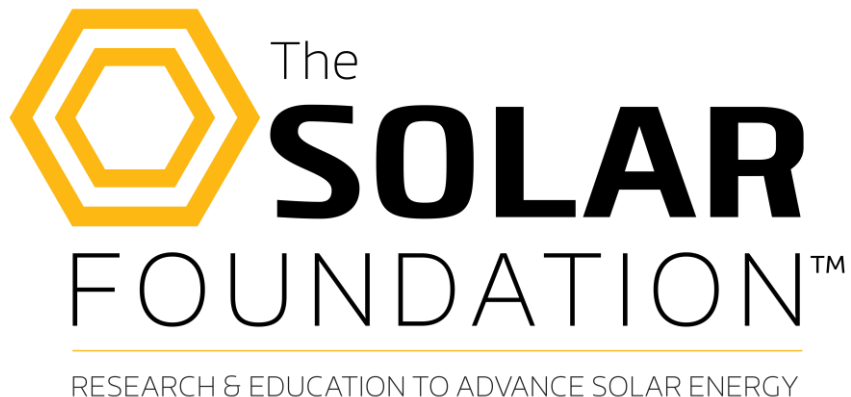


Future of Solar + Storage Jobs



Pari Kasotia, Deputy Director
The Solar Foundation
Midwestern Governors
Association, January 10, 2016

The Solar Foundation



An independent, national nonprofit founded in 1977 and based in Washington, DC.

Our mission is to accelerate adoption of the world's most abundant energy source – the sun.

Visit us at [TheSolarFoundation.org](https://www.TheSolarFoundation.org)



Agenda



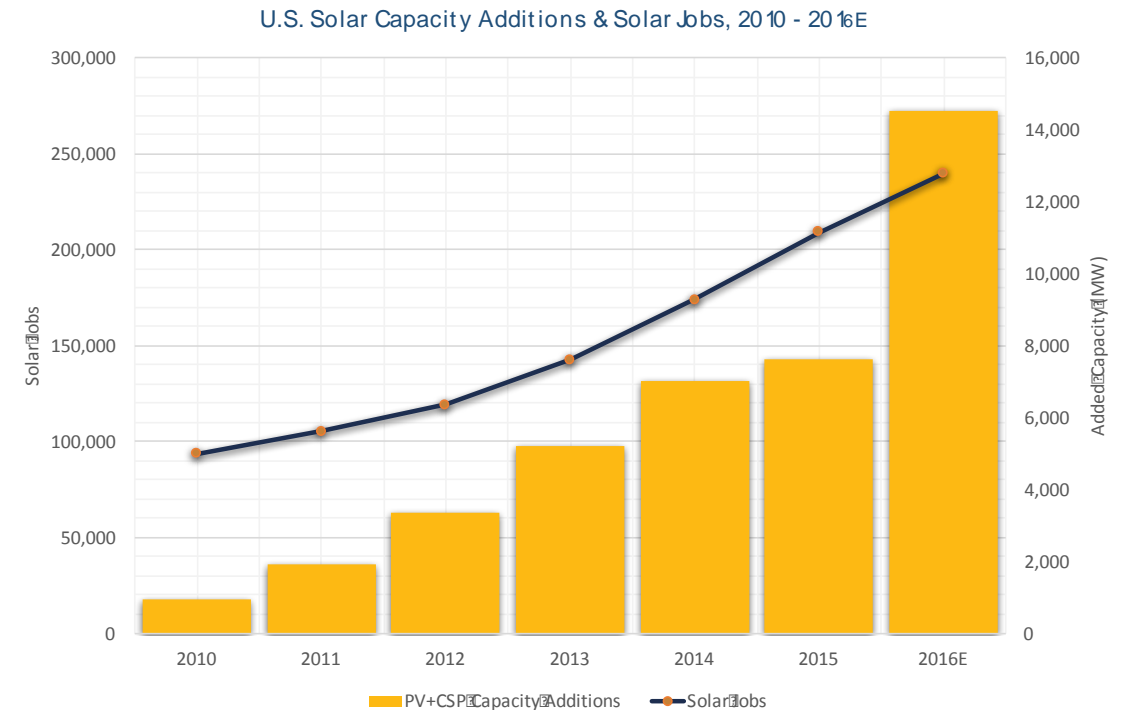
- **US Solar Jobs Census**
- **Solar + Storage Jobs**
- **Plans for 2016 Solar Jobs Census report**

US Solar Jobs Census



- 209,000 solar jobs in 2015
 - 20% growth rate
 - Installation sector accounts for 57% of the total solar jobs
- Job growth mirrors the growth of the installed capacity
- 7.45 GW installed in 2015
 - 19% increase over the 2014 estimate
- Improvements in labor efficiencies
 - 46 jobs per MW in 2011 to 37 jobs per MW in 2015

208,859 U.S. Solar Jobs in 2015



US Solar Jobs Census: Findings from 2015



- Solar industry creates good paying jobs-Median wage is \$27/hr.
- Solar workforce is larger than oil and gas workforce combined.
- Solar workforce demonstrates greater diversity than other industrial sector –Veterans account for 8% of the solar workforce but more effort is needed to increase diversity.
- Solar economy is local.

Trends shaping Solar Market: Storage



- 221 MW deployed
- Market grew by 243%
- Front-of-meter or utility segment accounted for 85% of all deployments
- By 2020, energy storage market expected to be 1.7 GW in size with \$2.5 billion in market value

US Solar + Storage Market



- Falling prices and improvements in technology will increase solar + storage penetration
 - 10% of new solar commercial customers are expected to combine solar + storage

Storage Deployment Trends (MW)

	2015	2021
Front of the Meter	187	1061
Behind the Meter	35	1020
Total	221	2,081

Figure 2: Storage Deployment Trends in MW
Source: GTM Research/ESA U.S. Energy Storage Monitor

Solar + Storage: Projected Job Impact



- 27,000 to 30,000 projected new jobs in solar + storage by 2021
- Storage labor efficiencies will help drive down costs and stimulate growth
- Solar storage is likely to follow the same growth trajectory as solar market

Solar + Storage: Projected Jobs



Solar + Storage Related Deployment Jobs, 2021 (Projected)

Sector	Storage Installation Jobs	Storage Fueled Solar Jobs	Total
Utility-Scale	122	245	367
Nonresidential	600	1,200	1,800
Residential	<u>8,305</u>	<u>16,609</u>	<u>24,914</u>
Total	9,027	18,054	27,081

Figure 3: Solar + Storage Related Deployment Jobs
Source: The Solar Foundation

Solar + Storage: Potential Economic and Job Impact



- Tremendous economic opportunity
 - Market value of the storage industry expected to reach \$2.5 billion by the end of the decade
 - New job growth in all sectors - R&D, manufacturing, and service-based jobs
 - Economic activity from sale of goods and services-indirect and induced effects

Solar + Storage: Potential Economic and Job Impact



- Significant promise for low-to-moderate income households
 - Help reduce or completely eliminate the electricity cost burden
- Savings through resiliency benefits
 - Keep the lights on when needed.
 - Alternative to emergency diesel generators in case of power outages

Solar Market Drivers: Regulatory Changes



- Policies to curb carbon emissions and deploy more renewable energy
 - Ex. Hawaii, 100% RE by 2045
 - California -50% RE by 2050
 - NY- 50% clean energy by 2030
- Federal investment tax credit
 - 30% tax credit for solar systems. Storage can also qualify for ITC if its part of a solar project.
- Solar friendly policies through ballot initiatives such as in FL to eliminate property taxes for solar PV projects.

Solar Market Drivers: Market Changes



- Solar becoming cost-competitive with natural gas and other energy sources
 - Lazard's research shows:
 - Levelized cost of utility scale solar (without subsidies) at \$46/MWh and \$56 MWh vs. natural gas at \$48/MWh and \$78/MWh.
- Private sector demand for solar
- Growth of community solar gardens

2016 Solar Jobs Census: Timeline for 2017



- National Census Report -January
- 51 State compendium-February
- Solar Jobs Map-February

Links to 2015 report:

<http://www.thesolarfoundation.org/national/>

Thank You



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