Solar Installer Labor Market Analysis:
National Renewable Energy Lab

Clean Energy Workforce Conference 2011
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What is the Solar LMA?

Report on current and projected solar installation workforce needs

Designed to be representative nationally and regionally to inform the Solar Instructor Training Network

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Solar Instructor Training Network

– Sponsors professional development of local instructors

– Enables capacity building of local educational institutions

– Develops materials, tools and resources
Solar Instructor Training Network

8 REGIONS, 9 REGIONAL RESOURCE AND TRAINING PROVIDERS

REGIONS:
- Northeast
- Northern Mid-Atlantic
- Southern Mid-Atlantic
- Southeast
- Midwest
- South-Central
- Rocky Mountain
- California/Hawaii

Providers

California Community Colleges Board of Governors, California Energy Commission, California Centers for Sustainable Energy, the Labor Management Cooperation Committee

Pennsylvania State University

North Carolina Solar Center at NCSU

Kennebec Valley Community College

Hudson Valley Community College

Hudson Valley Community College

Hudson Valley Community College

Pennsylvania State University

North Carolina Solar Center at NCSU

Florida Solar Energy Center at UCF

The Energy Institute at HCC - Northeast

Salt Lake Community College; Solar Energy International; Utah Solar Energy Association

Midwest Renewable Energy Association

California Community Colleges Board of Governors, California Energy Commission, California Centers for Sustainable Energy, the Labor Management Cooperation Committee

Hawaii’i

U.S. Virgin Islands
What are the Goals?

Primary – To inform the SITN on national and regional trends to ensure that the training matches employers’ needs

Secondary – To inform the general public on current and future trends in the solar installation sector
Report Highlights – Solar Installation Firms are Growing

• U.S. installers currently employ approximately 44,000 solar workers and expect to add about 9,900 more over the coming 12-month period, from August 2010 to August 2011.

• 56% of firms expect more employees in 12 months, and less than 3% expect fewer.

• Installation companies expect more than 18% employment growth overall in the next 12 months, and 22% growth in those employees who spend at least 50% of their time on solar.
Report Highlights – Occupational Growth

• Solar water heating installers and technicians: 31%.

• Photovoltaics (PV) Installers: 55%.

• Solar sales: 42%.

• Site assessors: 36%.
Report Highlights – Employer Needs and Preferences

- ½ of firms reported difficulty in finding qualified entry-level candidates (59% reported difficulty finding non-entry-level employees)

- Firms reported significant difficulty finding qualified applicants across all installation occupations

- Companies are looking for experience with customer service, construction, and electrical projects
• Firms show overwhelming preference for informal OTJ training

• Over half use customized or existing training programs for their employees
Report Highlights – PV on left; Thermal on right

- **General construction experience**: 48.7% Very important, 43.5% Somewhat important
- **Electricians' skills and/or experience**: 60.9% Very important, 31.0% Somewhat important
- **General understanding of the mechanics & engineering of solar power**: 57.6% Very important, 34.3% Somewhat important
- **Customer service skills that simplify the solar installation process**: 58.2% Very important, 30.3% Somewhat important
- **Field experience on solar installations**: 47.6% Very important, 40.7% Somewhat important
- **Knowledge of Article 690 NEC**: 58.5% Very important, 27.7% Somewhat important
- **Knowledge of site assessment technology**: 39.7% Very important, 40.3% Somewhat important
- **A state licensed electrician**: 51.3% Very important, 19.3% Somewhat important
- **NABCEP Solar PV Installer Certification**: 26.6% Very important, 39.5% Somewhat important
- **Passed the NABCEP Solar PV Entry-Level Exam**: 20.9% Very important, 41.6% Somewhat important
- **Ability to develop CAD drawings**: 22.5% Very important, 36.9% Somewhat important
- **A state licensed solar installer**: 26.9% Very important, 20.2% Somewhat important
- **Associate Degree specific to the position**: 3% Very important, 29.6% Somewhat important

- **Customer service skills**: 65.3% Very important, 26.6% Somewhat important
- **General understanding of the mechanics & engineering of solar power**: 51.5% Very important, 37.6% Somewhat important
- **General construction experience**: 49.1% Very important, 41.2% Somewhat important
- **Field experience on solar installations**: 46.1% Very important, 39.4% Somewhat important
- **Plumbing skills and/or experience**: 44.5% Very important, 35.2% Somewhat important
- **Knowledge of site assessment technology**: 34.7% Very important, 40.2% Somewhat important
- **A state licensed plumber**: 24.5% Very important, 18.1% Somewhat important
- **NABCEP Solar Thermal Installer Certification**: 15.4% Very important, 31.1% Somewhat important
- **Plumbing certification not specific to solar**: 14.5% Very important, 29.4% Somewhat important
- **Field experience on solar installations**: 18.1% Very important, 41.2% Somewhat important
- **Ability to develop CAD**: 10% Very important, 25.2% Somewhat important
- **Associate Degree specific to the position**: 6% Very important, 27.8% Somewhat important
Questions?

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