



**SOLAR  
READY VETS®  
NETWORK**  
U.S. DEPARTMENT OF ENERGY

# Strategies, Opportunities and Resources for **Solar Industry Workforce Development**



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## Research

Original, objective research on solar markets, economic impacts, and workforce trends. Widely acclaimed 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

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Solar Workforce Development

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Solar Powered Communities

## FUNDING ACKNOWLEDGEMENT & DISCLAIMER



U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

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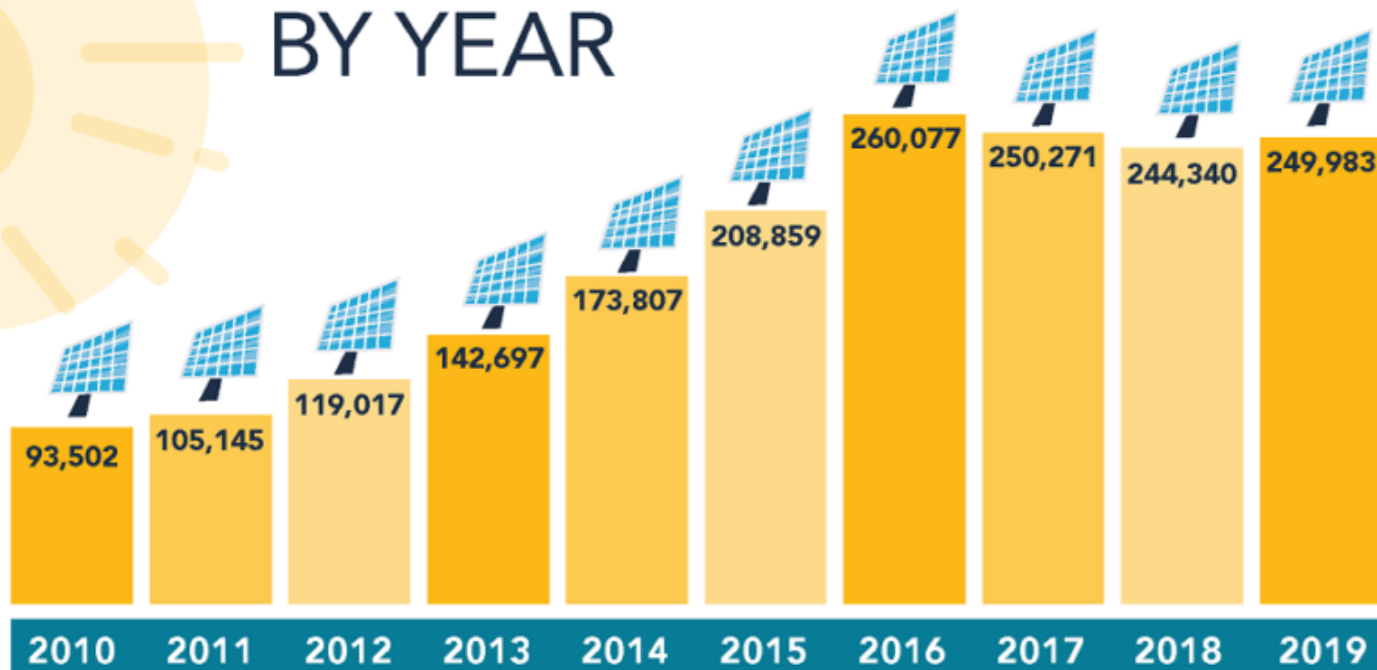
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Award Number: DE-EE0008577

Project Name: National Solar Jobs Accelerator

# U.S. SOLAR JOBS BY YEAR

BY MARKET  
SEGMENT, 2019



2018 and 2019 jobs numbers include Puerto Rico.

# SOLAR ENERGY PROVIDING AMERICAN JOBS IN ALL 50 STATES



249,983

WORKERS SPENT THE MAJORITY OF THEIR TIME  
ON SOLAR-RELATED WORK IN 2019.

NATIONAL SOLAR JOBS CENSUS 2019

[SolarJobsCensus.org](http://SolarJobsCensus.org)



The U.S. solar market  
installed a record

19.2 GW  
of solar capacity in 2020

[seia.org/smi](http://seia.org/smi)



Solar is expected to add

324 GW  
of new capacity over  
the next decade

[seia.org/smi](http://seia.org/smi)

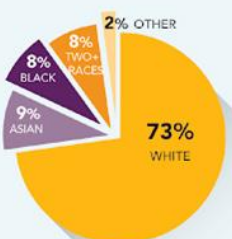
# DIVERSITY AND INCLUSION

## IN THE U.S. SOLAR INDUSTRY

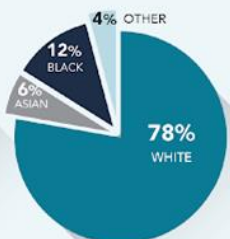
The solar industry is making diversity and inclusion a priority, but the industry still has more work to do. Here is the latest data on the experiences of women and people of color in the solar workforce, based on the U.S. Solar Industry Diversity Study 2019.



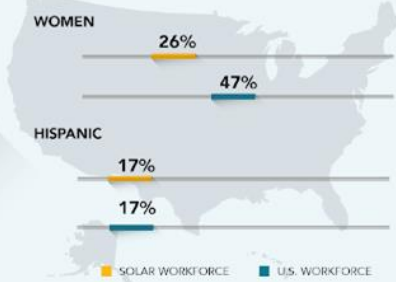
### Solar Industry by Gender, Race and Ethnicity



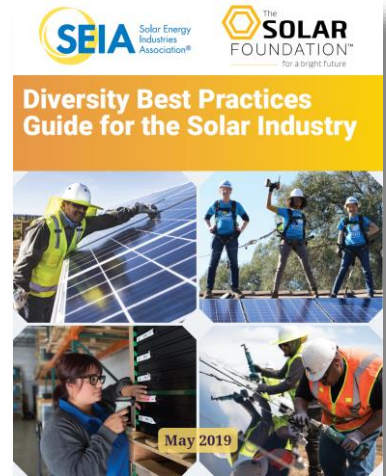
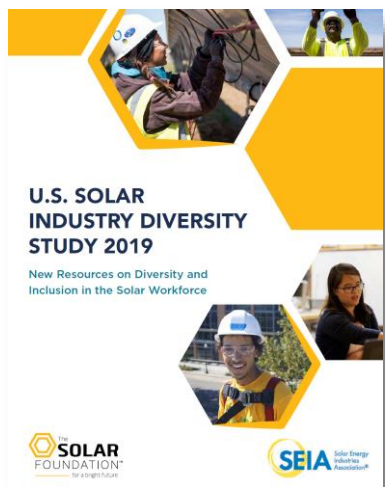
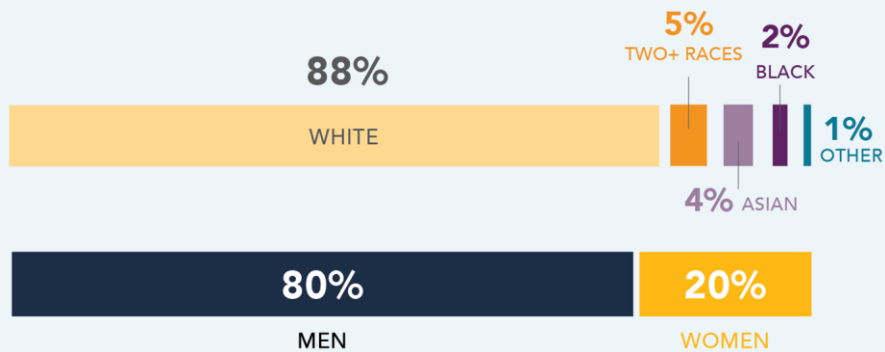
Solar Workforce



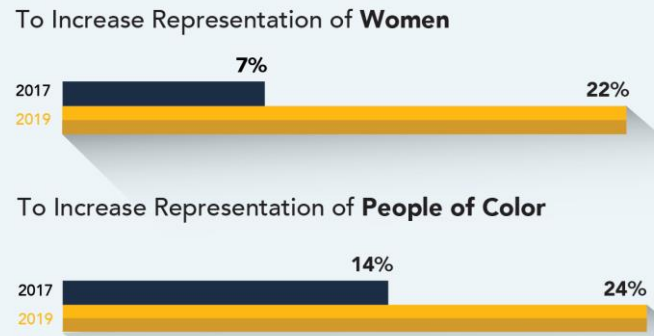
U.S. Workforce



### Senior Executives in the Solar Industry



### PERCENTAGE OF FIRMS WITH A STRATEGY IN PLACE ...



## Solar Ready Vets (Past Program):

Dept. of Energy funded from 2014 - 2017

- Partnerships between 10 military bases & community colleges nationwide offered 6-week design & installation trainings for transitioning service members
- Over 500 veterans completed trainings



## Solar Training Network:

Dept. of Energy funded from 2016 - 2019

Strengthened coordination among industry, education, workforce development partners:

- Research and Resources
- Strategic Partnerships & Engagement
- Career Connections



# Solar Training Network

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Positive connections. Powerful careers.

Career Connections

Workforce Partnerships

Tools &  
Resources



**WHAT  
WE  
DO**

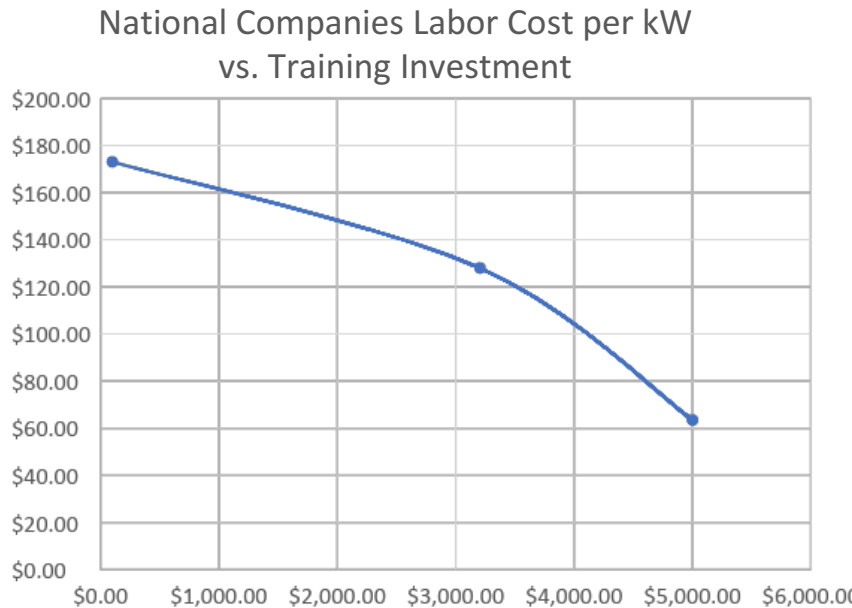
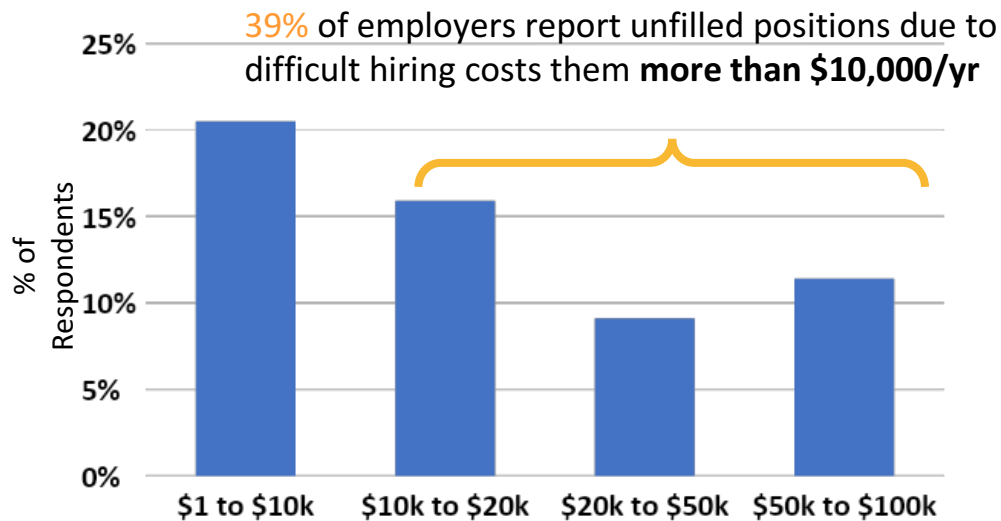
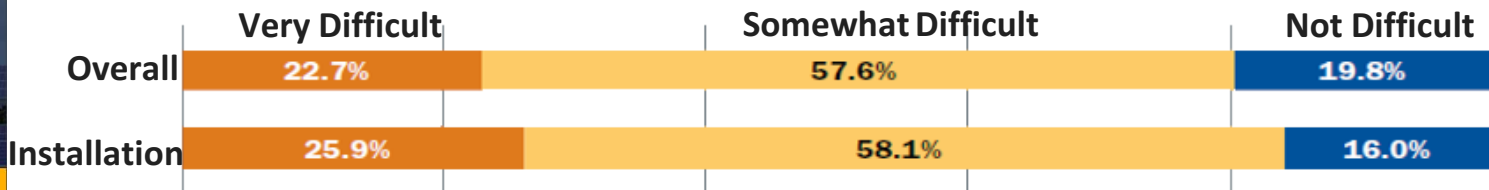
We help the industry improve training and hiring practices through original research, solar career fairs, regional trainer-employer summits, an online career connections platform, and a portfolio of tools and resources.

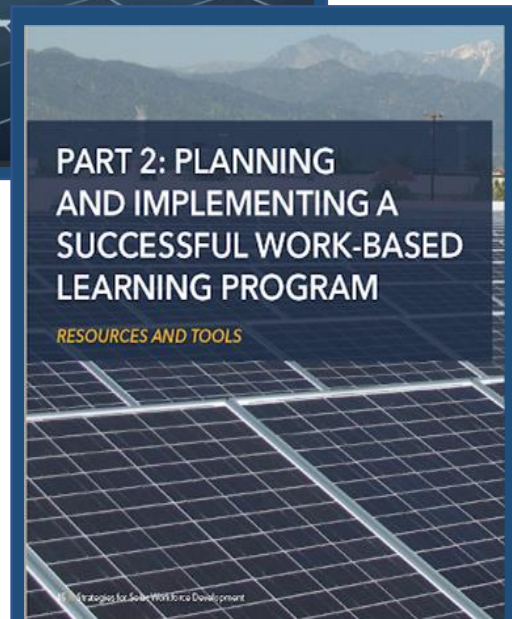
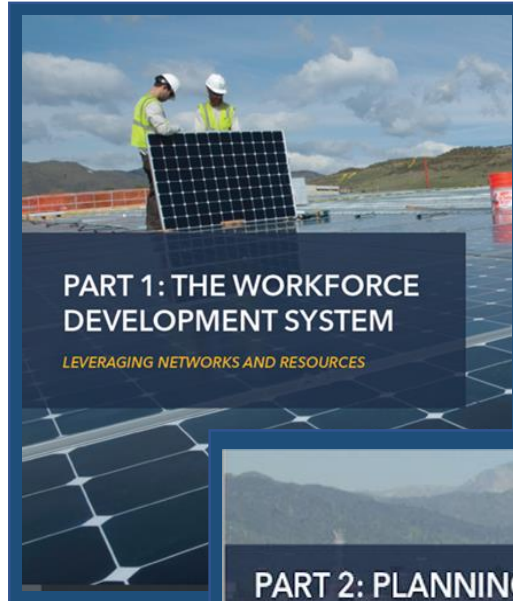
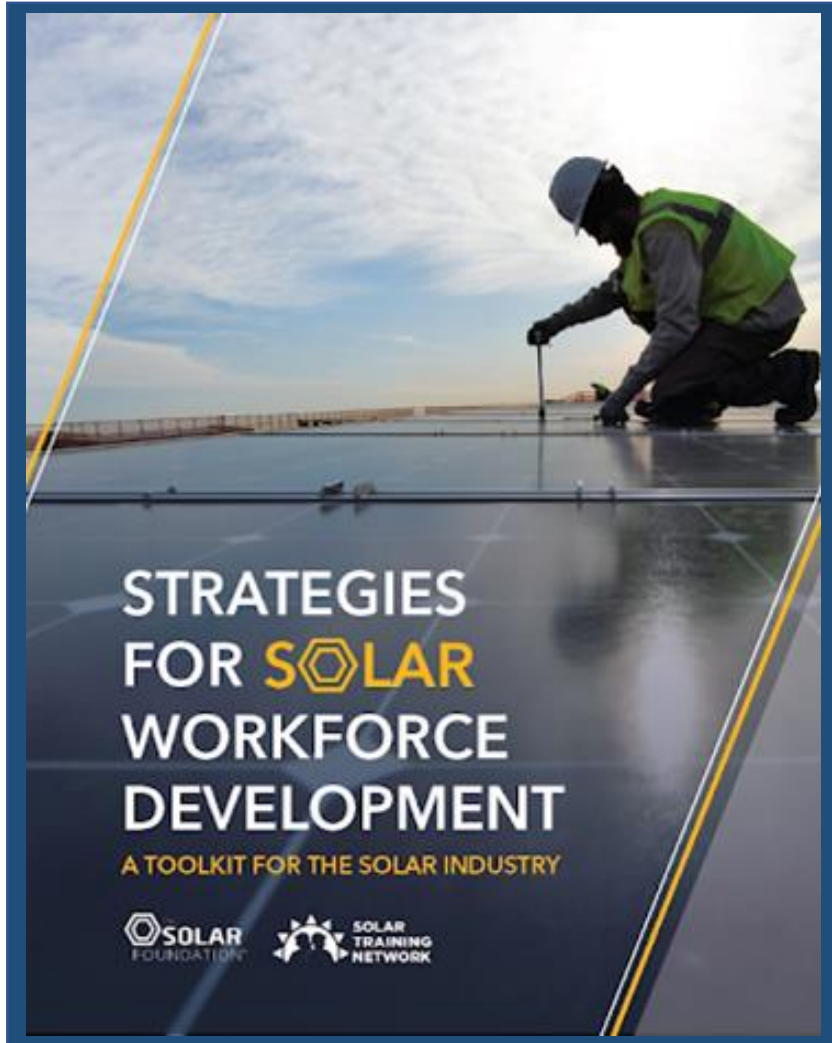
→ [AmericanSolarWorkforce.org](https://www.AmericanSolarWorkforce.org)





# SOLAR TRAINING AND HIRING INSIGHTS 2017





# Solar Ready Vets

Through **direct impact** and high-impact **capacity-building** initiatives, the **Solar Ready Vets Network** strengthens solar career pathways and advances a nationwide pipeline of military talent into all levels and sectors of the solar industry.



## SOLAR READY VETS FELLOWSHIP

- ✓ **Mid-senior level service members** are placed with solar employers for 12 weeks of on-the-job training
- ✓ Supports a smooth transition from active duty to **professional and management roles** in solar workforce



## SOLAR READY VETS NETWORK

- ✓ Solar Training and Career Connections
- ✓ Apprenticeships & work-based learning
- ✓ GI Bill & Veteran Fast Tracks for certification
- ✓ Regional Workforce Development Partnerships
- ✓ Professional development & hiring events



# Regional Workforce Development Partnerships

Objective to align curriculum and learning outcomes with regional workforce needs. Partnerships entail substantive engagement to improve training and hiring outcomes at regional scales, and strengthen talent pipelines in high-demand markets.

## ✓VIRGINIA

Tidewater Community College & Strata Solar

## ✓TEXAS

Houston Community College & kiloWatt Solar

## ✓CALIFORNIA

Miracosta Community College & Sunrun

## ✓NORTH CAROLINA

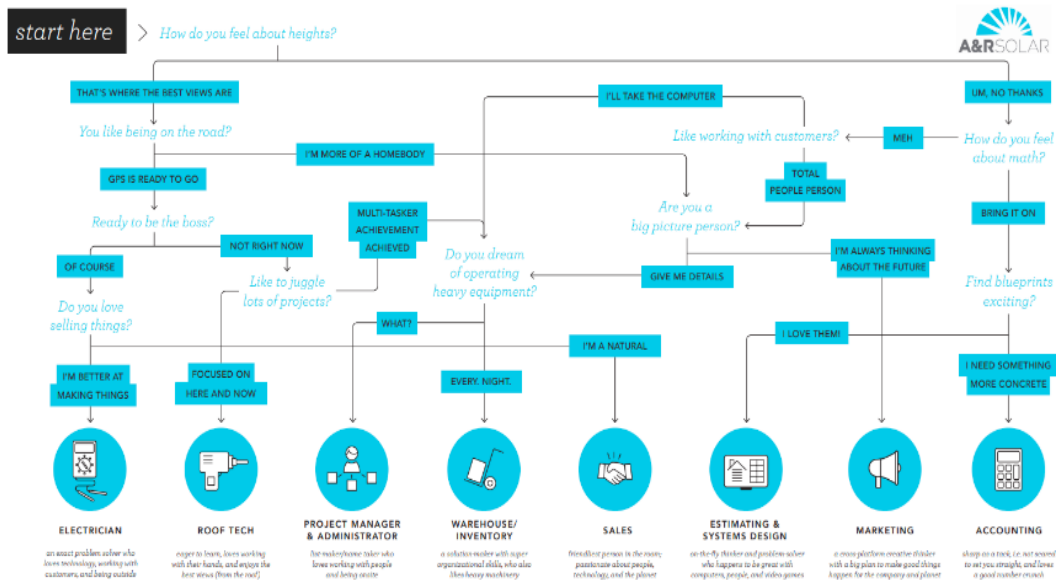
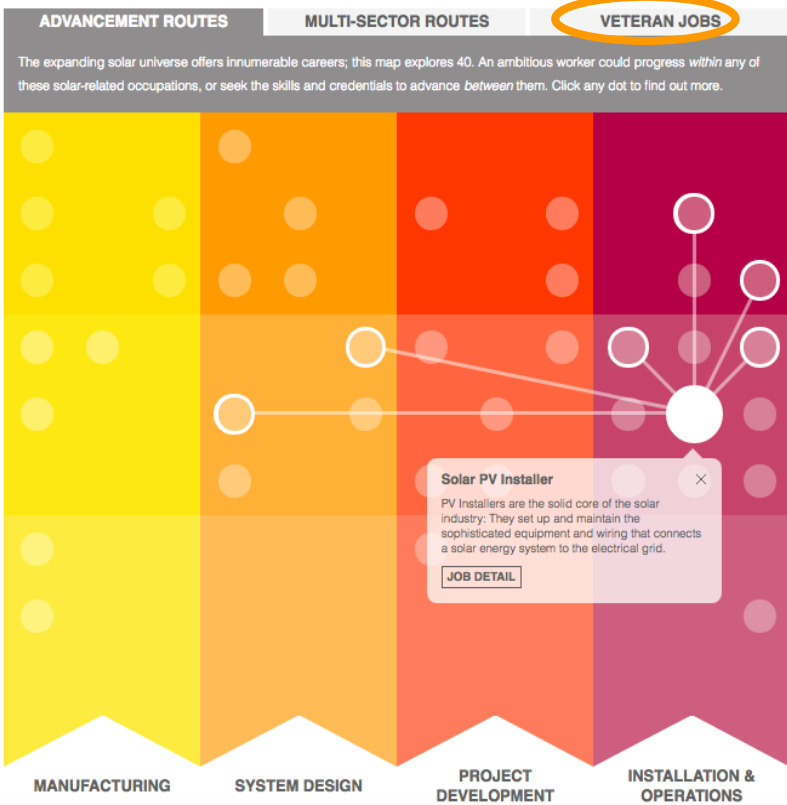
Central Piedmont Community College & Pure Power

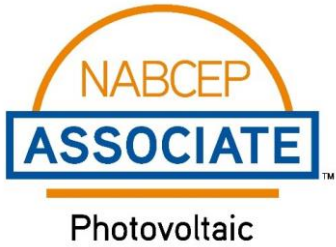
# Solar Industry Apprenticeships

Objective to develop and register at least one new apprenticeship program with the US Department of Labor, related to NABCEP credentials.



# BRIGHT FUTURES, POWERED BY THE SUN





# NABCEP®

Raising Standards. Promoting Confidence.



The North American Board of Certified Energy Practitioners® (NABCEP®) is the most respected and widely recognized certification organization for professionals in the field of renewable energy. NABCEP offers certifications and credentials for skilled professionals, specialists and those new to working in the areas of photovoltaics, solar heating, and small wind technologies. Since 2003, NABCEP has launched and maintained 8 Board Certification Programs and 3 Associate credentials.



PROMOTE RENEWABLE  
ENERGY



PROVIDE VALUE TO  
PRACTITIONERS



PROMOTE WORKER SAFETY  
AND SKILL



PROMOTE CONSUMER  
CONFIDENCE



# Solar Certifications for Career Development



**NABCEP**

Raising Standards. Promoting Confidence.

# The Value of Board Certifications in the Solar PV Industry

- **Benefits to PV Customers & Consumers**

- Helps customer make more informed decisions
- Improve quality assurance for customers
- Lower overall cost of solar systems
- Raise customer satisfaction levels
- Can hold professionals accountable

- **Benefits to Employers in PV Industry:**

- Make hiring decisions easier by giving more information about job
- Save time & money by filling open positions with qualified candidates
- Are a reliable predictor of employee success
- Proof that candidates possess knowledge & skills to get the job done right



# NABCEP's Veteran Initiatives

- Make NABCEP's Board Certifications and Associate credential available for GI Bill reimbursement benefits
  - Available through Veterans Affairs database registry of training institutions
  - Training is carried out through our Registered Training Providers (Associate & Professional)
- Create a group of Subject Matter Experts with extensive experience in the solar industry and the military to create “fast-tracks” for vets
  - Serve as advisors to NABCEP on ways to make accelerated pathway for veterans to earn Board Certifications and receive necessary training for employment in PV
- COOL Program
  - NABCEP's PVA, PVIP and Solar Heating certificates are now available through the military's COOL (Credentialing Online Opportunity Learning) program
  - COOL programs have the ability to pay for certification/license exams for eligible service members - can take training and exam while still on base!

# GI Bill for Board Certifications & Associate Credentials - Exams

- All of NABCEP's Board Certifications & Associate Credentials were approved last year by the Department of Veterans Affairs to receive reimbursement benefits under the G.I. Bill
- The NABCEP Board Certifications & Associate credential exams that are eligible for reimbursement are as follows:
  - PV Associate Credential (PVA)
  - PV Installation Professional (PVIP) Board Certification
  - PV Installer Specialist (PVIS) Board Certification
  - PV Commissioning & Maintenance Specialist (PVCMS) Board Certification
  - PV Technical Sales (PVTS) Board Certification
  - PV System Inspector (PVSI) Board Certification
  - PV Design Specialist (PVDS) Board Certification



# Veterans Affairs Database Registry - GI Bill for Solar Training

- While it is important to cover cost of exams, paying for training out-of-pocket can often be a burden for veterans
  - Veterans Affairs has database of institutions that offer higher-learning and non-college degree programs that are fully reimbursable through GI Bill benefits
- **How to check if your training institution is registered with VA database**
  - Search for your institution using <https://inquiry.vba.va.gov/>
  - If you do not see an entry for your training institution, you are not registered
  - If you see your institution but not your solar training program, see below to register with VA
- **Process for getting solar training programs registered with VA database**
  - Contact your State Approving Agency (SAA) using the National Association of State Approving Agencies contacts list using <http://www.nasaa-vetseducation.com/Contacts.aspx>
  - Ask SAA rep for an application either to register your institution or your solar training program
- **Best practices to ensure your training program gets approved for eligibility**
  - Upon inquiring for an application with your SAA, be sure to convey how your training program prepares vets to receive a job when they complete course list and exam

# NABCEP Fast Tracks to Board Certifications & Associate Credentials

- What are the fast-tracks?
  - Through the guidance of the Vets Committee, NABCEP is solidifying 5 – 6 different options for Veterans to qualify for different NABCEP Board Certifications and Associate Credentials
  - Will serve as “accelerated pathway” for qualified veterans to earn NABCEP credentials
- How can veterans utilize them?
  - Fast tracks will be made available with launch of new NABCEP Certification Management Platform
  - Vets will still have to demonstrate their capacity for understanding critical knowledge concepts found in NABCEP’s Job Task Analysis
  - Depending on the “fast-track” path, vets will have to verify experience either through a military supervisor or current PV employer



# Coordinating with Veterans Resource Centers for Students

- Raise awareness and visibility among current and prospective veteran students about solar opportunities
  - Installation, Technical Sales, Design, Commissioning, maintenance and service roles
  - Explaining how skills in engineering, electrical and roofing are transferable to solar jobs
- Inform veteran students about the potential for increased earnings and career advancement!
  - 60% of EPCs consider NABCEP Board Certifications “essential” or “very important” when hiring
  - \$11,000 average salary increase after earning NABCEP Board Certification
  - 26% of NABCEP Board Certified Professionals end up starting their own solar businesses
- Veterans Resource Centers and Veterans Services Offices often located on-campus
  - Many training institutions have their own variation of on-campus advisers for veteran students
  - Find a Student Veterans of America chapter here: <https://studentveterans.org/chapters/find-a-chapter/>



**SOLAR  
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## Join the Solar Ready Vets Network

To stay current on resources and opportunities:

- Solar Education & Employment opportunities
- Certification Fast Tracks & GI Bill eligibility
- (Virtual) Career Fairs, career development resources
- “Service to Solar” profiles
- ...and more!

[AmericanSolarWorkforce.org/SolarReadyVets](https://AmericanSolarWorkforce.org/SolarReadyVets)



VETERANS and SERVICE MEMBERS



SOLAR INDUSTRY EMPLOYERS