

Solar Photovoltaic Installers

SOC: 47-2231 • Career Profile Report

■ Key Facts

\$51,860 Median Salary	28,600 Employment	+42.0% Growth Rate
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■ Requirements & Salary Range

Education: High school diploma

■ Automation Risk Assessment

Medium Risk - 35.0% probability of being automated in the next 10-20 years.
This job has some routine elements but still requires human judgment and interaction.

■ Work-Life Balance

7.8/10 - Good work-life balance

■ Personality Fit (RIASEC)

Higher scores indicate better personality fit for this career type.

Realistic	9.4/10	Investigative	5.8/10
Artistic	4.0/10	Social	5.0/10
Enterprising	5.0/10	Conventional	6.0/10

■ Top Skills Required

Ability to work at heights, Communication skills, Detail oriented, Math skills, Mechanical skills, Physical stamina, Physical strength

✓ Strengths

- High Demand
- Flexible Work
- Continuous Learning

■ Challenges

- Burnout Risk
- Rapid Technological Change

■ What They Do

Solar Photovoltaic Installers are skilled renewable energy professionals who install, maintain, and service **solar panel systems that convert sunlight into electricity**. Their work supports the transition to clean energy by enabling homes, businesses, and utilities to generate sustainable power. These installers combine electrical knowledge, construction skills, and safety practices to ensure solar systems operate efficiently and reliably.

This career is well suited for individuals who enjoy hands-on technical work, working outdoors, and contributing to environmental sustainability.

What Do Solar Photovoltaic Installers Do?

Solar photovoltaic (PV) installers set up solar energy systems on rooftops, ground-mounted structures, and large solar farms. Their responsibilities emphasize precision, safety, and system performance.

Common responsibilities include:

- Installing solar panels, mounts, and support structures
- Assembling and securing photovoltaic modules to roofs or frames
- Connecting panels to inverters, wiring, and electrical systems
- Testing systems for proper operation and efficiency
- Following electrical codes and safety regulations
- Inspecting and maintaining existing solar installations
- Reading blueprints, diagrams, and technical specifications

Types of Solar Installation Roles

Solar installers may work in different environments or specialize in system scale:

- Residential Solar Installers: Install rooftop systems on homes.
- Commercial Solar Installers: Work on office buildings, warehouses, and facilities.
- Utility-Scale Solar Installers: Install large solar farms and ground-mounted arrays.
- Maintenance and Service Technicians: Inspect and repair existing solar systems.
- Electrical Solar Technicians: Focus on wiring, inverters, and grid connections.

Skills and Abilities Needed

Solar photovoltaic installers combine physical ability with technical understanding.

Core Professional Skills

Personal Qualities That Matter

Education and Training Pathway

Most solar PV installers enter the field through hands-on training and technical education:

- High School Diploma or Equivalent: Typical minimum requirement
- On-the-Job Training or Apprenticeships: Learning installation techniques and safety practices
- Technical or Trade School Programs (helpful): Electrical or renewable energy training
- Industry Certifications (optional): Solar installation or safety credentials
- Continuing Education: Updates on codes, equipment, and system design

Where Do Solar Photovoltaic Installers Work?

Solar installers work in a variety of construction and energy environments:

- Residential Homes and Apartment Buildings
- Commercial and Industrial Facilities

- Solar Farms and Utility-Scale Installations
- Renewable Energy and Electrical Contracting Companies
- Construction and Green Building Projects

Work is often performed outdoors and may be affected by weather conditions.

How Much Do Solar Photovoltaic Installers Earn?

Earnings vary by experience, certification, and project type:

- Entry-Level Installers: Typically earn hourly wages while training
- Experienced Installers: Often earn higher pay with technical skill
- Lead Installers or Crew Supervisors: May earn more with leadership responsibilities

Income may increase with overtime, travel projects, or specialized certifications.

Is This Career Difficult?

This career is physically demanding and safety-critical. Installers work at heights, handle heavy equipment, and perform electrical tasks. The challenge lies in maintaining precision, safety, and productivity while working outdoors and meeting project deadlines.

Who Should Consider Becoming a Solar Photovoltaic Installer?

This career may be a strong fit if you:

- Enjoy hands-on construction or electrical work
- Are comfortable working outdoors and at heights
- Want to contribute to renewable energy solutions
- Prefer a growing skilled trade with strong demand
- Like learning new technologies and systems

How to Prepare Early

- Study basic electricity, physics, and math
- Learn safe tool use and ladder or roof safety
- Explore vocational or renewable energy training programs
- Gain experience through construction or electrical helper roles
- Research local licensing and solar certification requirements

Solar photovoltaic installers play a key role in the clean energy transition, transforming sunlight into usable power and helping communities build a more sustainable and resilient energy future.