on average, more employees locally than typically expected implying a possible competitive advantage. Southwest Corner, North Central, Northern Tier and Central Workforce Investment Areas (WIA) all have LQs greater than one and have also greatly increased their competitiveness since 2007.



Educational Requirements

This graph illustrates the minimum educational attainment levels for jobs found in this cluster's various industries. Only 19 percent of ENGY jobs require formal postsecondary training of any kind. Partnered with high average wages, this is an industry cluster that offers high rewards to those willing to work hard and learn on the job.



Occupations with Significant Employment

The following table lists occupations that are typically employed within the ENGY cluster. They may not all be identified as High Priority Occupations (HPOs), but are reflective of the cluster's staffing needs. The ENGY cluster employs at least 1,500 people in each of these 15 occupations.

			Job Openings	
SOC Code	Occupation	Cluster Wage 2013	Industry Cluster	All Industries
53-3032	Heavy & Tractor-Trailer Truck Drivers	$38,361	187	2,575
49-9051	Electrical Power-Line Installers & Repairers	$64,631	214	264
53-7081	Refuse & Recyclable Material Collectors	$30,322	181	329
47-2073	Operating Engineers & Other Construction Equipment Operators	$48,754	125	828
43-9061	Office Clerks, General	$31,813	69	3,629
47-2061	Construction Laborers	$39,314	59	736
53-7062	Laborers & Freight, Stock & Material Movers	$30,382	110	4,038
49-9071	Maintenance & Repair Workers, General	$43,196	52	1,443
51-8013	Power Plant Operators	$64,199	88	100
47-1011	Supervisors - Construction Trades & Extraction Workers	$73,037	81	675
43-6014	Secretaries	$31,990	25	1,264
11-1021	General & Operations Managers	$125,206	33	956
43-4051	Customer Service Representatives	$38,237	57	3,240
41-4012	Sales Representatives	$66,429	52	2,357
51-4021	Extruding & Drawing Machine Setters, Oprs & Tenders, Metal & Plastic	$35,389	46	207