

California's Solar Industry:



Preparing the Workforce

Presented by
California Community Colleges
Centers of Excellence



What are the Centers of Excellence?

The Centers of Excellence, in partnership with business and industry, deliver regional workforce research customized for community college decision making and resource development.



Ten Regional Centers of Excellence

Solar Industry Study Regions

- Bay Region
 - Bay Area and Greater Silicon Valley
- Southern California
 - Los Angeles
 - Inland Empire, San Diego & Imperial, South Central and Orange
- Greater Sacramento



Today's Webinar

- Solar Study
 - Industry Overview
 - Occupational Overview
 - Community College Response
- Conversation with Industry & College Representatives
 - Sue Kateley, California Solar Energy Industries Association (CAL SEIA)
 - Marcy Drummond, Los Angeles Trade-Technical College
 - Tom Hersh, Golden West College
- Question & Answer session



Solar Industry Study

Presentation of study findings

- John Carrese, COE Director, San Francisco Bay Region
- Jennifer Oliver, COE Director, Greater Silicon Valley Region



Solar Industry Study

Objectives

- Provide an overview of the industry
- Examine employment trends in the industry
- Confirm employers' hiring, training and retention needs
- Highlight model college programs
- Identify opportunities for colleges to respond



Defining the Solar Industry

Interviews with Solar Executives helped define the sub-sectors of the industry

- Installers of solar photovoltaic and/or thermal systems (includes contractors where solar is a component of the business)
- Distributors of solar energy equipment
- Manufacturers of solar cells



Identifying Solar Employers

Industry Partners included:

- California Solar Energy Industries Association
- Northern California Solar Energy Association
- SolarTech
- California Energy Commission
- Solar Power Conference, 2007
- FindSolar.com

Solar employer database

- Approximately 770 California businesses identified



Solar Employers in California

Approximately 770 solar businesses statewide:

- 33% in Bay Area
- 16% in Greater Sacramento
- 14% in Los Angeles
- 26% in Southern California (6 counties)*



*Southern California data includes: San Diego, Imperial, Orange, Riverside, San Bernardino, and Ventura counties.



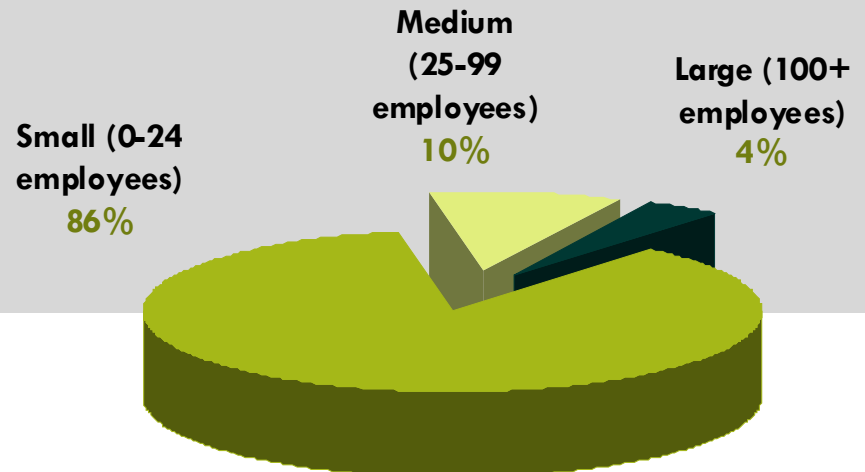
Solar Employers in California

Type of solar employers

- Manufacturers – 7.5%
- Installers and Distributors – 92.5%

Size of firms

- 86% of solar firms employ fewer than 25 workers



California Solar Employment

- California – approximately 17,000 jobs*

Regional distribution of employment

- Bay Region – 8,000 jobs
- Greater Sacramento – 800 jobs
- Los Angeles – 2,000 jobs
- Southern California – 4,900 jobs



*employment levels are estimates calculated from survey responses.

Industry Trends

- Rising energy prices/climate crisis
- New technologies
- Venture capitalist funding
- Incentives and policies



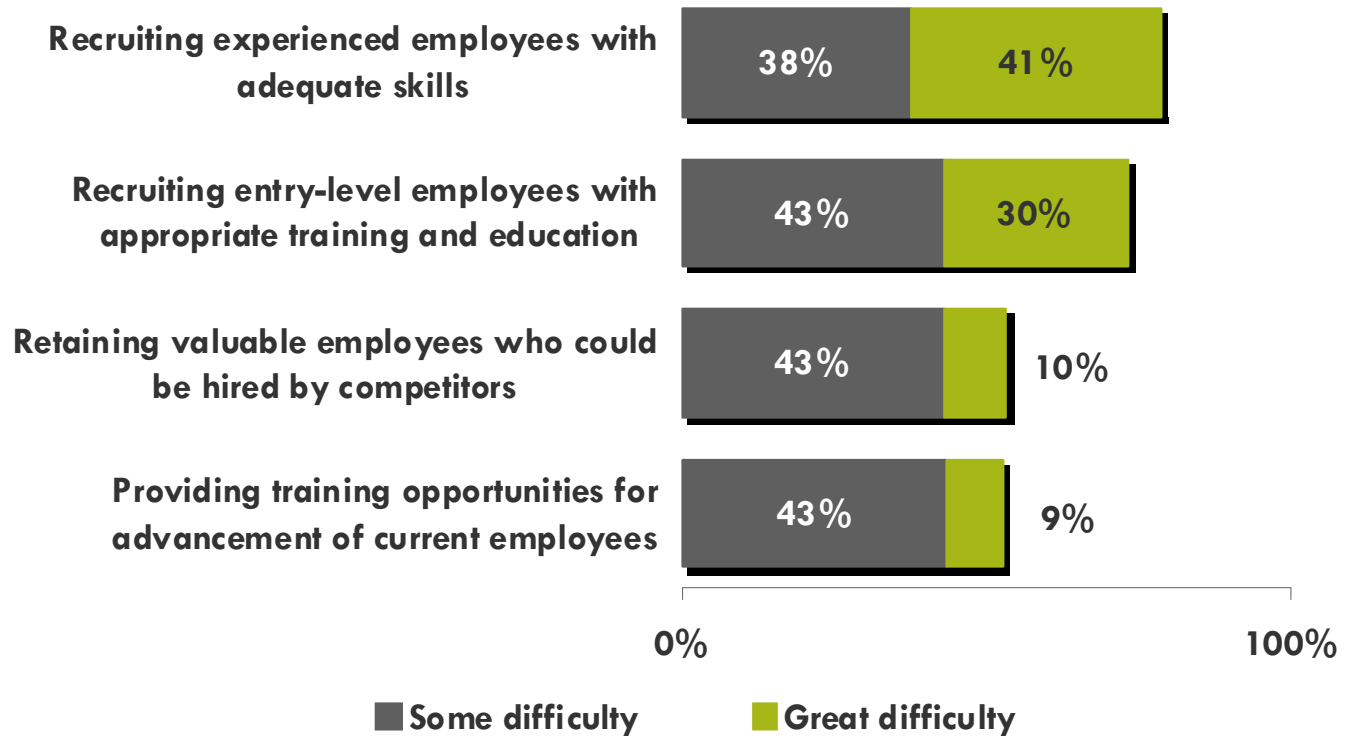
Workforce Challenges

- Shortage of qualified applicants
- Undersupplied occupations
- Resulting in gap between supply and demand



Difficulty Hiring

- Finding and retaining employees is challenging for solar employers statewide



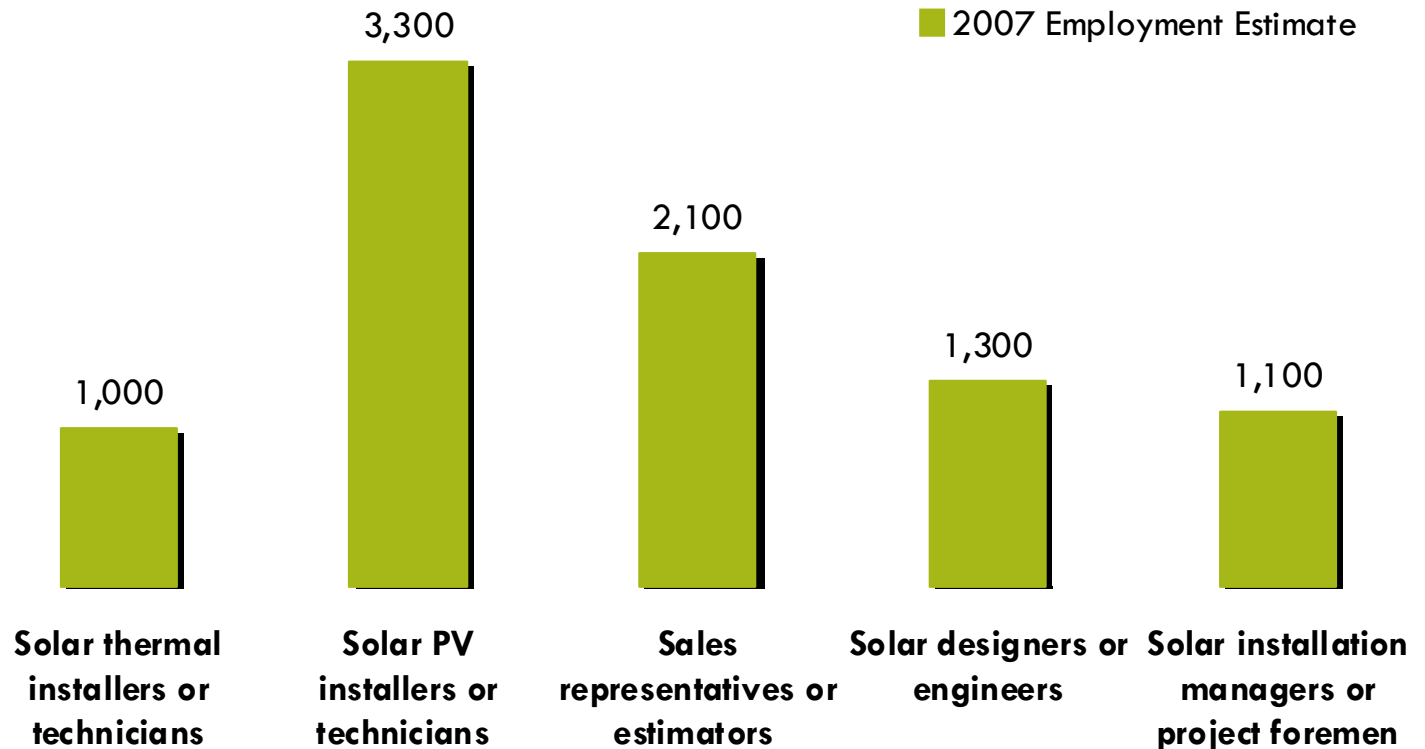
Solar Occupations

- Solar Photovoltaic (PV) Installer
- Solar Thermal Installer
- Solar Sales Representative/Estimator
- Solar Designer/Engineer
- Solar Installation Manager/Project Foreman



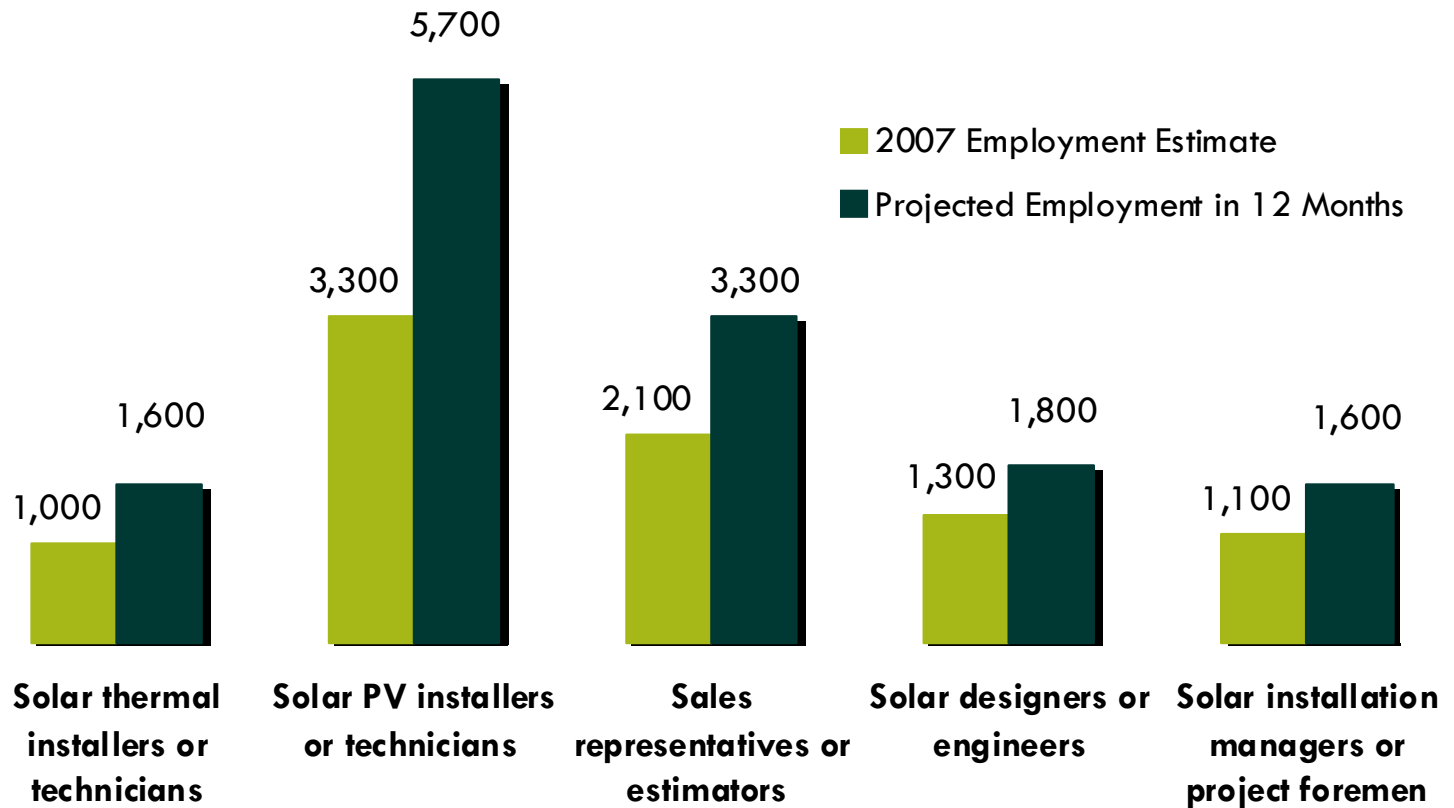
California Occupational Employment

- Solar PV installers or technicians generate greatest amount of employment

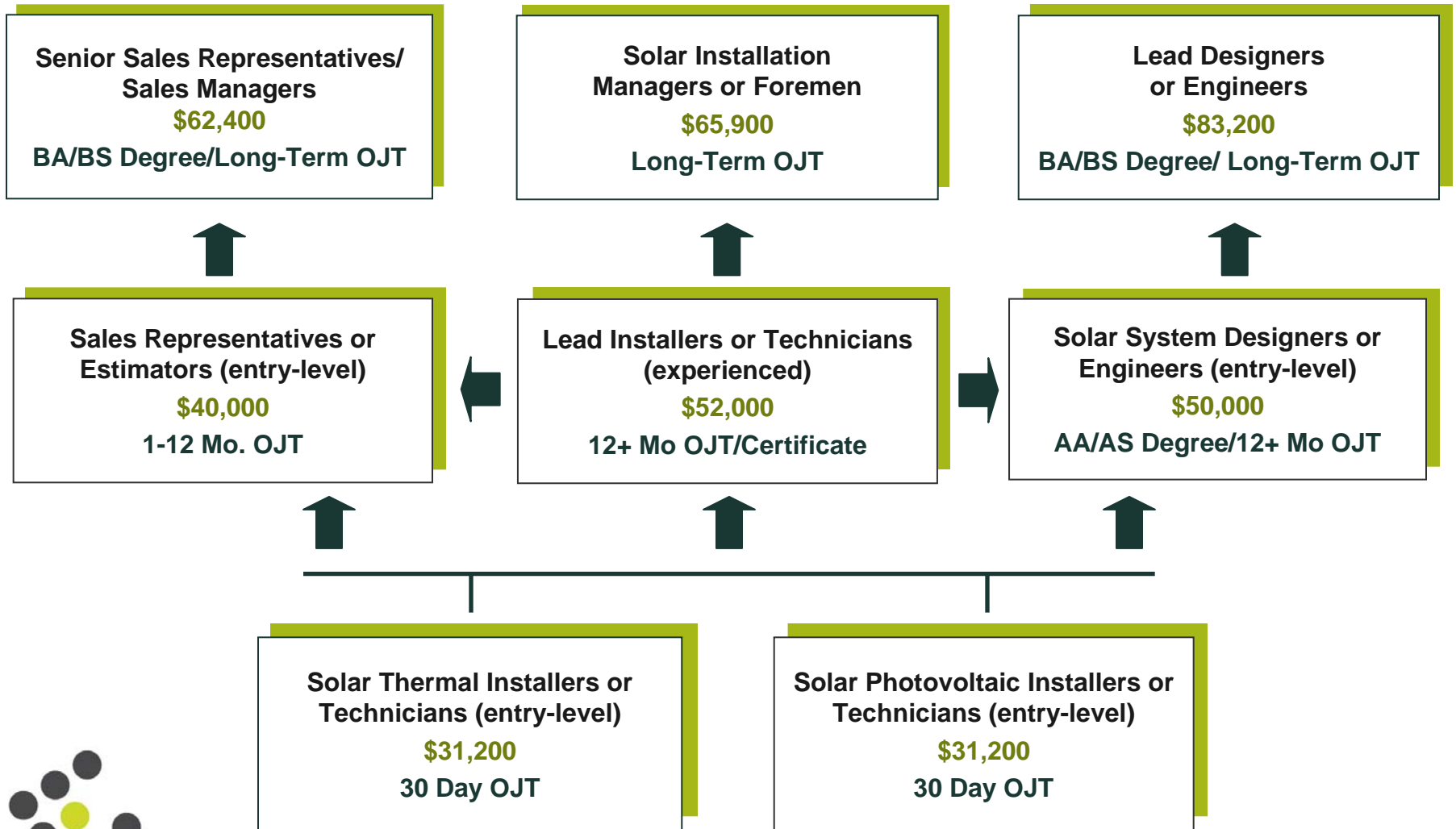


California Occupational Growth

- Employers expect to significantly increase hiring in the next 12 months

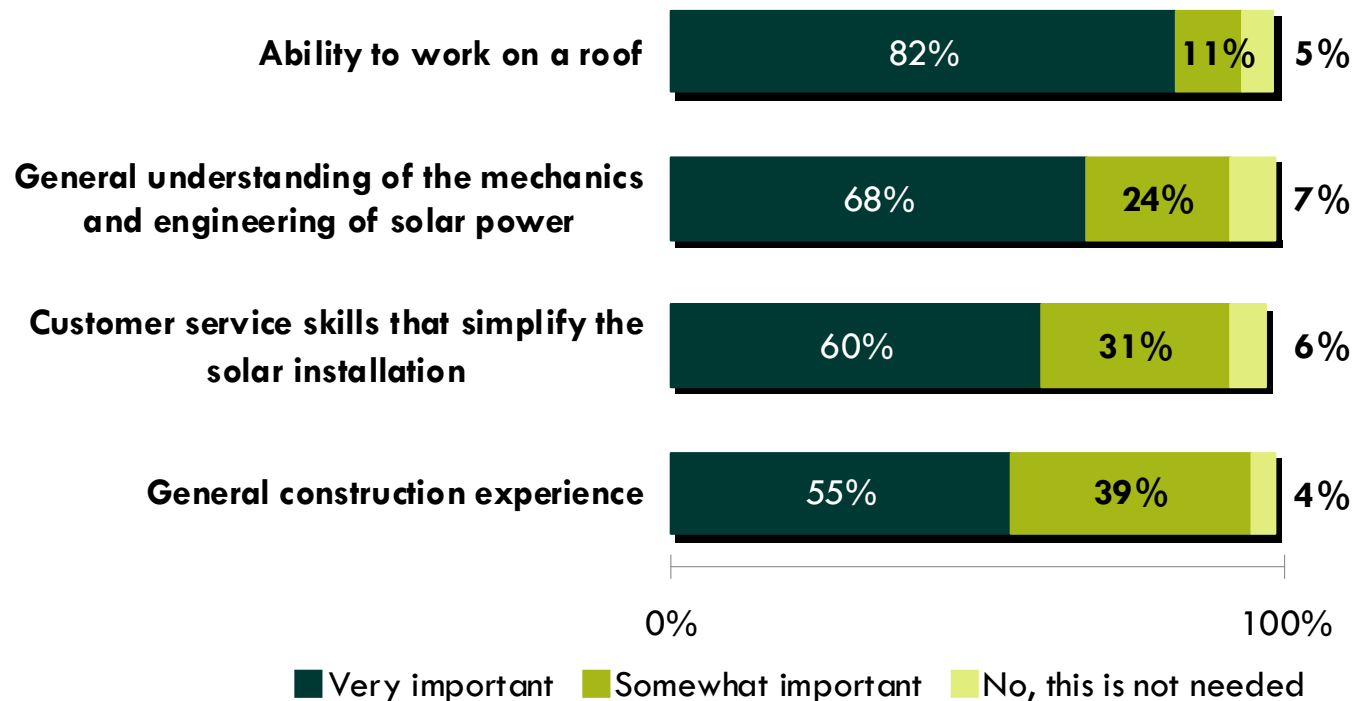


Career Ladder



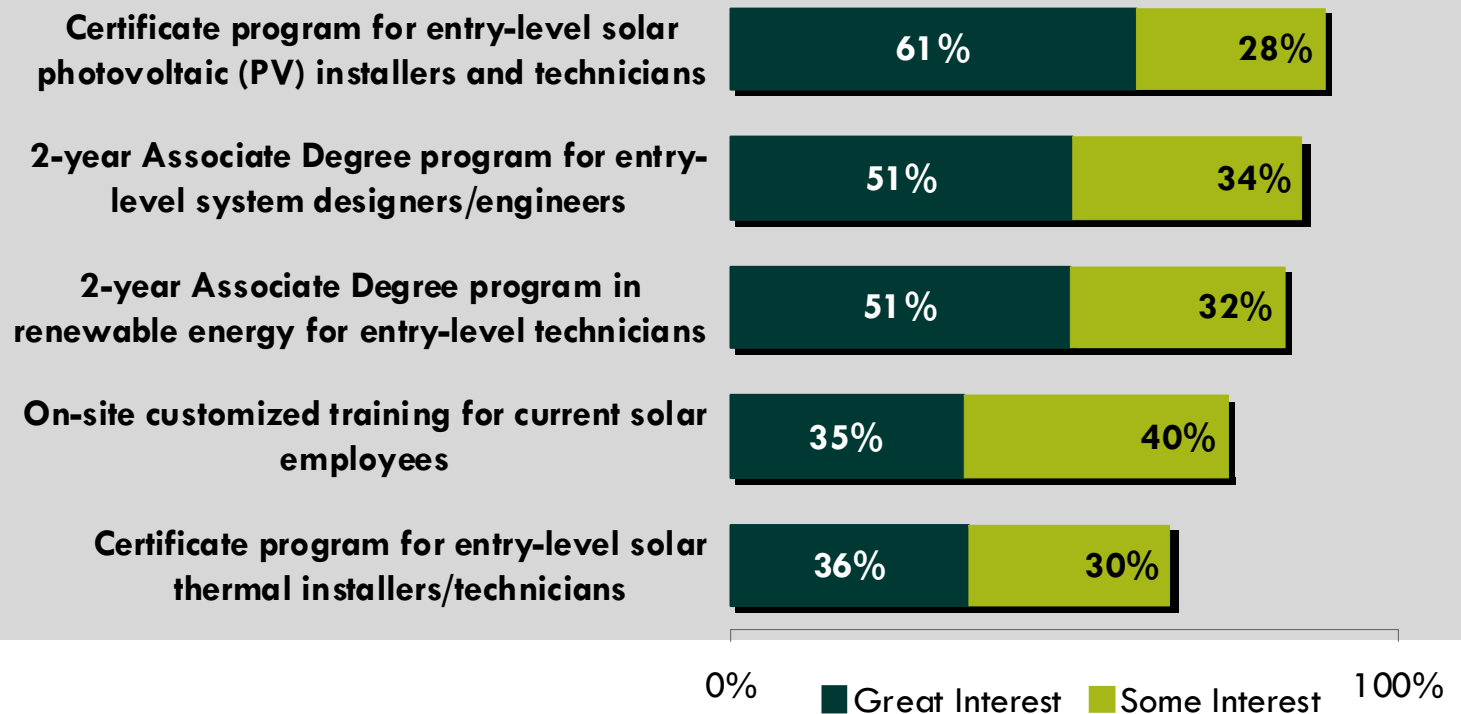
Skills Preferences

Top four most important skills for solar occupations, as related by employers



Occupational Education & Training

- Employers express interest in education and training options



Responding to Industry

- Colleges have capacity to respond
- Model programs exist
- Career ladder for advancement
- Potential for partnerships is good
- Customized incumbent worker training



California Community College Programs

Community college programs target solar occupations

- Most courses focus training on PV and thermal installers
- In the Bay Region, eight colleges have or are planning to offer solar training programs
- Opportunity is to develop courses and programs for solar designer/engineer; solar sales representative; solar installation manager



Conversation with Industry




Guest:

Sue Kateley,

- Executive Director of California Solar Energy Industries Association (CAL SEIA)



Question



What are the major challenges facing the solar industry today?




Question

What are the workforce challenges that solar employers are facing today?



Question



How can community colleges help to address these workforce challenges?



Conversation with Colleges



Guests:

Marcy Drummond,

- Vice President, Academic Affairs
Los Angeles Trade-Technical College
Los Angeles Community College District

Tom Hersh

- Professor, Environmental Studies/
Engineering Technology
Golden West College



Question

What challenges did you have to overcome when developing the program – resources, cost, and justification?



Question

Where do you want to take this program? Moving forward, what challenges do you expect to encounter?



Question

Based on what you have learned, what advice would you give to others planning to develop solar programs at their colleges?



Q & A



Continue the Conversation



Advanced Transportation Technology
and Energy Initiative (ATTEi)

To join a listserv on the topic of solar training and
development, email:

Greg Newhouse, Director
Center for ATTEi
San Diego Miramar College

gnewhous@sdccd.edu



For More Information

Visit our website at

www.coecc.net/solar

- Access today's PowerPoint presentation
- Download the environmental scan *Solar Industry: Bay Region 2008*
- Access preliminary reports for California, the Bay Region, Greater Sacramento area, Los Angeles, and Southern California
- Coming soon! Environmental scan reports for the Greater Sacramento area, Los Angeles, and Southern California!

