



# Agriculture & Resource Conservation



## FAST FACTS

Current Statistics	Northwest Region	Pennsylvania
Number of Employers	130	2,900
Number of Jobs	6,800	94,600
Average Earnings Average industry earnings per worker includes benefits	\$19,300	\$22,100
% of Total Employment	2.5%	1.3%



Based on historical trends, the agriculture & resource conservation "green" sector is expected to decrease employment between 2009 and 2019 in the Northwest Region. This does not take into account any future investments made in "green" technologies, which will certainly have an impact on job demand.

All jobs in the Northwest Region are expected to grow by 6% between 2009 and 2019. The number of jobs in the agriculture & resource conservation "green" sector is expected to decrease when looking at current projections, but job openings may become available due to replacement.

### Top Occupations by Percent of Industry

1. Farmers and ranchers (53%)
2. Farm, ranch, and other agricultural managers (14%)
3. Farmworkers and laborers, crop, nursery, and greenhouse (6%)
4. Logging equipment operators (3%)
5. Fallers (2%)
6. Supervisors, farming, fishing, and forestry workers (2%)
7. Log graders and scalers (2%)

### Work Where?

The agriculture & resource conservation "green" sector offers opportunities for you to work in a variety of settings. Some places you may find employment include:

- Crop and animal production
- Logging
- Other technical consulting services
- Landscape architectural services
- Other surveying and mapping services
- Timber tract operations
- Geophysical surveying and mapping services

### How Much Training:

There are jobs for a variety of education levels

Long-term on-the-job training	50%
Degree plus work experience	15%
Moderate-term on-the-job training	14%
Short-term on-the-job training	10%
Bachelor's degree	4%
Work experience in a related field	4%
Associate's degree	1%
Postsecondary vocational award	1%

\*Proportion of jobs that typically require the corresponding level of training or education

### WorkKeys<sup>®</sup> Assessment Scores for Sample Occupations

	Agricultural Crop Farm Managers	General Farm-workers	Log Graders and Scalers
Math	5	3	3
Locating Information	5	3	3
Reading	4	3	3



Learn more about these occupations at <http://online.onetcenter.org>.

Source: WorkKeys<sup>®</sup> Occupational Profiles, [www.act.org](http://www.act.org). Scores are not for a specific region or time period.



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Prepared by the Central Pennsylvania Workforce Development Corporation  
Data Source: Economic Modeling Specialists, Incorporated

The green economy is new and emerging. The impact that this sector will have on jobs and the economy overall is yet to be determined.



# Agriculture & Resource Conservation



## DEFINITION



*Includes production of inputs (crops or wood) for bio-fuels; improvement of natural resources and the environment; and sustainable and organic agriculture that maintain or improve land and avoid the use of industrial chemicals.*

NAICS	Industry	NAICS	Industry
111000	Crop Production	541360	Geophysical Surveying & Mapping Services
113110	Timber Tract Operations	541370	Other Surveying & Mapping Services
113210	Forest Nursery/Gathering Forest Products	541690	Other Technical Consulting Services
113310	Logging	924120	Administration of Conservation Programs
541320	Landscape Architectural Services	925120	Urban & Rural Development Admin



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# Clean Transportation



## FAST FACTS

Current Statistics	Northwest Region	Pennsylvania
Number of Employers	30	660
Number of Jobs	1,300	25,100
Average Earnings Average industry earnings per worker includes benefits	\$74,700	\$90,700
% of Total Employment	0.5%	0.4%

Based on historical trends, the clean transportation "green" sector is expected to grow by 120 jobs between 2009 and 2019 in the Northwest Region.



All jobs in the Northwest Region are expected to grow by 6% between 2009 and 2019. Jobs in the clean transportation "green" sector are expected to grow by 9%.

### Top Occupations by Percent of Industry

1. Management analysts (12%)
2. Petroleum pump system operators, refinery operators, and gaugers (4%)
3. Industrial machinery mechanics (3%)
4. First-line supervisors/managers of production and operating workers (3%)
5. Team assemblers (3%)
6. Maintenance and repair workers, general (2%)
7. Office clerks, general (2%)

### Work Where?

The clean transportation "green" sector offers opportunities for you to work in a variety of settings. Some places you may find employment include:

- Process and logistics consulting services
- Petroleum refineries
- Aircraft engine and engine parts mfg.
- All other petroleum and coal products mfg.
- Gasoline engine and engine parts mfg.
- Ship building and repairing
- Motor vehicle power train components mfg.

### How Much Training:

There are jobs for a variety of education levels

Moderate-term on-the-job training	26%
Bachelor's degree	17%
Degree plus work experience	15%
Long-term on-the-job training	12%
Short-term on-the-job training	12%
Work experience in a related field	9%
Associate's degree	4%
Postsecondary vocational award	3%

\*Proportion of jobs that typically require the corresponding level of training or education

### WorkKeys® Assessment Scores for Sample Occupations

	Management Analysts	Petroleum Refinery and Control	Industrial Machinery
Math	4	3	4
Locating Information	4	4	4
Reading	5	3	4

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# Clean Transportation



# DEFINITION



*Includes public transit (rail, subways, and other transit systems) and vehicle manufacturing (automobile, aircraft, and parts manufacturing), increasing portions of which will use fuels other than gasoline and/or use energy more efficiently.*

NAICS	Industry	NAICS	Industry
324110	Petroleum Refineries	336411	Aircraft Manufacturing
324199	All Other Petroleum & Coal Products	336412	Aircraft Engine & Engine Parts
336111	Automobile Manufacturing	336611	Ship Building & Repairing
336112	Light Truck & Utility Vehicle Mfg	336612	Boat Building
336120	Heavy Duty Truck Manufacturing	336991	Motorcycle, Bicycle & Parts Mfg
336213	Motor Home Manufacturing	541614	Process & Logistics Consulting Services
336312	Gasoline Engines & Engine Parts	926120	Transportation Program Administration
336350	Motor Vehicle Power Train Components		



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# Energy Efficiency



## FAST FACTS

Current Statistics	Northwest Region	Pennsylvania
Number of Employers	700	21,800
Number of Jobs	6,700	239,100
Average Earnings Average industry earnings per worker includes benefits	\$44,100	\$66,500
% of Total Employment	2.4%	3.4%



Based on historical trends, the energy efficiency "green" sector is expected to decrease employment between 2009 and 2019 in the Northwest Region. This does not take into account any future investments made in "green" technologies, which will certainly have an impact on job demand.

All jobs in the Northwest Region are expected to grow by 6% between 2009 and 2019. The number of jobs in the energy efficiency "green" sector is expected to decrease when looking at current projections, but job openings may become available due to replacement.

### Top Occupations by Percent of Industry

1. Carpenters (15%)
2. Construction laborers (8%)
3. Electricians (7%)
4. First-line supervisors/managers of construction trades and extraction workers (6%)
5. Construction managers (5%)
6. Plumbers, pipefitters, and steamfitters (4%)
7. Heating, air conditioning, and refrigeration mechanics and installers (3%)

### Work Where?

The energy efficiency "green" sector offers opportunities for you to work in a variety of settings. Some places you may find employment include:

- New single-family general contractors
- Residential remodelers
- Commercial building construction
- Nonresidential plumbing and HVAC contractors
- Nonresidential electrical contractors
- Engineering services
- Residential plumbing and HVAC contractors

### How Much Training:

There are jobs for a variety of education levels

Long-term on-the-job training	33%
Moderate-term on-the-job training	27%
Bachelor's degree	13%
Work experience in a related field	10%
Short-term on-the-job training	8%
Postsecondary vocational award	3%
Degree plus work experience	3%
Associate's degree	2%

\*Proportion of jobs that typically require the corresponding level of training or education

### WorkKeys<sup>®</sup> Assessment Scores for Sample Occupations

	Construction Carpenters	Construction Laborers	Electricians
Math	4	4	5
Locating Information	4	4	5
Reading	4	4	5



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# Energy Efficiency



# DEFINITION



*Includes efforts to reduce energy consumption of existing buildings and industrial processes, efforts to improve the efficiency of new buildings (green building), efforts to reduce energy lost in the distribution of electricity, and “demand management” (e.g., reducing the highest level of demand, “peak demand,” because that demand is often satisfied by the most polluting generating capacity).*

NAICS	Industry	NAICS	Industry
221330	Steam & Air-Conditioning Supply	333415	AC, Refrig. & Forced Air Heating Mfg
236115	New Single-Family Housing Construction	334512	Automatic Environmental Control Mfg
236116	New Multifamily Housing Construction	334513	Industrial Process Variable Instruments
236117	New Housing Operative Builders	334514	Fluid Meters & Counting Devices
236118	Residential Remodelers	335110	Electric Lamp Bulb & Part Manufacturing
236210	Industrial Building Construction	335221	Household Cooking Appliance Mfg
236220	Commercial Building Construction	335222	Household Refrigerators & Freezers
238151	Residential Glass/Glazing Contractors	335224	Household Laundry Equipment Mfg
238152	Nonresidential Glass/Glazing Contractors	335228	Other Major Household Appliance Mfg
238161	Residential Roofing Contractors	335312	Motor & Generator Manufacturing
238162	Nonresidential Roofing Contractors	541310	Architectural Services
238211	Residential Electrical Contractors	541330	Engineering Services
238212	Nonresidential Electrical Contractors	541350	Building Inspection Services
238221	Residential Plumbing/HVAC Contractors	541410	Interior Design Services
238222	Nonresidential Plumbing/HVAC Contractors	541420	Industrial Design Services
333414	Heating Equipment	926150	Licensing/Regulating Commercial Sectors



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# Pollution Prevention & Environmental Clean-Up



## FAST FACTS

Current Statistics	Northwest Region	Pennsylvania
Number of Employers	80	2,500
Number of Jobs	870	64,600
Average Earnings Average industry earnings per worker includes benefits	\$50,900	\$88,200
% of Total Employment	0.3%	0.9%



Based on historical trends, the pollution prevention & environmental clean-up "green" sector is expected to decrease employment between 2009 and 2019 in the Northwest Region. This does not take into account any future investments made in "green" technologies, which will certainly have an impact on job demand.

All jobs in the Northwest Region are expected to grow by 6% between 2009 and 2019. The number of jobs in the pollution prevention & environmental clean-up "green" sector is expected to decrease when looking at current projections, but job openings may become available due to replacement.

### Work Where?

The pollution prevention & environmental clean-up "green" sector offers opportunities for you to work in a variety of settings. Some places you may find employment include:

- Solid waste collection
- Water and sewer system construction
- Environmental consulting services
- Testing laboratories
- Solid waste landfill
- Other nonhazardous waste disposal
- Other waste collection

### Top Occupations by Percent of Industry

1. Refuse and recyclable material collectors (14%)
2. Truck drivers, heavy and tractor-trailer (10%)
3. Construction laborers (6%)
4. Management analysts (5%)
5. Operating engineers and other construction equipment operators (3%)
6. Laborers and freight, stock, and material movers, hand (2%)
7. Office clerks, general (2%)

### How Much Training:

There are jobs for a variety of education levels

Moderate-term on-the-job training	29%
Short-term on-the-job training	23%
Bachelor's degree	15%
Degree plus work experience	8%
Work experience in a related field	8%
Associate's degree	6%
Long-term on-the-job training	6%
Postsecondary vocational award	3%

\*Proportion of jobs that typically require the corresponding level of training or education

### WorkKeys® Assessment Scores for Sample Occupations

	Truck Drivers, Heavy	Construction Laborers	Operating Engineers
Math	3	4	3
Locating Information	4	4	3
Reading	4	4	3



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# Pollution Prevention & Environmental Clean-Up



## DEFINITION



*Includes efforts to restore polluted land and rivers to health and also includes clean and green industrial processes that lower toxic emissions in production. Maintenance of water and sewer infrastructure to reduce pollution and “soft” (non-structural) approaches to eliminating contaminants from water are also included in this category.*

NAICS	Industry	NAICS	Industry
237110	Water & Sewer System Construction	562111	Solid Waste Collection
335911	Storage Battery Manufacturing	562119	Other Waste Collection
335999	Miscellaneous Electrical Equipment	562212	Solid Waste Landfill
541380	Testing Laboratories	562213	Solid Waste Combustors & Incinerators
541620	Environmental Consulting Services	562219	Other Nonhazardous Waste Disposal
541710	Physical/Engineering/Bio Research	924110	Air, Water & Waste Program Admin



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# Renewable Energy



## FAST FACTS

Current Statistics	Northwest Region	Pennsylvania
Number of Employers	30	730
Number of Jobs	1,200	26,400
Average Earnings Average industry earnings per worker includes benefits	\$74,100	\$88,100
% of Total Employment	0.4%	0.4%

Based on historical trends, the renewable energy "green" sector is expected to grow by 140 jobs between 2009 and 2019 in the Northwest Region.



All jobs in the Northwest Region are expected to grow by 6% between 2009 and 2019. Jobs in the renewable energy "green" sector are expected to grow by 12%.

### Top Occupations by Percent of Industry

1. Electrical power-line installers and repairers (15%)
2. Power plant operators (7%)
3. Construction laborers (7%)
4. Carpenters (4%)
5. Electrical and electronics repairers, powerhouse, substation, and relay (3%)
6. First-line supervisors/managers of construction trades and extraction workers (3%)
7. Operating engineers and other construction equipment operators (3%)

### Work Where?

The renewable energy "green" sector offers opportunities for you to work in a variety of settings. Some places you may find employment include:

- Electric power distribution
- Power and communication system construction
- Other heavy construction
- Pump and pumping equipment manufacturing
- Electric power and specialty transformer mfg.

### How Much Training:

There are jobs for a variety of education levels

Long-term on-the-job training	30%
Moderate-term on-the-job training	27%
Short-term on-the-job training	12%
Bachelor's degree	11%
Work experience in a related field	8%
Postsecondary vocational award	5%
Associate's degree	3%
Degree plus work experience	3%

\*Proportion of jobs that typically require the corresponding level of training or education

### WorkKeys® Assessment Scores for Sample Occupations

	Electrical Power-Line Installers	Construction Carpenters	Construction Laborers
Math	3	4	4
Locating Information	4	4	4
Reading	4	4	4

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# Renewable Energy



## DEFINITION



*Includes the two new industries probably identified most in the public mind with the green economy, wind energy and solar energy, as well as geothermal energy and hydroelectric power.*

NAICS	Industry	NAICS	Industry
221111	Hydroelectric Power Generation	325199	All Other Basic Organic Chemicals
221119	Other Electric Power Generation	333611	Turbine Generator & Generator Set Units
221121	Electric Bulk Power Transmission	333911	Pump & Pumping Equipment Mfg
221122	Electric Power Distribution	334413	Semiconductor & Related Devices
237130	Power/Communication System Construction	335311	Electric Power & Specialty Transformers
237990	Other Heavy Construction	926130	Utility Regulation & Administration



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