

Defining and Understanding the Energy Sector

The energy sector encompasses the industries and activities involved in producing, transmitting, distributing, and selling energy. This includes conventional sources such as oil, natural gas, and coal, as well as renewable and emerging sources like solar, wind, hydro, geothermal, bioenergy, hydrogen, and carbon capture technologies. It also includes supporting components such as utilities, energy storage systems, and energy efficiency services.

UNDERSTANDING THE COMPLEXITY OF THE ENERGY SECTOR

The energy sector stands as a collection of significant and diverse industries, each operating at considerable scale and often with internal complexity. These branches—including fossil fuel extraction, renewable energy generation, power transmission and distribution, nuclear power, and storage—are tightly interwoven, with developments in one area frequently triggering ripple effects across the entire system. This high level of interdependency contributes to the sector's overall complexity and underscores the importance of understanding how its many components relate and interact.

Several factors contribute to the sector's structural and analytical challenges:

- Diverse Sub-Sectors: The sector includes fossil fuels, renewables, nuclear energy, and energy services—each governed by distinct technologies, regulatory regimes, and workforce demands.
- **Ongoing Transformation:** The transition toward clean energy is rapidly generating new occupational roles and reshaping traditional industry boundaries, resulting in a dynamic and evolving employment landscape.
- ② **Cross-Sector Integration:** Energy-related occupations increasingly intersect with adjacent fields such as construction, manufacturing, information technology, and transportation, reflecting the sector's deep integration with the broader economy.
- Geographic and Regulatory Variation: Definitions of energy-related work differ across regions and institutions, shaped by localized policy frameworks, economic structures, and regulatory interpretations.
- Classification and Measurement Challenges: Tracking and defining "energy work" is complicated by the absence of standardized occupational taxonomies and consistent data methodologies across government agencies and industry bodies.

This multifaceted landscape presents both challenges and opportunities for workforce planning, education, and policy development. The following career pathway maps are designed to bring clarity to this complexity—illustrating the range of energy-related occupations, the skills they require, and the potential routes for advancement across the sector.





Report Overview

In 2025, with support from the GitLab Foundation, the Council for Adult and Experiential Learning (CAEL) launched a nationally coordinated initiative to develop Career Pathway and Competency Maps for the dynamic and rapidly evolving energy sector. This effort was carried out in close collaboration with three strategically selected partners, each representing a distinct U.S. region—from the West to the Midwest to the East: the Northwest Native Chamber (NWNC) in Portland, Oregon; Revolution Workshop (RW) in Chicago, Illinois; and the Community College of Allegheny County (CCAC) in Pittsburgh, Pennsylvania. Together, these partnerships and their stakeholders brought regional insights and community-based engagement to a project with national relevance and impact.

These partnerships enabled CAEL to engage local communities while addressing broader, systemic workforce challenges across the energy landscape. The resulting maps identify critical energy-sector occupations and delineate the core skills, credentials, experience, and educational pathways required to enter and advance within the field.

Grounded in robust labor market intelligence from sources such as the Bureau of Labor Statistics (BLS), Lightcast, and O*NET, these tools were further validated through engagement with energy sector employers and stakeholders across the country. As a result:

- **Job seekers** gain a data-informed resource to explore career options, assess earning potential, and understand clear pathways into and through energy-related roles.
- **Employers** benefit from a consistent, industry-informed framework to guide talent recruitment, workforce training, and ongoing professional development.

These maps are intentionally designed to be adaptable, ensuring continued relevance as the energy sector evolves in response to emerging technologies, policy shifts, and economic trends.

Purpose

The energy sector is undergoing a profound and accelerated transformation, shaped by the forces of automation, decarbonization, and technological innovation. In this shifting landscape, both individuals and employers require actionable insights to effectively navigate new workforce demands and emerging opportunities.

Recognizing this need, CAEL—working in close collaboration with CCAC, Revolution Workshop, and NWNC—developed the Career Pathway and Competency Maps as a strategic, practical tool for national workforce alignment.

By clearly defining occupational pathways and cross-cutting competencies, this initiative supports more informed decision-making around workforce investments, fosters regional and national alignment, and enhances the responsiveness of education and training systems to industry needs. By clearly articulating competencies and pathways, this work supports smarter resource allocation, improved workforce alignment, and more adaptive workforce development efforts—regionally and beyond.





Industry-Wide Foundational Competencies

Foundational competencies represent the core skills and behaviors that empower individuals to thrive in school and throughout their careers. Employers nationwide have affirmed that competencies are not only linked to superior job performance but are also crucial for a worker's ability to adapt and learn new, industry-specific skills. To better understand their application, these competencies are broken down into the following three categories.



ENERGY SECTOR: INDUSTRY-WIDE FOUNDATIONAL COMPETENCIES

PERSONAL EFFECTIVENESS COMPETENCIES

These competencies are essential for all life roles, such as being a member of a family, a community, and a larger society. These "soft skills" are increasingly valued in the labor market.

- Adaptability
- Commitment to Lifelong Learning
- Oritical Thinking
- Dependability
- **O** Integrity
- O Problem Solving

EDUCATION COMPETENCIES

These are critical competencies primarily learned in an academic setting, as well as cognitive functions and thinking styles. These competencies will likely apply to all organizations in a single industry or be represented by an industry association.

- Applied Mathematics
- Environmental Science and Sustainability
- Reading and Information Literacy
- Science, Technology, Engineering, and Mathematics (STEM) Fundamentals
- Writing and Communication

WORKPLACE COMPETENCIES

These competencies represent those competencies and abilities that allow individuals to function in an organizational setting.

- Business Acumen and Commercial Awareness
- Data Analysis
- ② Digital Literacy
- Health, Safety, and Environment (HSE) Management
- Project Management
- **②** Teamwork and Collaboration

INDUSTRY-SPECIFIC TECHNICAL SKILLS

This broad category includes the specialized, hands-on skills needed for particular roles, such as:

- For Renewable Energy: Expertise in solar panel installation, wind turbine maintenance, or geothermal energy systems.
- For Oil and Gas: Knowledge of drilling operations, reservoir engineering, or petroleum geology.
- For Power Grid: Understanding of transmission and distribution systems, smart grid technologies, and cybersecurity.



SOLAR PANEL/PHOTOVOLTAIC (PV) INSTALLER

RENEWABLE ENERGY SECTOR SOLAR ENERGY

JOB DESCRIPTION	Assemble, install, or maintain solar photovoltaic (PV) systems on roofs or other structures in compliance with site assessment and schematics. May include measuring, cutting, assembling, and bolting structural framing and solar modules. May perform minor electrical work such as current checks.		
KEY FOUNDATIONAL COMPETENCIES	 Math and Measurement Skills Science and Technology Literacy	 Communication Reading and Information Processing	⊙ Digital Literacy
WORKPLACE COMPETENCIES	Safety Awareness (OSHA)Mechanical Aptitude and Tool Use	 Attention to Detail Physical Stamina and Dexterity	 Teamwork and Collaboration Time Management
COMMON SKILLS	 Critical Thinking Active Listening Judgment and Decision Making	 Dependability Integrity Cooperation	Self-Control
WORKPLACE ENVIRONMENT	Outdoor settings - residential rooftops, commercial buildings, or solar farms. Some indoor work in attics or utility rooms for wiring and inverter setup. Travel between job sites is common, often regionally based. Frequent climbing of ladders and working at heights. Lifting heavy panels and equipment (often 40-60 pounds). Bending, kneeling, standing for long periods. Working in all weather conditions (hot roofs, cold mornings, windy sites).		
MEDIAN WAGE & SALARY	\$23-\$26/hour; \$48-\$55 k/year		
WORK EXPERIENCE	0-2 years experience in hands on work, construction experience preferred		
EDUCATION AND CREDENTIALS	High School Diploma or recognized equivalent. National Electrical Code (NEC) preferred. Apprenticeship opportunities available depending on location and employer. North American Board of Certified Energy Practitioners (NABCEP) PV Associate Credential.		
REQUIRED TECHNOLOGIES	 CRM Software (Salesforce) Email Microsoft Office		
OTHER JOB TITLES/ ROLES	Technician), PV Installer (Photovoltaic Inst	neyman Electrician Photovoltaic Installer), PV caller), Solar Designer, Solar Electric Installer, Solar PV Installer (Solar Photovoltaic Installe	Solar Installer, Solar Panel Installation

CONSTRUCTION LABORER

0-1 year experience

\$17-\$23/hr \$35-\$48k/year

- High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training
- OSHA 10; First Aid/CPR

ROOFER - HELPER

0-1 year experience

\$15-\$22/hr \$32-\$45k/year

- High School Diploma or recognized equivalent preferred, not required
- Apprenticeship or On-the-Job Training
- OSHA 10; First Aid/CPR

ELECTRICAL - HELPER

0-1 year experience

\$15-\$22/hr \$32-\$45k/year

- High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training
- OSHA 10; First Aid/CPR

SOLAR ENERGY COMPANIES

SOLAR PANEL/ PHOTOVOLTAIC INSTALLER

\$23-\$26/hr \$48-\$55k/vear

- High School Diploma or recognized equivalent
- North American Board of Certified Energy Practitioners (NABCEP) PV Associate Credential

LEAD SOLAR INSTALLER/ CREW LEADER

2-4 years experience

\$60-\$75k/year

Associate Degree preferred North American Board of Certified Energy Practitioners (NABCEP) PV Associate Credential

SOLAR PHOTOVOLTAIC INSTALLATION TECHNICIAN

3-5 years experience

\$65-\$80k/year

- High School Diploma or recognized equivalent
- North American Board of Certified Energy Practitioners (NĂBCEP) PV Associate Credential

PROJECT MANAGER

5-7 years experience

\$80-\$100k/year

- Bachelor's Degree (Engineering or Construction Management)
- Extensive Work Experience

ROOFER APPRENTICE*

\$24-\$33/hr \$51-\$69 k/year

- High School Diploma or recognized equivalent
- On-the-Job Training or Apprenticeship

ROOFER JOURNEYWORKER*

\$80-\$100k/year

- High School Diploma or recognized equivalent
- On-the-Job Training

Journeyworker Card*

CONSTRUCTION FIRMS WITH GREEN ENERGY DIVISIONS

UTILITY COMPANIES INCORPORATING DISTRIBUTED SOLAR POWER

NORTH AMERICAN BOARD OF CERTIFIED **ENERGY PRACTITIONERS (NABCEP) PV ASSOCIATE CREDENTIAL**

CONTRACTOR, ENTRÉPRENEUR AND/OR SOLAR BUSINESS OWNER

10+ years work experience

\$150-\$300k/year

Bachelor's Engineering or Business Administration Preferred*

ELECTRICAL **APPRENTICF***

\$30-\$40/hr \$62-\$83 k/year

- High School Diploma or recognized equivalent
- On-the-Job Training or Apprenticeship

ELECTRICAL Journeyworker*

\$80-\$115 k/year

- High School Diploma or recognized equivalent
- On-the-Job Training
- Journeyworker Card*

Note: Salaries and education requirements may vary depending on location, company size, union status, and the specific energy sector. *Apprenticeship may not be required for this occupation dependent on employer.



- WIND TURBINE SERVICE TECHNICIAN

RENEWABLE ENERGY SECTOR WIND ENERGY INDUSTRY

JOB DESCRIPTION	Inspect, diagnose, adjust, or repair wind turbines. Perform maintenance on wind turbine equipment including resolving electrical, mechanical, and hydraulic malfunctions.		
KEY FOUNDATIONAL COMPETENCIES	Math and Measurement SkillsScience and Technical Knowledge	 Communication Read and Interpret blueprints	
WORKPLACE COMPETENCIES	Safety and Risk ManagementMechanical and Electrical Proficiency	Physical and Environmental EnduranceProblem Solving	① Time Management
COMMON SKILLS	 Attention to Detail Cooperation	DependabilityConcern for Others	 Adaptability/Flexibility Dependability
WORKPLACE ENVIRONMENT	Wind farms in remote rural areas, coastal regions, or offshore. Work is done inside and atop wind turbines, often 200-300 feet above ground. Some work occurs in confined spaces inside the nacelle (the hub at the top). Climbing narrow ladders or using lifts inside towers. Working in tight, enclosed areas inside the nacelle. Lifting heavy tools and components. Exposed to extreme weather conditions - cold, wind, and sometimes lightning risks. May travel regionally or nationally for turbine service contracts.		
MEDIAN WAGE & SALARY	\$25-\$38/hour; \$52-\$80 k/year		
WORK EXPERIENCE	0-2 years experience. Military experience preferred, but not required.		
EDUCATION AND CREDENTIALS	High School Diploma or recognized equivalent. OSHA 30, First Aid/CPR, Climbing/Rescue Certification, Wind energy, mechatronics, or industrial technician certification. NCCER Wind Turbine Maintenance Technician (optional). Global Wind Organization (GWO) Certification (internationally recognized safety training)		
REQUIRED TECHNOLOGIES	Email, Microsoft Office, Industrial Control Systems Software, Programmable Logic Controller (PLC) Software, Supervisory control and data acquisition (SCADA) software		
OTHER JOB TITLES/ ROLES	Field Service Technician, Renewable Energy Technician, Service Technician, Troubleshooting Technician, Wind Farm Support Specialist, Wind Technician, Wind Turbine Operator, Wind Turbine Service Technician, Wind Turbine Technician, Wind Turbine Troubleshooting Technician		



WIND TURBINE SERVICE TECHNICIAN

CONSTRUCTION LABORER

0-1 year experience

\$17-\$23/hr \$35-\$48k/year

- High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training
- OSHA 10; First Aid/CPR

ELECTRICAL - HELPER

0-1 year experience

\$15-\$22/hr \$32-\$45k/year

- · High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training
- OSHA 10; First Aid/CPR

HVAC ASSISTANT/HELPER

0-1 year experience

\$18-\$26/hr \$37-\$54 k/year

- High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training

MECHANICAL/FIELD SERVICE TECHNICIAN

1 year preferred

\$20-\$28/hr \$42-\$58 k/year

- High School Diploma or recognized equivalent
- On-the-Job Training
- OSHA 10/30

WIND ENERGY GENERATION COMPANIES **UTILITY-SCALE WIND FARM OPERATORS EOUIPMENT MANUFACTURERS**

MAINTENANCE AND SERVICE SUB CONTRACTORS

WIND TURBINE SERVICE TECHNICIAN

\$25-\$38/hr \$52-\$80 k/year

- recognized equivalent
- OSHA 30
- Climbing/Rescue Certification
- Wind energy, mechatronics, or industrial technician certification NCCER Wind Turbine
- Maintenance Technician (ontional)
- Global Wind Organization (GWO) Certification (internationally

SENIOR WIND TURBINE TECHNICIAN/CREW LEAD

3-5 years experience

\$65-\$90k/year

- Associate or Bachelor's Degree
- On-the-Job Training OSHA 30
- Leadership Training

WIND OPERATIONS **SUPERVISOR**

5-7 years experience

\$75-\$105k/year

- Associate or Bachelor's Degree
- Project Management Training

WIND ENERGY ENGINEER

5+ years experience

\$80-\$120k/year

- Bachelor's Degree (Mechanical/Electrical) Professional Engineer (PE)
- optional

RENEWABLE ENERGY PROJECT MANAGER

7-10 years works experience

\$90-\$130 k/year

- Bachelor's Degree (Engineering or Business Administration)
- Project Management Professional (PMP)
- Safety Certifications

Note: Salaries and education requirements may vary depending on location, company size, union status, and the specific energy sector.



WEATHERIZATION INSTALLER/TECHNICIAN

ENERGY EFFICIENCY - BUILDING PERFORMANCE/RESIDENTIAL & COMMERCIAL ENERGY EFFICIENCY

JOB DESCRIPTION	Perform a variety of activities to weatherize homes and make them more energy efficient. Duties include repairing windows, insulating ducts, and performing heating, ventilating, and air-conditioning (HVAC) work. May perform energy audits and advise clients on energy conservation measures.		
KEY FOUNDATIONAL COMPETENCIES	 Math and Measurement Skills Understanding of heat transfer, energy efficiency 	 Awareness of environmental impacts of energy loss and weatherization Interpret work orders 	 Safety protocols Communication Digital and tool literacy
WORKPLACE COMPETENCIES	Safety Awareness and Risk Management (OSHA)Tool Use and Mechanical Aptitude	 Problem Solving and Critical Thinking Physical Fitness and Endurance Quality Control	① Customer Service① Teamwork
COMMON SKILLS	 Critical Thinking Active Listening Judgment and Decision Making	DependabilityAttention to DetailCooperation	⊙ Concern for others
WORKPLACE ENVIRONMENT	Hands-on, physically active, and field bas tight spaces like attics, crawl spaces, and	ed. Strong focus on improving energy efficier basements. Standing, climbing ladders, bend	ncy in homes and buildings. Working in ling, and kneeling for extended periods.
MEDIAN WAGE & SALARY	\$17-\$25/hour; \$37-\$52 k/year		
WORK EXPERIENCE	1-2 years in related fields like Constructio	n, HVAC, insulation or general building maint	enance preferred.
EDUCATION AND CREDENTIALS	High school diploma or recognized equivalent. Relevant industry certifications may apply (e.g., OSHA 10/30, First Aid/CPR, CDL Class A, NCCER Electrical Lineworker certification, Flagging or traffic control). Apprenticeship opportunities available depending on location and employer.		
REQUIRED TECHNOLOGIES	Email, Microsoft Office, Database Softwar	re	
OTHER JOB TITLES/ ROLES	Energy Administrator, Field Technician, W Technician, Weatherization Worker	eatherization and Housing Inspector, Weathe	erization Installer, Weatherization



GENERAL MAINTENANCE HELPER

0-1 year experience

\$16-\$22/hr \$33-\$45 k/year

- High School Diploma or recognized equivalent
- OSHA 10

CONSTRUCTION LABORER

0-1 year experience

\$17-\$23/hr \$35-\$48k/year

- · High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training · OSHA 10; First Aid/CPR

INSULATION INSTALLER

0-1 year experience

\$16-\$24/hr \$33-\$50 k/year

• High School Diploma or recognized equivalent On-the-Job Training

HVAC ASSISTANT/HELPER

0-1 year experience

\$18-\$26/hr \$37-\$54 k/year

- · High School Diploma or recognized equivalent
- · Apprenticeship or On-the-Job Training

INSTALLER/TECHNICIAN

\$17-\$25/hr \$37-\$52 k/vear

ENERGY AUDITOR - RESIDENTIAL

1-3 years in construction, energy, or HVAC preferred.

\$25-\$35/hr \$52-\$72 k/year

- · High School Diploma or recognized equivalent
- On-the-job training
- Building Performance Installer (BPI) Building Analyst
- Home Energy Rating System (HERS)
- Residential Energy Services Network (RESNÉT)

BUILDING PERFORMANCE CONSULTANT

5-10 years experience

\$75-\$100k/vear

- Bachelor's Degree
- Specialty Certifications may apply
- Leadership in Energy and Environmental Design (LEED)
- Building Performance Installer (BPI)
- Home Energy Rating System (HERS)

CONSTRUCTION SKILLED TRADESPERSON/ APPRENTICE*

0-1 year experience

\$40-\$50k/year

- High School Diploma or recognized equivalent
- On-the-Job Training or 3-5 year Apprenticeship
- OSHA 10, Building Performance Installer (BPI)

CREW LEADER/LEAD INSTALLER

2-4 years experience

\$25-\$30/hr \$52-\$62 k/year

- · High School Diploma or recognized equivalent
- On-the-job training
- Building Performance Installer (BPI) Retrofit Installer
- OSHA 30
- · Journeyworker card*



5-7 years experience

\$85-\$120k/vear

- Associate or Bachelor's Degree preferred
- Project Management Professional (PMP)
- Building Performance
- Installer (BPI)

COMMUNITY ACTION AGENCIES

PRIVATE CONTRACTORS

GOVERNMENT-FUNDED WEATHERIZATION ASSISTANCE PROGRAMS

Note: Salaries and education requirements may vary depending on location, company size, union status, and the specific energy sector. *Apprenticeship may not be required for this occupation dependent on employer.



ENERGY EFFICIENCY - BUILDING ENERGY ASSESSMENT/ENERGY CONSULTING

JOB DESCRIPTION	Conduct energy audits of buildings, building systems, or process systems. May also conduct investment grade audits of buildings or systems.		
KEY FOUNDATIONAL COMPETENCIES	 Data analysis Diagnostic Testing	 Report Writing, Oral Comprehension Inductive Reasoning	
WORKPLACE COMPETENCIES	 Energy Auditing Quality Control	 Time Management Organization	Field Specific Technical Expertise
COMMON SKILLS	Computer & TechnologyCustomer Service	 Communication Critical Thinking	 Mathematical Reasoning Judgment and Decision Making
WORKPLACE ENVIRONMENT	Residential homes, commercial buildings, and industrial facilities. Split between on-site assessments and desk-based reporting or modeling. Travel is often required, especially for in-home or facility audits. Some kneeling, bending, or working in confined spaces - attics, crawlspaces, and basements.		
MEDIAN WAGE & SALARY	Residential: \$25-\$35/hr; \$52-\$72 k/year Commercial/Industrial: \$28-\$43/hr; \$60-\$90 k/year		
WORK EXPERIENCE	1-3 years in construction, energy, or HVAC preferred.		
EDUCATION AND CREDENTIALS	Residential: High School Diploma or Recognized Equivalent, On-the-job training, Building Performance Installer (BPI) Building Analyst, Home Energy Rating System (HERS), Residential Energy Services Network (RESNET)		
	Commercial/Industrial: Associate or Bachelor's (Energy, HVAC, Engineering), Building Performance Installer (BPI) Building Analyst, Certified Energy Manager (CEM), Home Energy Rating System (HERS), Residential Energy Services Network (RESNET)		
REQUIRED TECHNOLOGIES	Electrical Multimeter or Kill-a-Watt Meter, Energy Modeling Software, Report Writing Software, Building Information Modeling (BIM) Software, Geographic Information Systems (GIS)		
OTHER JOB TITLES/ ROLES	Building Performance Consultant, Buildin Systems Specialist, Energy Auditor, Energ	g Science and Energy Specialist, Building Scie y Consultant, Energy Rater, Home Energy Ins	entist, Energy Advisor, Energy and Building spector, Home Performance Consultant

ENERGY EFFICIENCY - BUILDING ENERGY ASSESSMENT/ENERGY CONSULTING

CONSTRUCTION LABORER

0-1 year experience

\$17-\$23/hr \$35-\$48k/year

- High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training
- OSHA 10; First Aid/CPR

INSULATION INSTALLER

0-1 year experience

\$16-\$24/hr \$33-\$50 k/year

- High School Diploma or recognized equivalent
- On-the-Job Training

HVAC ASSISTANT/HELPER

0-1 year experience

\$18-\$26/hr \$37-\$54 k/year

High School Diploma or recognized equivalent Apprenticeship or On-the-Job Training

WEATHERIZATION INSTALLER/ TECHNICIAN

0-1 year experience. 1-2 years in related fields like Construction, HVAC, insulation or general building maintenance preferred. Valid Driver's License

> \$17-\$25/hr \$37-\$52 k/year

- High School Diploma or recognized equivalent
- On-the-job training
- OSHA 10, Building Performance Installer (BPI)

ENERGY AUDITOR - RESIDENTIAL

1-3 years in construction, energy, or HVAC preferred.

\$25-\$35/hr \$52-\$72 k/year

- High School Diploma or
- recognized equivalent On-the-job training
- Building Performance Installer
- (BPI) Building Analyst Home Energy Rating System
- Residential Energy Services Network (RESNĚŤ)

SENIOR ENERGY AUDITOR

5-7 years experience

\$75-\$100k/year

- Associate or Bachelor's Degree
- Advanced Building Performance Installer (BPI) - Multifamily
- Certified Energy Manager (CEM)

ENERGY ENGINEER

5+ years experience

\$90-\$130k/year

- Bachelor's Degree (Engineering)
- Professional Engineer (PE)
- Certified Energy Manager (CEM)

ENERGY AUDITOR -COMMERCIAL/INDUSTRIAL

1-3 years in construction, energy, or HVAC preferred.

\$28-\$43/hr \$60-\$90k/year

- Associate or Bachelor's (Energy,
- HVAC, Engineering)
- Building Performance Installer (BPI) Building Analyst Certified Energy Manager (CEM)
- Home Energy Rating System
- Residential Energy Services Network (RESNET)

BUILDING PERFORMANCE CONSULTANT

5-10 years experience

\$75-\$100k/vear

- Bachelor's Degree Specialty Certifications may apply
- Leadership in Energy and Environmental Design (LEED)
- Building Performance Installer (BPI)
- Home Energy Rating System (HERS)

ENERGY PROGRAM MANAGER

7-10 years experience

\$85-\$120k/year

- Bachelor's Degree (Engineering/ Environmental Science)
- Project Management Professional (PMP)
- Certified Energy Manager (CEM) preferred

PUBLIC HOUSING. APARTMENT COMPLEXES

COMMERCIAL, RESIDENTIAL,

Note: Salaries and education requirements may vary depending on location, company size, union status, and the specific energy sector.



ELECTRIC POWER/UTILITIES - ELECTRIC POWER TRANSMISSION AND DISTRIBUTION

JOB DESCRIPTION	Install or repair cables or wires used in electrical power or distribution systems. May erect poles and light or heavy duty transmission towers.		
KEY FOUNDATIONAL COMPETENCIES	 Initiative and Proactiveness Building and Construction	Testing and CalibrationTechnical Proficiency in Specific Utility Systems	
WORKPLACE COMPETENCIES	Troubleshooting and DiagnosticsReading and Interpreting Technical Documents	 Lockout/Tagout (LOTO) Procedures Environmental Awareness	
COMMON SKILLS	Computer Skills and Software Proficiency	 Clear and Concise Communication Active Listening	⊙ Critical Thinking
WORKPLACE ENVIRONMENT	or bucket trucks. Frequent travel across so periods. Lifting and carrying heavy equip	conditions. Work is performed on utility poles ervice areas or regions.Climbing poles or tow ment (cables, transformers, tools). Exposure n-call and emergency work, especially during	vers and working at heights for extended to extreme heat, cold, rain, snow, wind,
MEDIAN WAGE & SALARY	\$22-\$32/hour; \$45-\$66 k/year		
WORK EXPERIENCE	0-1 year experience		
EDUCATION AND CREDENTIALS	High school diploma or recognized equiva Class A, NCCER Electrical Lineworker cert on location and employer.	alent. Relevant industry certifications may ap ification, Flagging or traffic control). Appren	oply (e.g., OSHA 10/30, First Aid/CPR, CDL ticeship opportunities available depending
REQUIRED TECHNOLOGIES	Computer aided design CAD software, Ge	ographic information system, Email, Spreads	sheet Software
SPECIAL SKILLS OR COMPETENCIES	Supervisory control and data acquisition (Electrical and Plumbing)	(SCADA) software, advanced metering infras	tructure, State Specific Licenses (Ex.
OTHER JOB TITLES/ ROLES	Class Gloving Electrical Lineman, Class Ru Lineman, Power Lineman Technician, Thir	bber Gloving Lineman, Electrical Lineman, El d Step Lineman	lectrical Lineworker, Lineworker, Power

ELECTRIC POWER/UTILITIES -ELECTRIC POWER TRANSMISSION AND DISTRIBUTION

CONSTRUCTION LABORER

0-1 year experience

\$17-\$23/hr \$35-\$48k/year

- · High School Diploma or recognized equivalent
- Apprenticeship or
- On-the-Job Training · OSHA 10; First Aid/CPR

ELECTRICAL - HELPER

0-1 year experience

\$15-\$22/hr \$32-\$45k/year

- High School Diploma or recognized equivalent
- Apprenticeship or On-the-Job Training
- · OSHA 10; First Aid/CPR

UTILITY GROUNDWORKER

1 year preferred CDL Class A (often required)

\$18-\$25/hr \$37-\$52 k/year

· High School Diploma or recognized equivalent

LINEWORKER APPRENTICE*

\$22-\$32/hr \$45-\$66 k/year

- High School Diploma or recognized equivalent
 Apprenticeship or On-the-Job
- Relevant industry certifications Relevant industry certifications may apply (e.g., OSHA 10/30, First Aid/CPR, CDL Class A, NCCER Electrical Lineworker certification, Flagging or traffic control)

LINEWORKER JOURNEYWORKER*

4+ years experience

\$70-\$90 k/year

- High School Diploma or recognized equivalent
- Completion of Apprenticeship Program*

LINE SUPERVISOR

8-10 years experience

\$90-\$120 k/year

- · High School Diploma or recognized equivalent
- CDL, OSHA 30, First Aid/

LEAD LINEWORKER/ CREW LEADER

6-8 years experience

\$80-\$110 k/year

- · High School Diploma or recognized equivalent
- Journeyworker Card*
- Leadership Training

ELECTRICAL UTILITY MANAGER

10+ years experience

\$100-\$140 k/year

- · Some college or Associate Degree
- Leadership, Safety, Utility Operations

Note: Salaries and education requirements may vary depending on location, company size, union status, and the specific energy sector. *Apprenticeship may not be required for this occupation dependent on employer.



• STOCKKEEPER (STOCKERS AND ORDER FILLERS)

SUPPLY CHAIN, LOGISTICS, AND INVENTORY MANAGEMENT - ELECTRIC POWER (UTILITIES), RENEWABLE ENERGY (E.G., SOLAR OR WIND OPERATIONS), OIL & GAS OR ENERGY MANUFACTURING/DISTRIBUTION

JOB DESCRIPTION	The Stockkeeper is responsible for maintaining accurate inventory levels and ensuring the efficient flow of materials within the designated storage areas. This role involves receiving, inspecting, organizing, storing, and issuing materials, parts, and supplies. The Stockkeeper plays a crucial role in supporting the operational needs of the company by ensuring the right items are available at the right time and in the right quantities.		
KEY FOUNDATIONAL COMPETENCIES	Safety Consciousness and CompliancePhysical Stamina and Dexterity	 Adaptability Knowledge of Specialized Materials	
WORKPLACE COMPETENCIES	 Safety Awareness and Risk Management (OSHA) Quality Control Time Management 	 Inventory Management Systems Material Identification and Verification Warehousing and Storage Procedures 	
COMMON SKILLS	 Attention to Detail and Accuracy Responsibility and Reliability	 Communication Basic Computer and Digital Literacy	 Organizational Skills Basic Problem Solving
WORKPLACE ENVIRONMENT	Warehouse facilities, supply yards, tool rooms, or onsite at power plants or wind/solar farms. Indoors primarily, but may include outdoor storage areas or working in different weather conditions. Regular lifting, bending, and moving materials (may involve 40+ lbs). Operating forklifts, pallet jacks, or other material-handling equipment. Long periods of standing or walking in warehouse or yard environments.		
MEDIAN WAGE & SALARY	\$24-\$27/hour; \$49-\$56 k/year		
WORK EXPERIENCE	On-the-Job training or 1-2 years of experience		
EDUCATION AND CREDENTIALS	High School Diploma or recognized equivalent. Industry-Specific Training (Forklift Operator Certification, Hazardous Materials Handling Certification, Safety Certifications)		
REQUIRED TECHNOLOGIES	Inventory Management Systems (IMS) / Enterprise Resource Planning (ERP) Modules, Barcode Scanners, Radio Frequency Identification (RFID) Technology, Mobile Computers and Tablets, Email, Messaging Apps		
SPECIAL SKILLS OR COMPETENCIES	Knowledge of Handling Hazardous Materia	als	
OTHER JOB TITLES/ ROLES	Stockers, Order Fillers, Warehouse Associa Inventory Clerk.	ate, Warehouse Worker, Supply Clerk, Stockro	oom Attendant, Materials Handler,

PARTS RUNNER/DELIVERY DRIVER

Valid Driver's License and Clean Driving Record 0-1 year experience

\$13-\$18/hr \$28-\$38k/year

· High School Diploma or recognized equivalent

MATERIAL HANDLER

0-1 year experience

\$16-\$21/hr \$35-\$45 k/year

· High School Diploma or recognized equivalent

WAREHOUSE HELPER/ASSISTANT

0-1 year experience

\$16-\$21/hr \$34-\$45 k/year

· High School Diploma or recognized equivalent

STOCKKEEPER

On-the-job training or 1-2 years

\$24-\$27/hr \$49-\$56 k/year

- High School Diploma or recognized equivalent
- Industry-Specific Training (Forklift Operator Certification, Hazardous Materials Handling Certification, Safety Certifications)

SUPPLY CHAIN Specialist

2-3 years experience

\$67-70 k/year

- Bachelor's Degree
 Preferred
- Advanced Certifications may apply

SUPPLY CHAIN MANAGER

3-5 years experience

\$80-\$120 k +/year

- Bachelor's Degree Preferred
- Advanced Certifications may apply

SENIOR LOGISTICS DIRECTOR

5+ years of managerial experience

\$148-\$182 k +/year

- Master's Degree Preferred
- Advanced Certifications may apply

Note: Salaries and education requirements may vary depending on location, company size, union status, and the specific energy sector.

About the Council for Adult and Experiential Learning

Recognizing that adult learners are the backbone of the U.S. economy, CAEL helps forge a clear, viable connection between education and career success, providing solutions that promote sustainable and equitable economic growth. CAEL opens doors to opportunity in collaboration with workforce and economic developers; postsecondary educators; employers and industry groups; foundations and other mission-aligned organizations. By engaging with these stakeholders, we foster a culture of innovative, lifelong learning that helps individuals and their communities thrive. A membership organization established in 1974, CAEL is a part of Strada Collaborative, a mission-driven nonprofit. Learn more at cael.org.



About The Community College of Allegheny County (CCAC)

The Community College of Allegheny County is a cornerstone of education and workforce development in Western Pennsylvania, dedicated to serving the region's diverse and dynamic population. As an open-access institution, CCAC provides affordable, high-quality education and training programs to empower individuals from all backgrounds to achieve academic and career success. Learn more by clicking this link **The Community College of Allegheny County**.



About Northwest Native Chamber (NWNC)

NWNC is a a 501(c)(3) nonprofit organization dedicated to supporting the business and career development of the communities that they serve. NWNC has grown to establish Clean Energy programming, including their Native Clean Energy Workforce Initiative and Contractor Development Program. These programs grow contractor capacity for taking on energy efficiency work, and create a pathway for entering the clean energy workforce in jobs like solar or wind technicians. Learn more by clicking this link Northwest Native Chamber.



About Revolution Workshop (RW)

Revolution Workshop provides free construction job training to help unemployed and underemployed people in Chicago build a career in the trades. Since 2018, RW has trained over 500 people, placing 90% of graduates into entry-level skilled-trades careers. RW's hands-on program trains candidates to meet the requirements and skills of our local industry, including OSHA-10 safety, proper use of hand and power tools, construction math, as well as an understanding of the punctuality and work ethic required in the field. In addition to construction skills, RW provides holistic case management services related to financial literacy,transportation, housing, and mental health.



In 2023 Revolution Workshop launched the Professional Pathways Program tailored for individuals aspiring to pursue careers on the professional side of construction, engineering, and architecture. Entry-level positions include: project coordinators, assistant project engineers, estimators, and entry-level CAD drafters. Learn more by clicking this link **Revolution Workshop**.

Thank You!

to our partners and their participating stakeholders for their invaluable contributions and collaboration throughout this initiative

THE COMMUNITY COLLEGE OF ALLEGHENY COUNTY (CCAC)

DOMINION ENERGY

EIS SOLAR

EOS ENERGY ENTERPRISES

GITLAB FOUNDATION

IMAGINE ENERGY

NEW SUN RISING

NORTHWEST NATIVE CHAMBER (NWNC)

PARTNER4WORK

REVOLUTION WORKSHOP (RW)

VESTAS



