

THE SOLAR TRAINING NETWORK



POSITIVE CONNECTIONS.
POWERFUL CAREERS.



National Science Foundation Award # 1600934

www.CreateEnergy.org

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Solar Training Network



Building a Strong
Solar Workforce



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cwalker@solarfound.org



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Research

Original, objective research on solar markets, economic impacts, and workforce trends. Widely acclaimed and cited among the industry, nonprofits, academics, policy makers and media.

Capacity Building

Educational outreach and technical assistance to support decision makers in government, business, nonprofit arenas to expand solar energy use, and advance a stronger solar workforce.

Industry Leadership

Convene diverse groups to realize ambitious, measurable goals. We build networks to help nonprofits, businesses, educational, financial, and consumer sectors to invest in solar technology

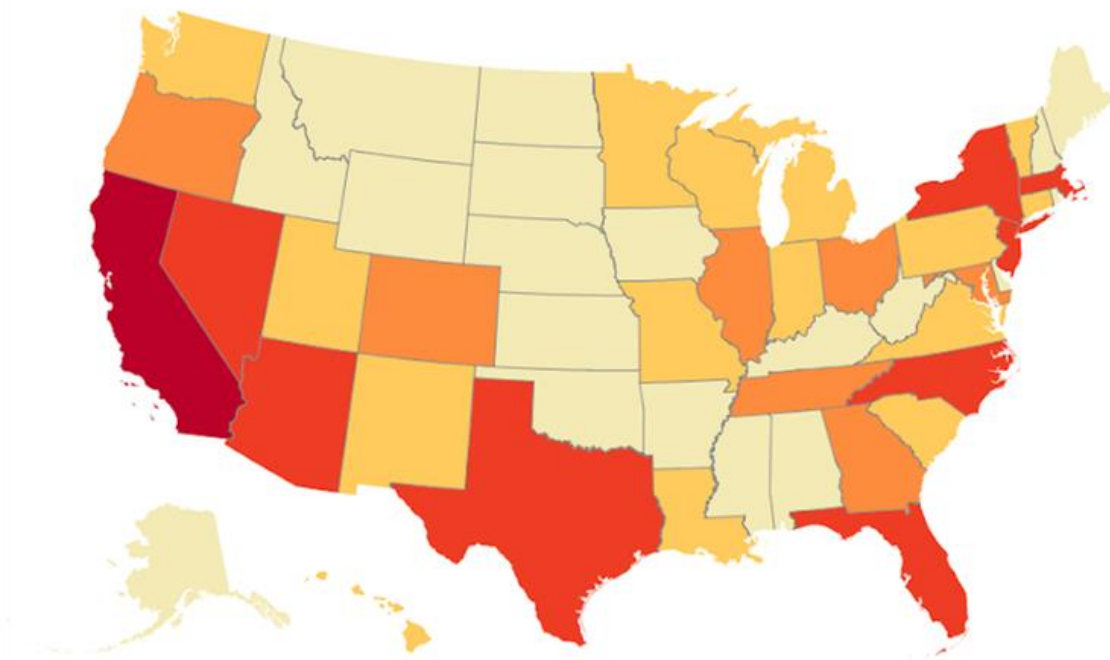
Solar Jobs
Research

Solar Workforce
Development

Solar Powered
Communities

Solar Jobs Census 2015

STATES DIVISIONS US CONGRESSIONAL DISTRICTS COUNTIES METROS

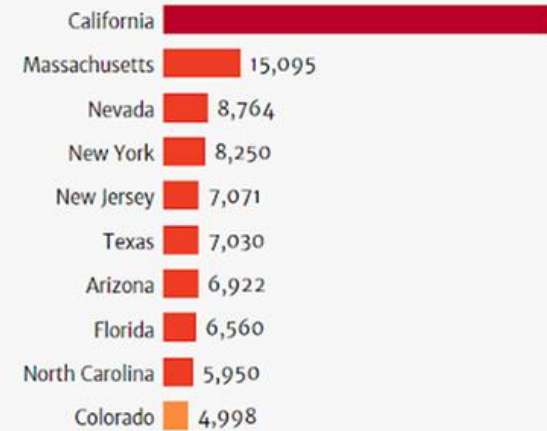


2015 / 2016 / 2017

208,859
Nationwide

Top Ten States by

SOLAR JOBS



Solar Jobs Census 2016

STATES

DIVISIONS

US CONGRESSIONAL DISTRICTS

COUNTIES

METROS

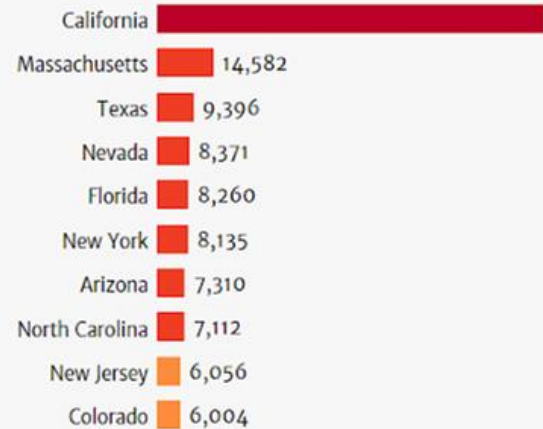
2015 / **2016** / 2017

260,077

Nationwide

Top Ten States by

SOLAR JOBS



Solar Jobs Census 2017

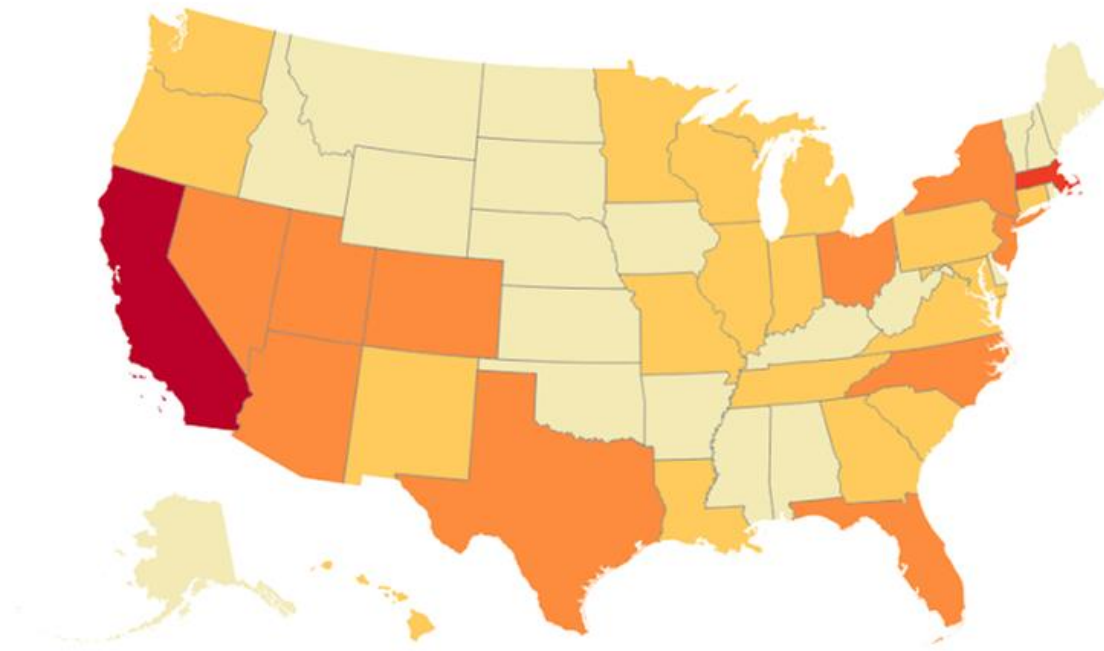
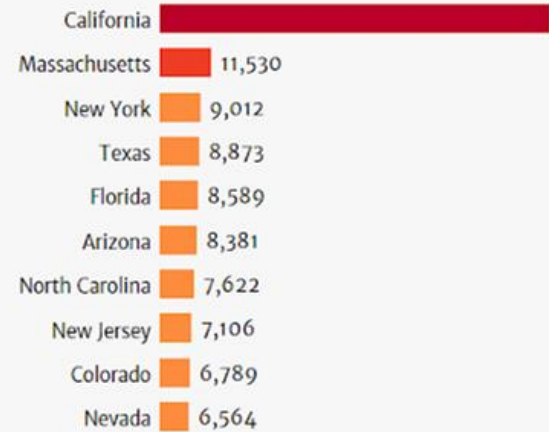
2015 / 2016 / 2017

250,271

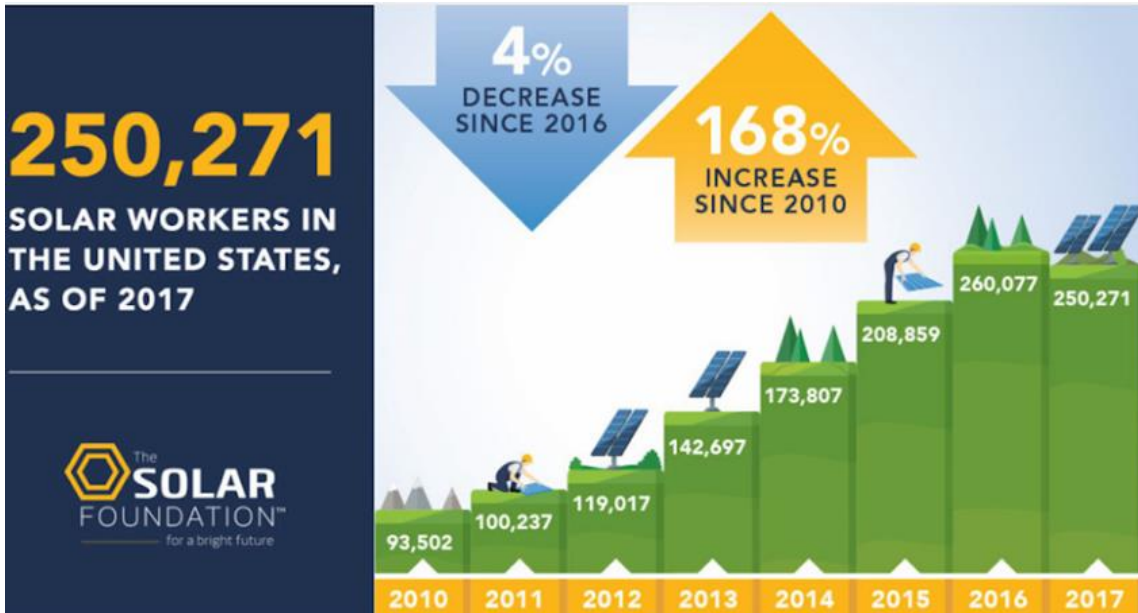
Nationwide

Top Ten States by

SOLAR JOBS



National Solar Jobs Census



SOLAR JOBS BY SECTOR



Employers, make your solar jobs count! Take the 2018 survey: [TheSolarFoundation.org](https://www.TheSolarFoundation.org)



Solar Training Network

Positive connections. Powerful careers

Career Connections

Workforce Development Partnerships

Industry Tools & Resources



**WHAT
WE
DO**

We help the industry improve training and hiring practices through original research, solar career fairs, regional trainer-employer summits, an online career connections platform, and a portfolio of tools and resources.

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**SOLAR
TRAINING
NETWORK**



A photograph of two solar installers working on a roof. They are wearing hard hats and safety vests. One worker is using a power drill to secure a solar panel. The background shows a residential roof with wooden framing.

AMERICAN SOLARWORKFORCE.ORG

A new, solar-specific jobs platform for employers and candidates.
Research, resources, and partnerships for long-term workforce solutions.
News and events for and by the national solar industry.



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A SOLAR INDUSTRY JOB BOARD



EMPLOYERS



- Post open positions,
- Identify strong candidates
- Receive & review applications
- Hire your next rising star.



JOB SEEKERS



- Browse & apply for solar jobs
- Explore solar career resources
- Connect with employers
- Advance your solar career.



CHRIS WALKER

Don't Stare Directly Into My Future. (It's Bright, Y'all!)



christopher.dante.walker@gmail.com



2022717608

♥ SAVE RESUME

⬇ DOWNLOAD CV

About Me

Work Experience

Education

Honors & Awards

Skills

Portfolio

ABOUT ME

Experienced project manager passionate about public policy and workforce development

WORK EXPERIENCE

◉ **Sr. Program Manager** The Solar Foundation

2017-Present

I direct the Solar Training Network (STN), a \$2.1 million workforce development program funded by a cooperative agreement with the U.S. Department of Energy. My responsibilities are comprehensive of programmatic and financial performance and reporting. I coordinate a small team in-house, as well as six subrecipient organizations and several vendors. STN is on track to meet or exceed all program milestones by the conclusion of the program. Milestones include convening a solar jobs strategy commission; launching a stakeholder network of employers, training providers, and workforce boards; holding career fairs and instructor-employer summits; supporting industry-wide recruitment and hands-on learning opportunities for job seekers including nearly 1,000 direct trainees; performing workforce research; and supporting industry-wide workforce development through evidence-based tools and resources.

◉ **Field Energy Consultant** SolarCity

2014-2015

On what was the preeminent residential solar sales team on the east coast, I conducted pre-feasibility analysis and developed hundreds of site-specific proposals; closed over \$2 million in power purchase agreements with homeowners; and troubleshooted job flow issues spanning the entire project lifecycle through customer interconnection.

EDUCATION

◉ **MA** University of Florida

2010-2012

Political Science – International Relations

◉ **BA** University of Florida

2006-2009

Political Science

Program Management

100%

Workforce Development

100%

Budget Management

100%

Personnel Management

85%

Strategic Planning

90%

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Solar Training Network

Career connections for a bright future



COMPANY DETAIL

The Solar Training Network is a free platform designed to connect solar job seekers, training providers, employers and workforce development organizations throughout the United States. Create a free profile to connect with a growing national solar community.

We provide:

- Toolkits
- Research
- Solar-focused job fairs: If you have a local solar talent tool you need help recruiting, call us to organize a job fair.
- Solar events: Call us to help organize and convene stakeholder for panels, workshops, training seminars, informational sessions, and celebrations
- Workforce summits: If your company is spending too much on training and hiring, call us to convene a workforce summit. We'll bring together industry, education, community organizations, economic development groups, and the community to help your business attract and retain the talent it needs to succeed and grow.



MISSION STATEMENT

Positive Connections. Powerful Careers.



Address

1717 Pennsylvania Avenue Northwest,
Washington, DC, USA



Categories

Nonprofit



Hotline : 2028660890

[Visit our website](#)



Company Size

1-10

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Director, Business Development, Illinois

📍 89 Hayden Rowe St, Hopkinton, MA, USA

💼 negotiable 📅 Expires in 12 months

📄 APPLY FOR JOB



Solect Energy

JOB DETAIL

The Director, Business Development Manager (BDM) requires a driven, self-starter with a desire to join a fast-growing Solar Development firm and help them achieve regional prominence. The position is located in the greater “Chicagoland” area in what is considered to be one of the fastest growing solar markets in the country. The BDM’s primary role is to grow sales for the company through maintaining a robust “funnel” of active opportunities, efficiently managing the sales process, building referral relationships and networking within the prospect marketplace.

Key Responsibilities

- Meet quarterly and fiscal year sales goals.
 - Maintain a robust “funnel” of active opportunities that facilitates meeting individual goals.
 - Build credibility with “C-level” decision makers at potential customers as their trusted solar consultant. Differentiate Solect from the competition.
 - Network proactively, develop a robust business referral and channel partner network that multiplies the sales effort.
 - Engage with the local Solect team throughout the sale cycle for design, proposal and contract support, and build your “solar acumen”.
 - Maintain necessary reporting metrics in Salesforce.com.
 - Responsible for post-installation follow-up to ensure satisfaction of customers.
- Desired Skills & Experience**
- Strong local network in the C&I “Chicagoland” market with the ability to access “C-level” key financial decision makers
 - Financial Acumen: comprehensive understanding of deal based financial concepts and how they apply to financial decision makers
 - Previous success selling large capital projects
 - Ability to meet deadlines and manage multiple tasks simultaneously and independently
 - Prefer a background in the Solar and/or Electrical Power Industry
 - Energetic, positive, enthusiastic, self-directing and a team player

LOCATION



JOBS YOU WILL LOVE



Commercial Solar Sales Consultant

FULL-TIME

📍 Sales 📍 Jackson County , Oregon , United States
📅 1 week ago



Solar + Batteries Consultant

TEMPORARY/SEASONAL

📍 Design/Engineering, Marketing & PR, Sales
📍 Miami-Dade County , Florida , United States 📅 2 weeks ago

🔍 Active Listening 🔍 Determination 🔍 energetic 🔍 entrepreneurial 🔍 ethical
🔍 great attitude 🔍 great people skills 🔍 laser-focus 🔍 mental toughness
🔍 organized 🔍 resiliency 🔍 strategic planner



Director Of Business Development

FULL-TIME

📍 Sales 📍 Estados Unidos , Middlesex County , Massachusetts
📅 3 weeks ago

Tools and Resources

for strategic
WORKFORCE DEVELOPMENT

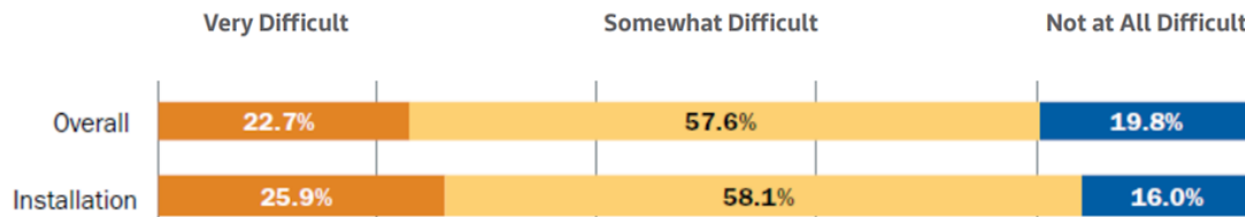
Looking to step up your workforce game?

There's a resource for that.

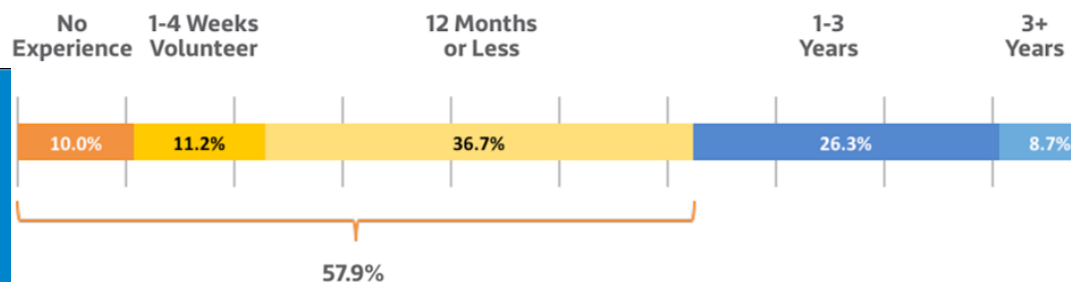




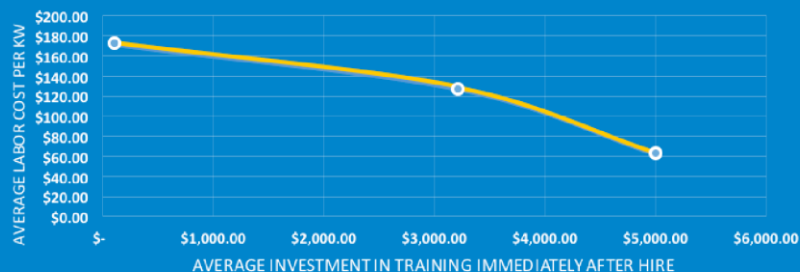
HIRING DIFFICULTY FOR OVERALL SOLAR INDUSTRY VS. INSTALLATION SECTOR, 2016



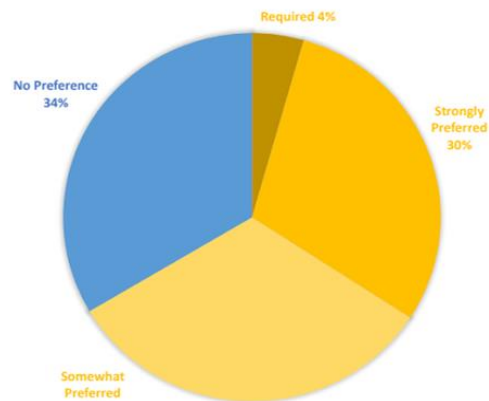
LEVEL OF EXPERIENCE EXPECTED FOR ENTRY-LEVEL CANDIDATES



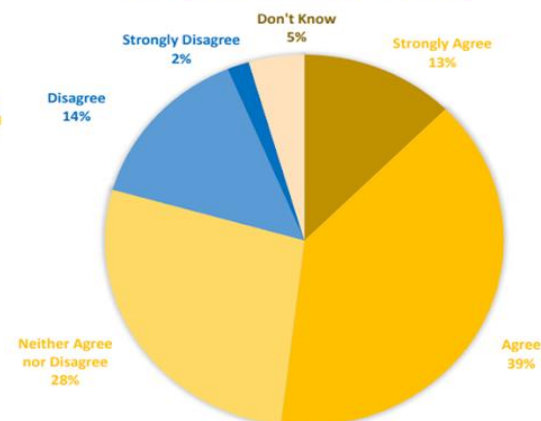
NATIONAL COMPANIES LABOR COST PER KW VS. TRAINING INVESTMENT



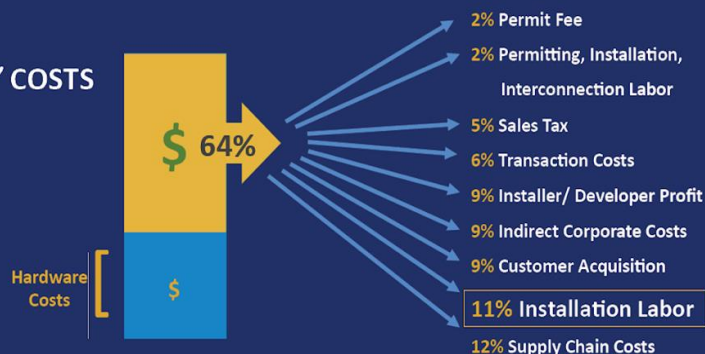
NABCEP EXAM PREFERENCES

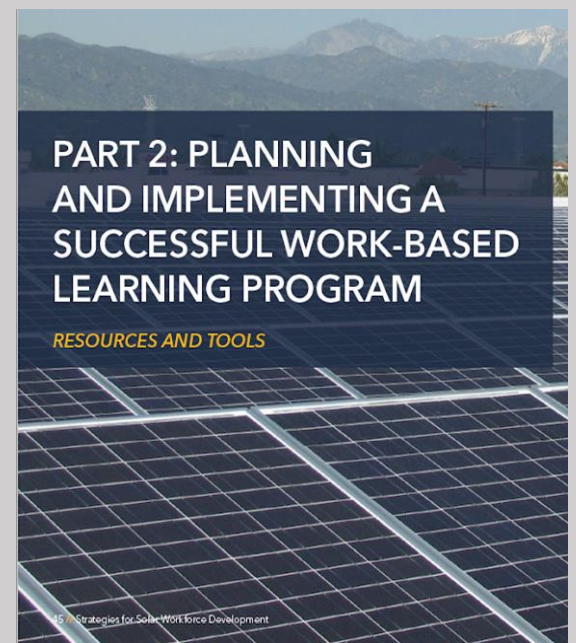


INSUFFICIENT JOB BOARDS/ PLACEMENT SERVICES



"SOFT" COSTS





The Workforce Development System

What is the Workforce Development System?

THE WORKFORCE DEVELOPMENT SYSTEM IS A SET OF PARTNERS THAT WORK TOGETHER TO build talent to meet the needs of business and industry. The system includes an array of agencies that offer services that contribute to talent development and retention. These partners may include:



// WORKFORCE DEVELOPMENT //

Organizations focused on providing services to develop a pipeline of talent that meets the needs of business and industry. Includes Local Workforce Development Boards and American Job Centers.



// EDUCATION AND TRAINING //

Institutions covering the full spectrum of education, all ages and all skill levels. Includes K-12 education, community colleges, universities, short-term training institutions, adult education, and career and technical education.



// ECONOMIC DEVELOPMENT //

Agencies focused on business attraction, retention, and expansion. May include local economic development organizations, government agencies and chambers of commerce.



// COMMUNITY-BASED ORGANIZATIONS //

Additional non-profits and community agencies that provide services that address challenges individuals face in developing skills and obtaining employment.



Solar businesses have access to a range of resources through local workforce development boards (LWDB) and American Job Centers (AJC), usually at no cost. These services can be especially helpful for small businesses and businesses with limited human resource management capacity.

Local Workforce Development Boards

WHAT NOT TO SAY WHEN ENGAGING YOUR LOCAL BOARD:

I'd like to sign up for training funds.

WHAT TO SAY WHEN ENGAGING YOUR LOCAL BOARD:

I have jobs that are available and pay (\$5) amount per hour. Could you help my company find good candidates to fill these positions?

THE LOCAL WORKFORCE DEVELOPMENT BOARD (LWDB) brings together community representatives and partners to identify and address local workforce development concerns and align the workforce system with the needs of local businesses. Comprised of business, government, and non-profit leadership, LWDBs establish and carry out policies, strategies, and funding priorities for an area's federally funded workforce development system. Among the duties of an LWDB is oversight of the American Job Centers (AJC) that provide services for job seekers and businesses. Participation on the board is a very good way for solar businesses to stay abreast of programs and policies while making sure that the industry is represented in local policy and program decisions.

Because LWDBs focus their efforts on community-based needs, they are a great partner for employers who are looking to grow or strengthen their business locally. Businesses that need help in hiring more workers, want training for employees, or have an interest in utilizing other services that WIOA has to offer (one-stop centers, hiring assistance, job postings, etc.) can engage the local board for more information.

FIND YOUR LOCAL WORKFORCE DEVELOPMENT BOARD



Labor, Insurance, and Legal Considerations

MANY EMPLOYERS RECOGNIZE THE BENEFITS OF A WORK-BASED LEARNING PROGRAM, such as encouraging company loyalty among future workers as well as increased industry and brand exposure for students. However, some employers remain hesitant to participate, often citing perceived insurance restrictions or undefined legal concerns.

The following overview provides general guidance for employers and references to the applicable federal laws and regulations. The overview does not cover workplace and safety laws, rules, and regulations that govern all employees, including occupational safety and health, equal employment/non-discrimination, and disability protections/access, but focuses specifically on laws and regulations that hosts of work-based learning participants should understand. Although federal laws are referenced, it is important to also check with each state's labor website for state laws, regulations, or policy that may also apply.¹⁰

¹⁰This information has not been reviewed by trained attorneys, and readers should consult with an attorney for more detailed guidance.

Fair Labor Standards Act (FLSA)

The Fair Labor Standards Act (FLSA) was enacted in 1938, establishing minimum wage, overtime pay recordkeeping requirements, and child labor standards affecting full-time and part-time workers in the private sector and in federal, state, and local governments. Some work-based learning opportunities are subject to the FLSA and some are not. The FLSA specifies certain limits on the employment of minors under the age of 18, along with child labor laws and the minimum wage.

Workplace or work-based learning is a learning experience for students at an employer's work site. Worksite activities that do not involve the performance of work are not considered employment.




Below is an industry-driven action plan that outlines specific high-level actions business owners and hiring managers can take to address their hiring and training needs. Each action is a jumping off point that will require additional planning with local partners to identify resources, timelines, and the level of priority. Each action can take place in any sequence or concurrently, depending on the resources and time available. Use this tool to start a discussion with other businesses or workforce development partners in the region. By increasing collaboration among workforce development stakeholders on multiple fronts, solar businesses and the workforce system can find innovative solutions to complex staffing challenges.

The action plan also includes a few specific actions for workforce development partners and education providers to support industry-driven solutions. Business-driven solutions can and should be supported by public resources, and it's important to engage these partners in the solar workforce development strategy. Take this action plan to the local workforce development board or community college and invite them to join the solar industry in addressing its workforce development needs.



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Work-Based Learning

 EDUCATIONAL SOLAR PROGRAMS AND CURRICULA

If your local schools don't already have solar industry programming or curriculum, these resources linked below present an array of lesson plans that can be used as a starting point and adapted to your particular education objectives.

NATIONAL RENEWABLE ENERGY LABORATORY EDUCATIONAL RESOURCES

NATIONAL ENERGY EDUCATION DEVELOPMENT (NEED) PROJECT: CURRICULUM

BORREGO SOLAR: SOLAR ENERGY LESSON PLANS

FLORIDA SOLAR ENERGY CENTER: CURRICULA

SOLAR READY VETS CURRICULUM

CENTER FOR ENERGY WORKFORCE DEVELOPMENT

BONNEVILLE ENVIRONMENTAL FOUNDATION CURRICULUM

WORK-BASED LEARNING IMPLEMENTATION GUIDE

What follows is a step-by-step manual to developing a customized solar work-based learning program. This guide is organized into five steps:

- Step 1: Choose the Right Fit
- Step 2: Outline Skills Needs
- Step 3: Define a Training Plan and Select the Right Partner
- Step 4: Put the Plan into Action
- Step 5: Monitor Progress

CONSIDERATIONS FOR CUSTOMIZATION

There is no "cookie-cutter" or "one size fits all" training model that encompasses the complexity of the solar industry—particularly as it crosses installation, project development, manufacturing, sales and distribution, and other sectors. Whenever it's relevant, this implementation guide will highlight specific considerations for these five sub-sectors. However, the biggest difference across programs will be in the technical skills and competencies included in the learning objectives and curriculum. Many of the logistical and curricular concerns will be similar, regardless of the job title or technical focus of the program. Employability skills, communication, and safety are common themes across the industry.

Step 1: Choose the Right Fit

Types of Work-Based Learning



JOB SHADOWING // Short-term experience aimed at career exploration.



INTERNSHIPS // Designed to give students/trainees a structured opportunity for career exploration, skill development, and networking.



COOPERATIVE EDUCATION (CO-OP) // Combines classroom training with work experience; usually tied to a post-secondary degree program.



APPRENTICESHIPS // A combination of structured on-the-job and classroom training resulting in periodic wage increases and certifications.



ON-THE-JOB TRAINING // Practical post-hire training located on the job site, usually consisting of an experienced worker conferring skills to a new employee or upskilling an incumbent employee to perform tasks of higher complexity.



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The Solar Panel

Solar Training Network members across the industry weigh in on workforce development challenges, trends, innovations and solutions. Our panelists represent organizations that are advancing the solar industry in their communities and on the national scene.



People often think of installation when they hear about solar jobs, but we know that there are a number of other entry-level opportunities that lead to careers in the industry. How can the industry better communicate solar career pathways?



Installation jobs can be quite diverse depending on whether you are working on a residential, a commercial, or a utility-scale project. Many of the installation jobs are in fact traditional construction and electrical work. For these folks construction and electrical apprenticeship programs offer a great on-ramp into the solar profession. Solar Technical Sales is an area of significant demand. Companies need people who both understand the technical aspects of solar photovoltaics, have a solid grasp of economics, and also are good communicators to interact with potential customers. Individuals that have this unique combination of skills are able to bring more business to their solar firms, and are of great value to their employers.

How has your organization supported regional training or workforce development initiatives, and how can other stakeholders in your region get involved?



Solar Ready Colorado is a statewide effort through SEI and industry partners to expand activities of outreach, recruiting, and training to the rapidly growing Colorado solar industry and jobs market. Through industry partnerships and support from the Colorado Department of Labor and Employment, the program provides a dedicated outreach and recruitment effort as well as technical training through SEI's long running, non-profit technical training program to those interested in entering the Colorado solar workforce. Participants have the opportunity to take individual courses through SEI or be accepted into SEI's Solar Professionals Certificate Program to work towards completing tracks of training and are provided career counseling and employer networking opportunities during and after completion of the training program. This regional program has been a huge success by partnering with COSEIA, GRID Alternatives, local school districts, statewide workforce offices, and other agencies. The number of students served each year has shown significant growth, which is expected to continue.

Additional resources coming soon, featuring...

Our Toolkit in Action!

Workforce Development:

task force & sector partnership workshop, led by Oregon Solar Energy Industry Association



Work-Based Learning:

MREA is helping STN place 5 students in paid solar industry internships across the Midwest



And: bonus toolkit content exploring the role of municipal governments in local solar workforce initiatives, highlighting an innovative approach by the Philadelphia Energy Authority



A photograph of three workers in hard hats and safety gear working on a roof. One worker in the foreground is using a power drill. Another worker in the background is wearing a white hard hat with the name 'ANDY' on it. A third worker is on the right, wearing a green hard hat with a 'GRID' logo. They are all wearing safety harnesses and gloves. The background shows green foliage.

Industry – Education Partnerships

FOR A
JOB –READY SOLAR WORKFORCE

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WORKFORCE PARTNERSHIPS DIRECTORY



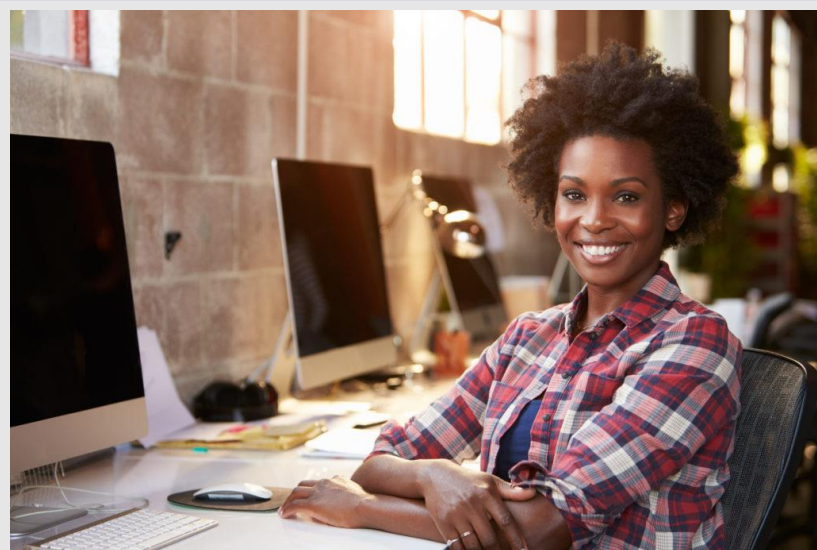
TRAINERS
& EDUCATORS



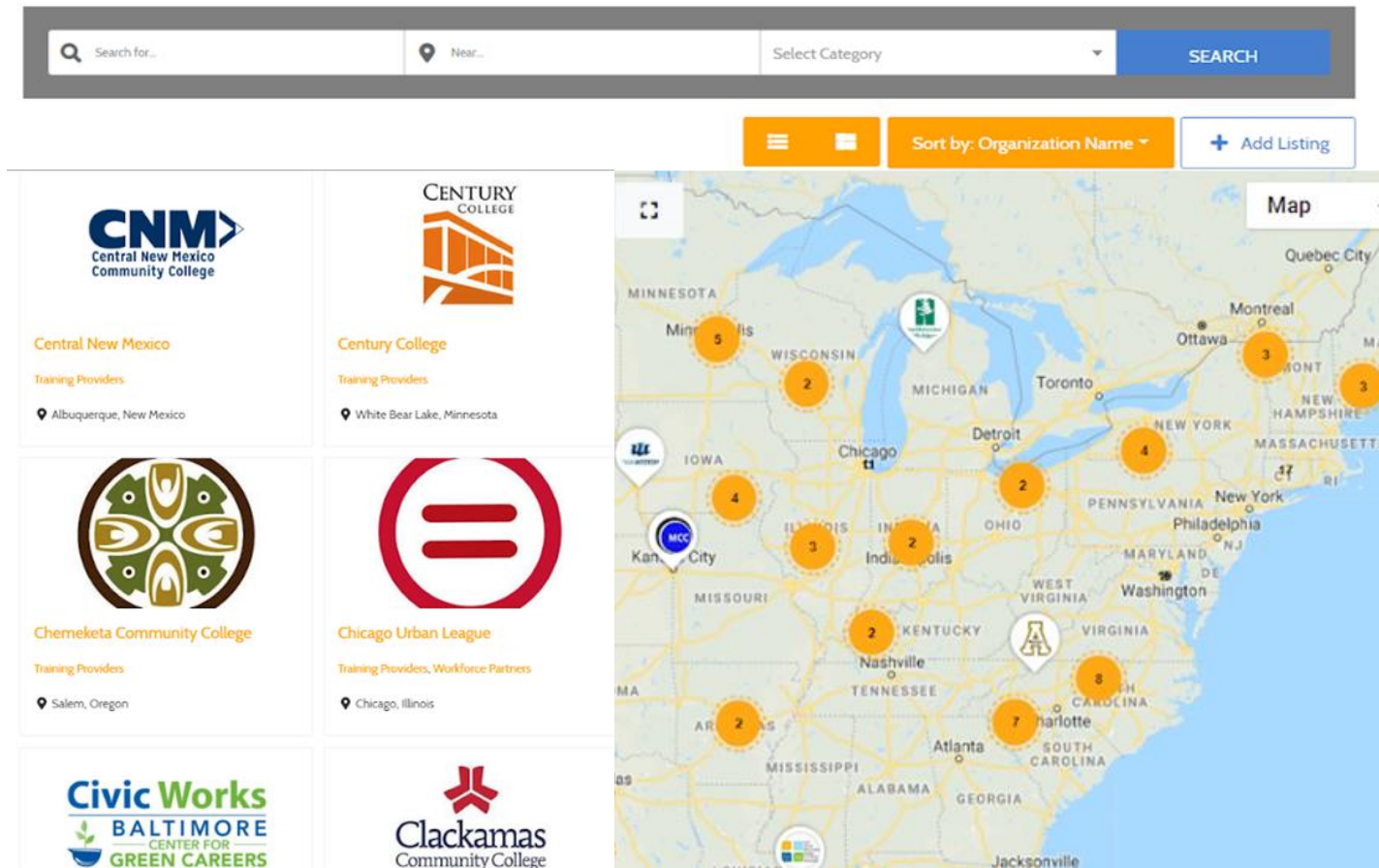
WORKFORCE
PARTNERS



- Connect with local employers, regional stakeholders on curriculum development
- Engage local workforce initiatives
- Support career development for students



- Engage your regional solar community
- Support sector partnerships in strong and emerging solar markets.





Chemeketa Community College

About Us

Oregon is recognized internationally as a leader in renewable energy. As the world seeks innovative solutions that will ensure a sustainable future, it looks here—because Oregon is where sustainability is taught, tested and practiced. We –

Were the first state to install photovoltaics on our capitol building

Provide strong tax incentives for building and using renewable energy

Offer more than 30 different "green" training programs at our community colleges and union apprenticeship programs, as well as the nation's first Bachelor's degree in Renewable Energy Engineering

The Renewable Energy Management option at Chemeketa Community College provides education in –

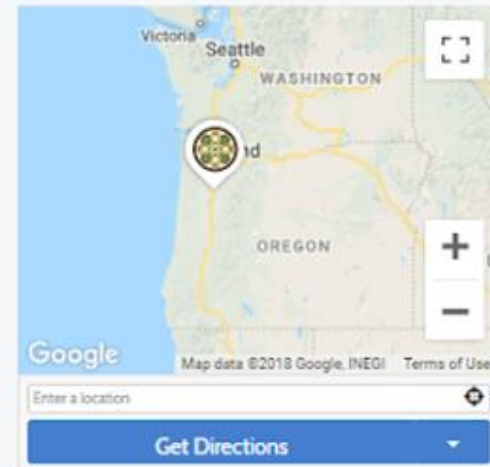
Wind

Solar

Biomass

Hydroelectric energy management

If you decide to pursue this degree, you will be taking a common first year of courses with other electronics students and then begin specializing in your second year. Returning workers who meet course qualifications will be allowed to take the specialization courses after meeting prerequisites. Once you have graduated, job opportunities include designing, installing and managing renewable energy system.



● Salem, Oregon

✉ chuck.sekafetz@chemeketa.edu

🌐 <http://www.chemeketa.edu>

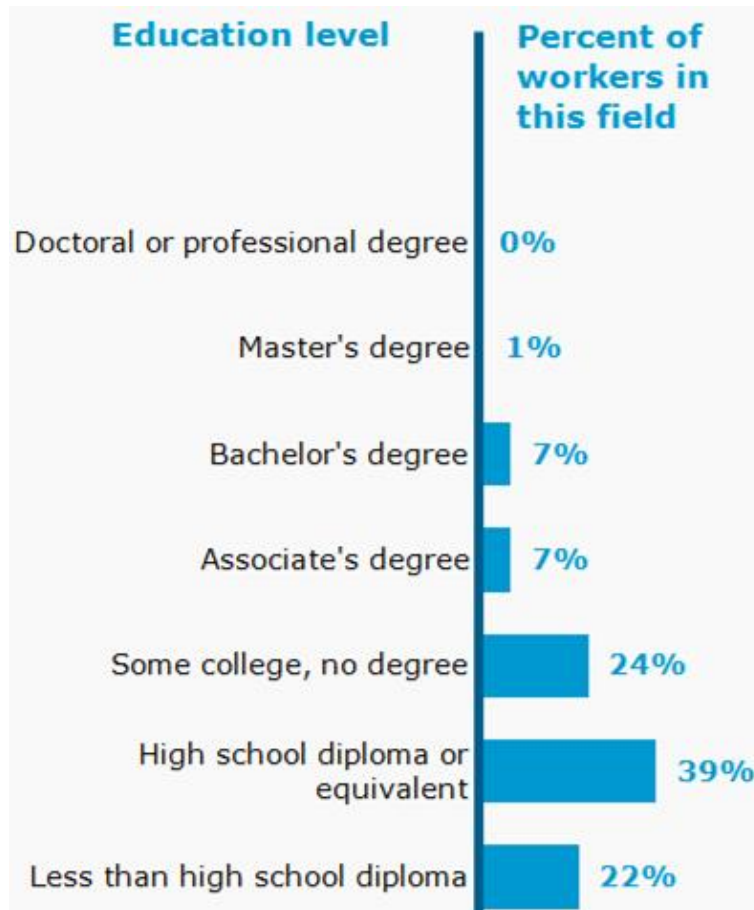
📁 Training Providers



Solar Career Connections

DIVERSE CAREER PATHS. HARD HATS
OPTIONAL

Low barriers to entry-level installation jobs



**MOST COMPANIES
DO NOT REQUIRE A
BACHELOR'S DEGREE
FOR NEW HIRES**

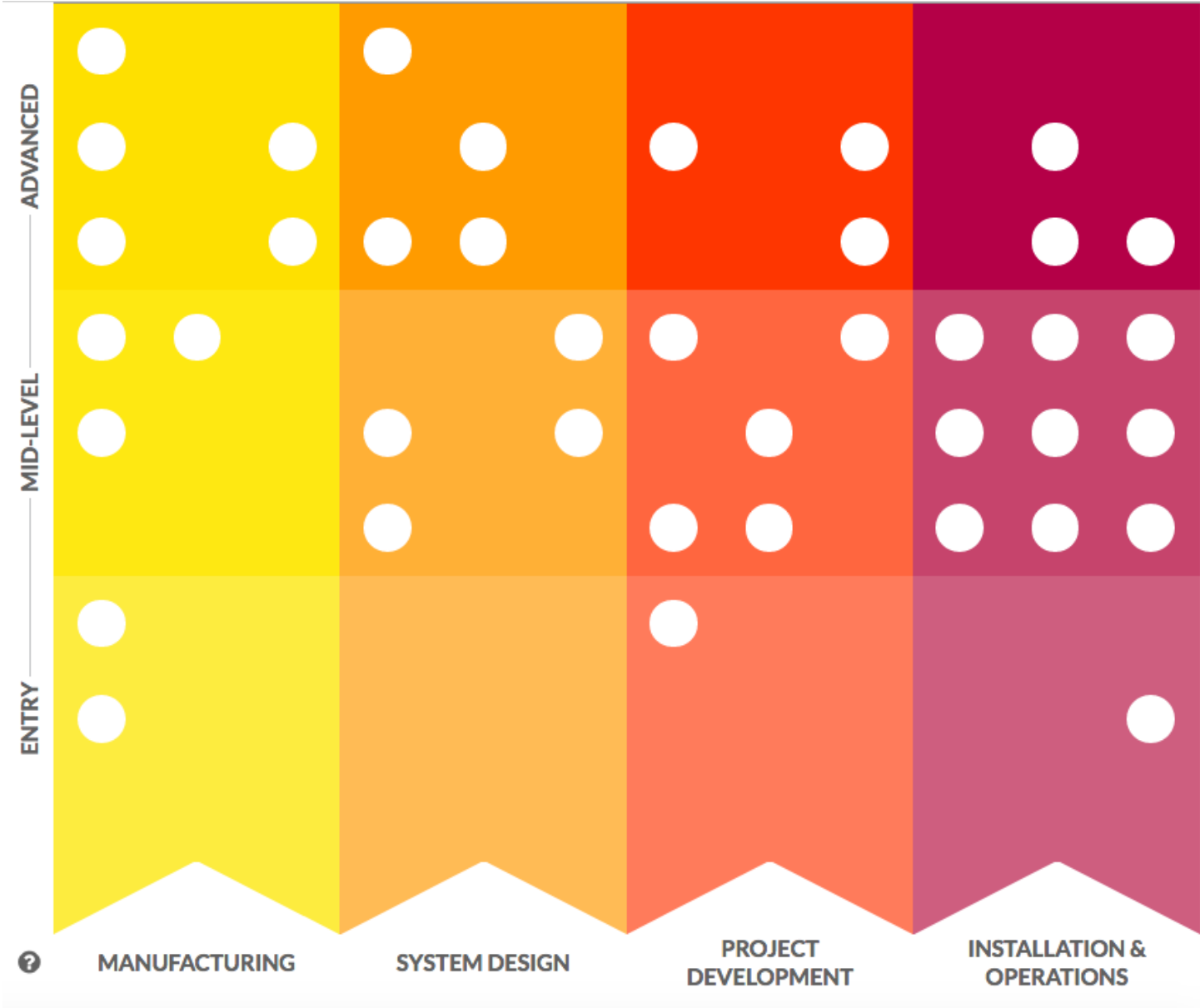


79%
of solar
companies
overall

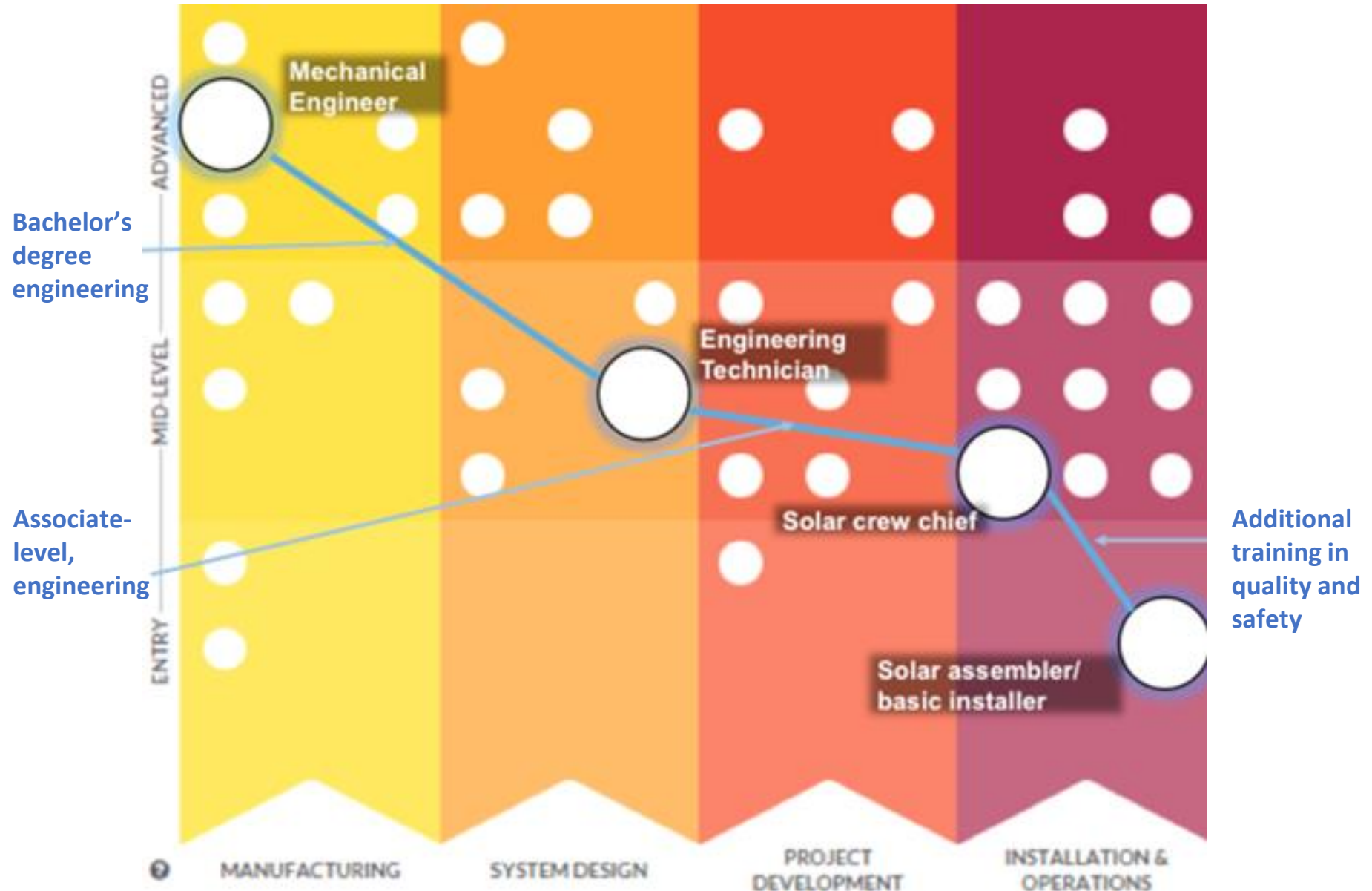


93%
of solar
installation
companies

ENTRY-LEVEL SOLAR JOBS BECOME BRIGHT AND POWERFUL CAREERS

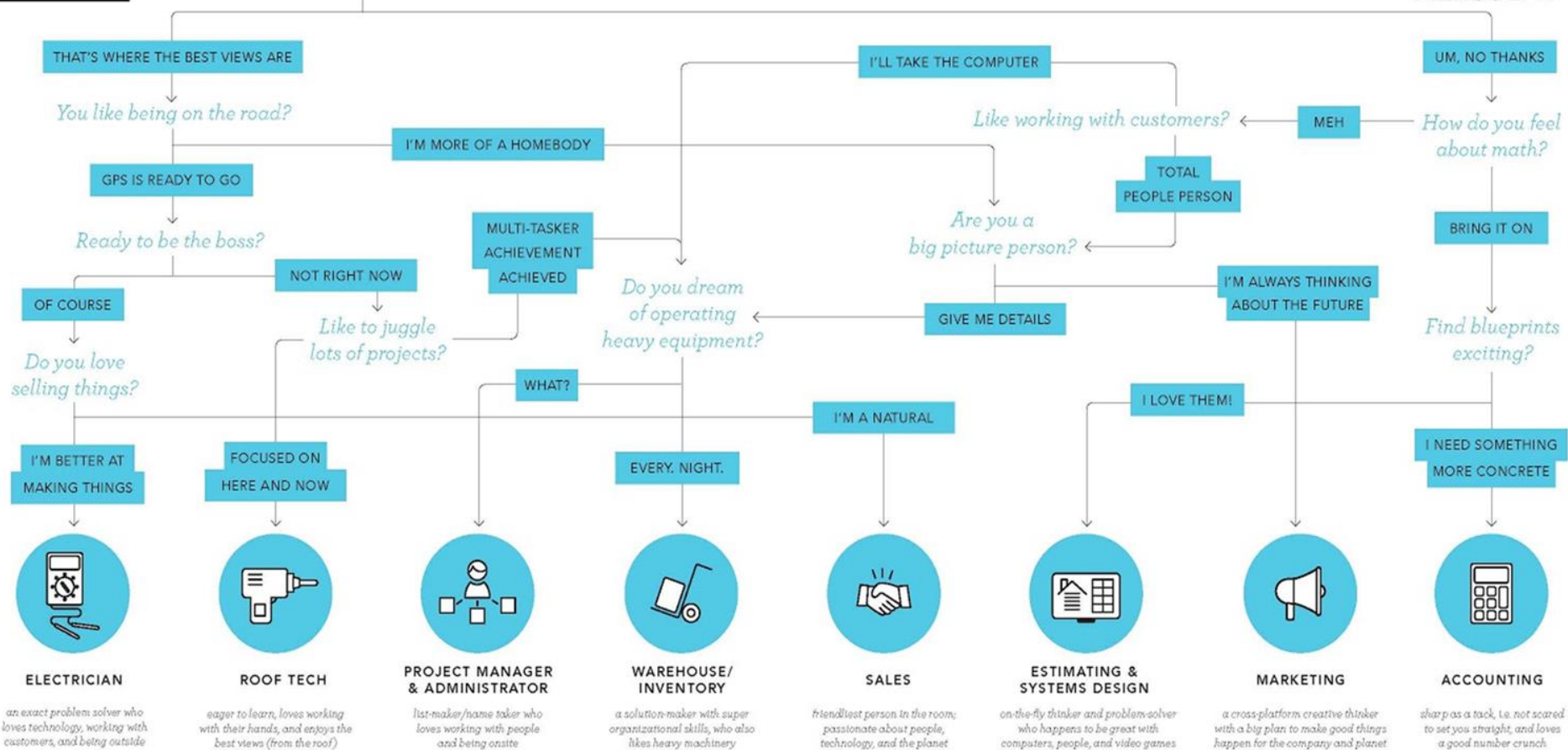
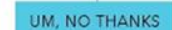


ENTRY-LEVEL SOLAR JOBS BECOME BRIGHT AND POWERFUL CAREERS



Title	Hourly	Salary
Solar Assembler / Basic Installer	\$14	\$28,640
Plumber with Solar Expertise	\$17	\$35,760
Solar PV Installer	\$19	\$40,020
Solar Crew Chief	\$20	\$40,645
HVAC Technician with Solar Expertise	\$21	\$44,630
Electrician with Solar Expertise	\$22	\$47,180
Solar Instructor	\$23	\$48,360
Roofer with Solar Expertise	\$24	\$50,660
Solar Service Technician (Residential)	\$26	\$53,070
Solar Project Manager	\$29	\$60,990
Solar PV Technician (Commercial/Utility)	\$30	\$61,580
Solar Fleet Manager	\$41	\$85,400
Solar Installation Contractor	\$41	\$85,630

➤ *How do you feel about heights?*



Diverse career paths...Hard hat

optional.

Installation

Distribution

Office Management

Site Assessment

Electrician

Policy & advocacy

Field Consultant

Engineering

Research and development

Operations & Maintenance

Education

Accounting

Marketing

Client Relations

Lead generation

Sales

Community Development

Journalism

Manufacturing

Human Resources

Project Management



Building America's solar workforce is a big project.
OUR TEAM MAKES IT POSSIBLE.



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Want to talk about solar workforce development?
We would love to hear from you!

mhowes@solarfound.org

 [@STN_USA](https://twitter.com/STN_USA)

info@americansolarworkforce.org

 [@Solar-Training-Network](https://www.linkedin.com/company/Solar-Training-Network)

