



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.

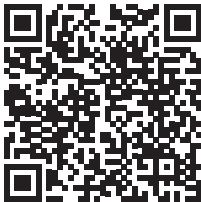
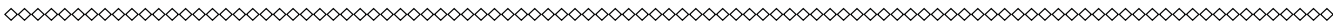
Industry clusters are comprised of specific six-digit North American Industry Classification System, or NAICS, codes. They are mutually exclusive, so that no two clusters contain the same NAICS code. Currently, there are 12 clusters identified, along with several critical sub-clusters. Combined, these 12 industry clusters account for nearly 85 percent of all employment in the commonwealth.

Cluster Summary

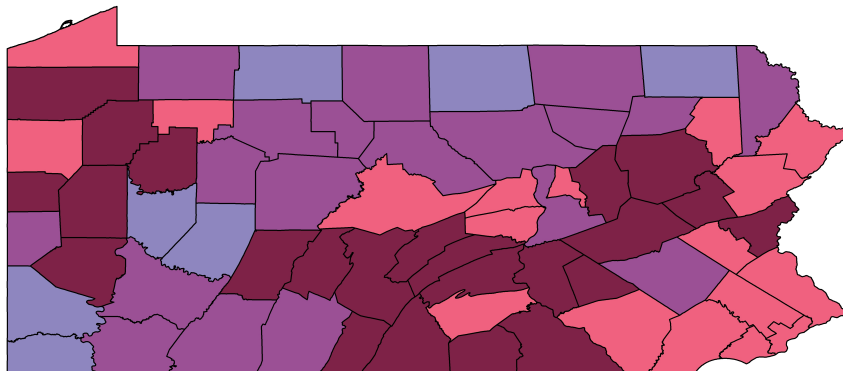
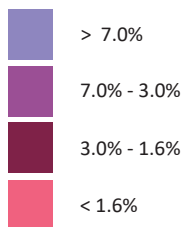
The Energy (ENGY) cluster includes industries associated with the production and distribution of energy, as well as the waste disposal industries associated with the remediation and environmental cleanup related to energy production. In the cluster you will find a wide variety of industries, from petroleum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

	2018	2023
Employer Units	5,836	5,988
Number of Jobs	139,836	122,186
Percent of Total Pennsylvania Jobs	2.4%	2.0%
Average Annual Wages	\$83,648	\$94,029
Location Quotient (LQ)	1.16	1.05
LQs greater than one suggest a competitive advantage.		

Energy cluster employment decreased by more than 12% over the last five years. However, Pennsylvania’s competitiveness in this sector can be seen in comparison with the nation, as the location quotient (LQ) has remained over one. This competitiveness is further evident in specific local areas (as seen on page 3) like the Southwest Corner and Northern Tier Workforce Development Areas (WDAs), who have LQs of 3.82 and 3.31, respectively. The cluster pays an average wage much greater than the statewide average for all jobs (\$69,300) and the cluster's average wage has increased 12.4% in the time period.

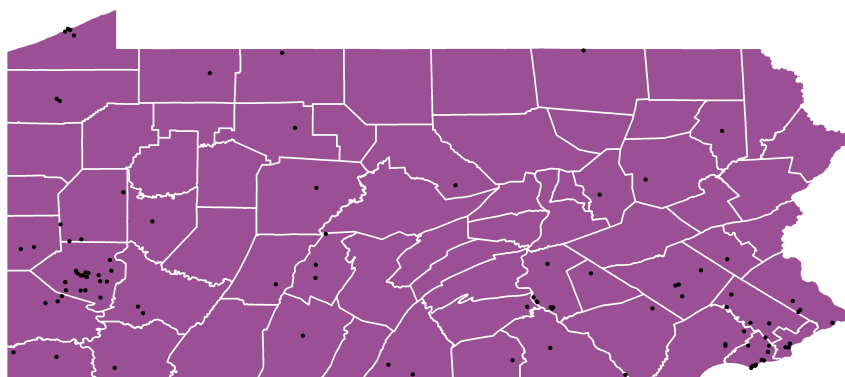


Percent Employment by County



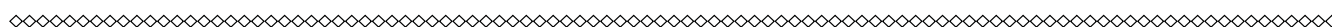
Major Employers

- East Penn Manufacturing Company
- PECO Energy Power Company
- PA Dept of Environmental Protection
- TE Connectivity Corporation
- City of Philadelphia
- FirstEnergy Pennsylvania Electric



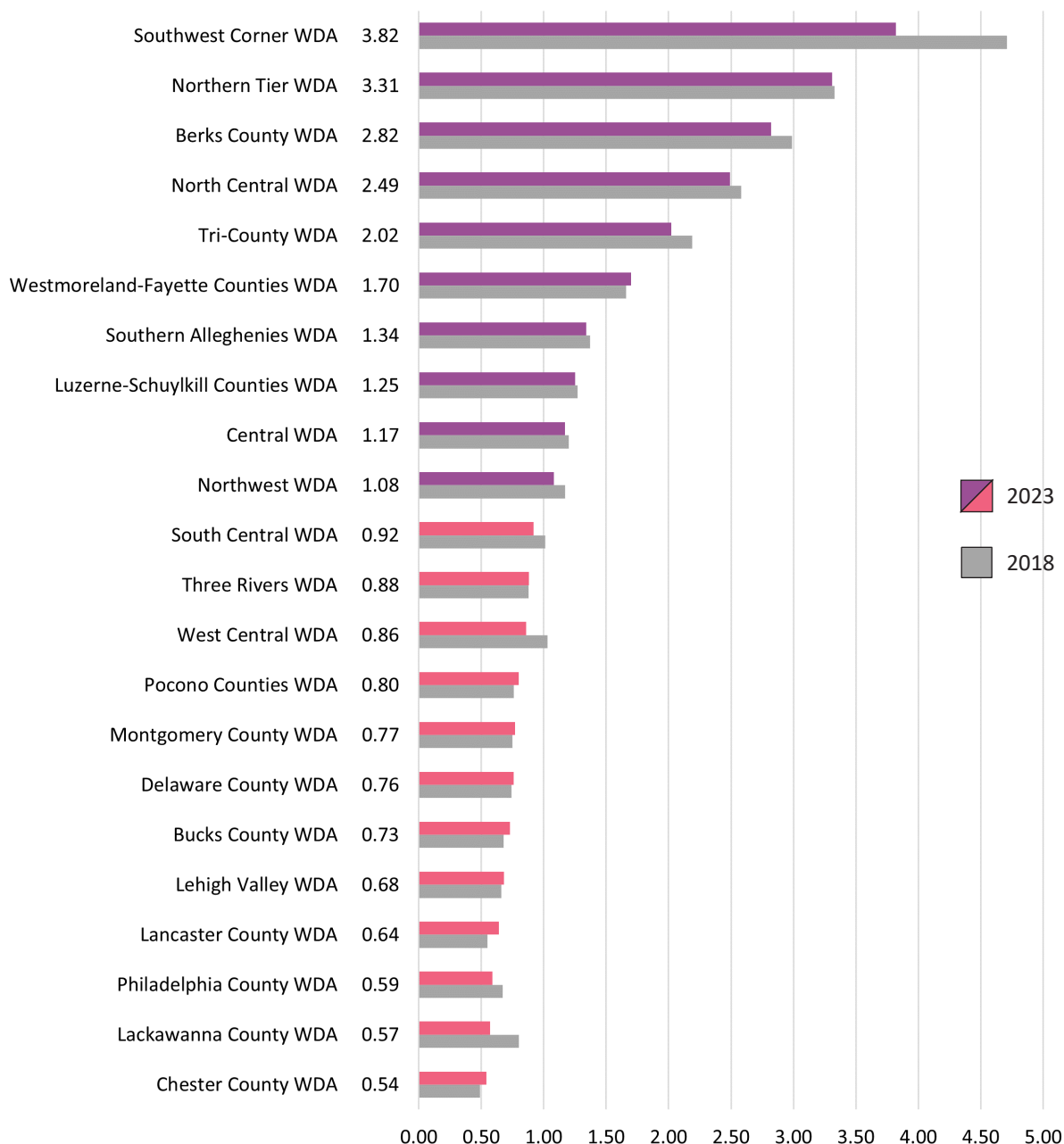
Top Industries Based on Employment

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



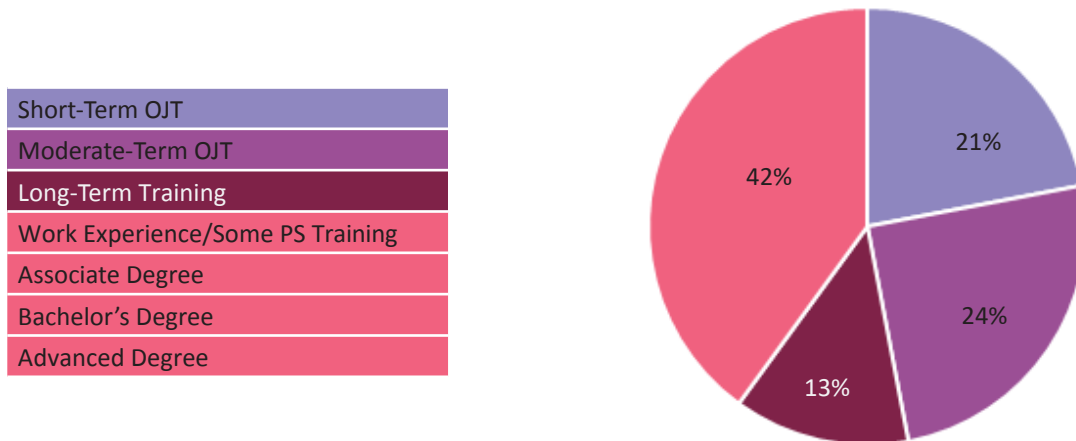
Employment Concentration

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. An LQ greater than one indicates that the cluster has, on average, more employees locally than typically expected implying a possible competitive advantage. Only Westmoreland-Fayette Counties Workforce Development Area (WDA) has an LQ greater than one and have also increased their competitiveness since 2018. Southwest Corner WDA has the highest LQ for the cluster at 3.82, but it decreased since 2018.



Educational Requirements

This graph illustrates the minimum educational attainment levels for jobs found in this cluster's various industries. Only 42 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 employ at least 1,200 people in the ENGY cluster.

			Annual Demand	
SOC Code	Occupation	Average Wage	All Industries	Industry Cluster
53-3032	Heavy & Tractor-Trailer Truck Drivers	\$58,620	10,255	734
53-7081	Refuse & Recyclable Material Collectors	\$43,700	572	413
43-4051	Customer Service Representatives	\$45,870	15,206	311
53-7062	Laborers & Freight/Stock/Material Movers	\$42,240	20,336	309
51-2028	Elec. & Electromechanical Assemblers	\$44,590	1,686	278
49-9051	Electrical Power-Line Installers & Repairers	\$95,380	349	277
47-2061	Construction Laborers	\$53,140	4,488	255
47-1011	Supervisors - Construction Trades & Extraction Workers	\$86,940	2,386	231
47-2073	Operating Engineers	\$62,350	2,095	225
47-5071	Roustabouts, Oil & Gas	\$52,790	192	185
47-5013	Service Unit Operators, Oil, Gas & Mining	\$54,930	166	161
47-2152	Plumbers, Pipefitters & Steamfitters	\$73,950	1,446	149
49-9041	Industrial Machinery Mechanics	\$65,960	1,886	131
49-2095	Elec. Repairers, Powerhouse, Substation & Relay	\$89,620	133	120
51-8031	Water/Wastewater Treatment Plant & System Operators	\$61,620	521	104

*The 2024 average annual wage reflects wages across all industries and is not specific to the cluster.