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Feature Article



Solar Photovoltaic Installers

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Solar photovoltaic (PV) installers are the first of 13 occupations to be studied by the WorkSource Oregon Employment Department under the Green Jobs [Labor Market Information](#) (LMI) Improvement Grant of 2009. These 13 occupations were identified as being more likely to be green. A green job works to do at least one of the following:

- Increase energy efficiency
- Produce renewable energy
- Prevent, reduce, or mitigate environmental degradation
- Clean up and restore the natural environment
- Educate, consult, and provide other services that support the above

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Solar PV installers fall into the definition of green jobs because the major focus of the job is installing solar panels that produce renewable energy.

In 2010, research, interviews, and surveys were used to collect information on solar PV installers. Oregon employers participated in individual interviews and surveys. Their feedback was used to create an occupational profile consisting of common licenses, skills, and alternate job titles associated with solar PV installers. The profile will be used on both the WorkSource Oregon Employment Department's job matching tool [iMatchSkills®](#) (www.iMatchSkills.org) and [QualityInfo.org](#).

Defining Solar PV Installers

Oregon adopted the U.S. [Bureau of Labor Statistics'](#) (BLS) 2010 definition of solar photovoltaic installers, which states that they assemble, install, or maintain solar PV systems on roofs or other structures in compliance with site assessment and schematics. They may measure, cut, assemble, and bolt structural framing and solar modules. Some solar PV installers may perform minor electrical work such as current checks. This occupation does not include solar thermal installers (included in plumbers, pipefitters, and steamfitters) or solar PV electricians (included in electricians).

Solar PV installers were only recently identified in 2010 as an independent occupation by BLS. The WorkSource Oregon Employment Department will not have official employment or wage estimates until 2013. However, a BLS article on the solar PV installer occupation estimates that wages for entry-level solar PV installers are about \$12 to \$15 an hour and vary by location, with crew leaders making between \$20 and \$25 an hour (article available at www.bls.gov/opub/ooq/2009/fall/yawhat.pdf.)

Previously, classification of solar PV installers was fragmented: some workers were classified as electricians; roofers; construction and related workers, all other; heating, air conditioning, and refrigeration mechanics and installers; and installation, maintenance, and repair workers, all other.

Some alternate titles for this occupation include solar PV racking installers, solar system installer, solar energy technician, solar panel technician, solar panel installer, solar technician, solar installer, solar PV technician, solar installer roofers, and limited renewable energy technician.

Solar PV Skills

The WorkSource Oregon Employment Department compiles a unique set of skills for nearly all occupations defined by BLS. Each occupation in Oregon has a skill set that was created specifically to help match job seekers to job openings and aid in career advancement in Oregon. These particular skill sets are made up of both skills

that transfer among occupations, as well as skills that are unique to particular occupations. Identifying transferable skills allows workers who may want to become solar PV installers see how similar their skill sets are to the general range of skills required in this occupation.

Many Oregon employers indicated that when hiring for solar PV installers, they tend to look for applicants with previous math, construction, roofing, mechanical skills, or electrical experience. Employers also stated that they expect to provide on-the-job training to workers, due to the specialized nature of installing solar PV panels. As far as education level, employers generally cited a high school education as the minimum level needed to perform this job. Finally, employers emphasized the importance of following safety procedures and regulations on the job, as many installations take place on rooftops.

As seen in [Table 1](#), the general skill set of solar PV installers includes some solar PV-specific skills, but also includes skills that can transfer from various construction, installation, and electrical occupations' skill sets.

Table 1

Sample Skills of Solar Photovoltaic Installers

Solar PV-Specific Skills

Apply weather sealing to solar photovoltaic array, building, or support mechanisms

Attach solar photovoltaic panels to racking

Design layout of solar photovoltaic arrays and equipment

Install solar photovoltaic racking

Visually inspect solar photovoltaic panels and racking

Transferable Skills

Bend metal or plastic tubing or conduit

Cut, fit, and join construction materials

Diagnose mechanical problems in equipment

Install machinery and equipment

Use basic mathematics

Licensing in Oregon

Solar electric licensing requirements in Oregon differ slightly from other states. In order to install a solar PV system, one must possess a Limited Renewable Energy Technician (LRT) license in Oregon. An LRT license allows solar PV installers to install the entire solar PV system except for the final hook up between the solar PV system and the electrical grid. The final hook up to the grid is performed by a journeyman electrician. The State of Oregon Building Codes Division provides information on licensing requirements for solar PV installers. Additionally, a voluntary solar photovoltaic installer certification is available through the North American Board of Certified Energy Practitioners (NABCEP). The NABCEP certification is issued by a private board of renewable energy stakeholders, and is not a license from a government agency.

Additional Career Information

The final occupational profile for solar PV installers will be available for public use on iMatchSkills® and QualityInfo.org within the next few months. For a glimpse into the typical day of a solar PV installer, visit the Career Pathways photo diary page of a solar PV installer at www.MyPathCareers.org.

Oregon Employment Department

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