

Training And Certification Requirements For Careers In Solar Panel Installation

If you are looking to enter the field of solar panel installation, you would greatly benefit from being aware of the various training and certification requirements for the job. Obviously, extensive training is crucial if you are to have a certain degree of competency, however, certification is not necessarily an absolute requirement for solar panel installers in most states.

Obtaining certification from recognized solar energy regulatory organizations will likely have the effect of increasing your career opportunities and making your credentials more viable for a green job in the solar energy sector.

It is worth keeping in mind that different states may have different requirements with regard to licensing for solar panel installation professionals. These requirements typically fall under general contractor licenses or their equivalent, with some being more specifically categorized as electrical contractor licenses for PV, plumbing license for solar thermal systems, or solar contractor licenses.

You should also be aware that the North American Board of Certified Energy Practitioners or NABCEP specifically states that the certification which they offer is in no way intended to take the place of any licenses, credentials or certificates that may be required by local laws in the state wherein you plan to practice your trade. These solar certification and solar training courses are purely voluntary at present, although there is an increasing trend to support these and other similar solar certification programs by way of rebates and other incentives. Furthermore, the number of projects that require solar certification from the NABCEP certification is on the rise, and this will likely increase even further in the near future.

The solar certification program of the NABCEP specifies that solar PV installers should possess the skills and knowledge necessary to recommend solar electrical systems, configure and install these systems, inspect and maintain them in way that meets the customers' satisfaction, and conform to current industry standards for the performance, safety and reliability of solar electrical systems.

To this end, the NABCEP has developed a system geared towards PV Task Analysis, which is comprised of several areas of discipline, including how to work safely with PV systems, conducting site assessment, the selection of proper solar design, how to adapt the mechanical and electrical design, installation of solar electrical subsystems and components on-site, system check and inspection, and solar electrical system troubleshooting and maintenance.

All of these are of course essential areas of knowledge for those who are seeking qualifications as solar energy industry practitioners. In a report published by the Massachusetts Technology Collaborative in 2003 detailing training and certification requirements for the photovoltaic industry, it stated that the training required for solar industry professionals goes well beyond that which is typical for other areas in the building and construction industries. The report goes on to list some of the training requirements specific to the field of photovoltaic installations, some of which are outlined below:

- On-site evaluation with regard to system performance. This would include determining the effects of obstructions, angles, and so on.
- Characteristics of photovoltaic cells and modules, particularly how they relate to the design and performance of solar electrical systems
- System characteristics calculation—which includes aspects such as wire size—as a means of minimizing power loss and optimizing energy production
- Current wiring methods
- Mounting technology
- Solar electrical system maintenance, as well as diagnostics and troubleshooting methods
- Customer education

Aside from these training requirements, aspiring solar panel installation professionals should also receive instruction in basic electrical skills, possess knowledge of the electrical grid, and be well versed in various roof and ceiling applications.

The installation of solar hot water or pool heating systems has its own requirements with regards to training and certification, for which the NABCEP has also developed a separate task analysis. This analysis is intended specifically for solar thermal applications, and details knowledge and skill sets that are required of professionals in this area of specialization. Among the areas covered by the Solar Thermal Task Analysis of the NABCEP are:

- Safe installation of solar powered hot water and pool heating systems
- Systems and component identification
- System design adaptation
- Effective site assessment methods
- Solar collector installation

- Water heater and storage tank installation
- Piping, insulation and connector installation
- Mechanical and plumbing system and component installation
- Electrical control system installation
- Operation and identification tag installation
- System checkout
- Solar thermal system maintenance and troubleshooting

This set of tasks assumes that the solar thermal system installer utilizes an industry approved solar system design, along with the required components, installation instructions, schematics, and instructions for system assembly and troubleshooting. While the system itself is not necessarily designed by the solar electrical system provider, he or she must possess thorough knowledge about all aspects of the system, and in some cases may be called upon to modify the design depending on the application or customer requirement.

About the Author

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