



U.S. Solar Market Update

Justin Baca
Manager, Policy and Research

Introduction to SEIA

U.S. National Trade Association for Solar Companies

- 1,000 member companies
- 93,000 people employed by solar
- 13 state and regional chapters

SEIA's Mission

- Expand Markets
- Remove Market Barriers
- Strengthen R&D
- Improve Education and Outreach

Voice of Solar in U.S.

We Represent the Industry's Interests in the U.S.

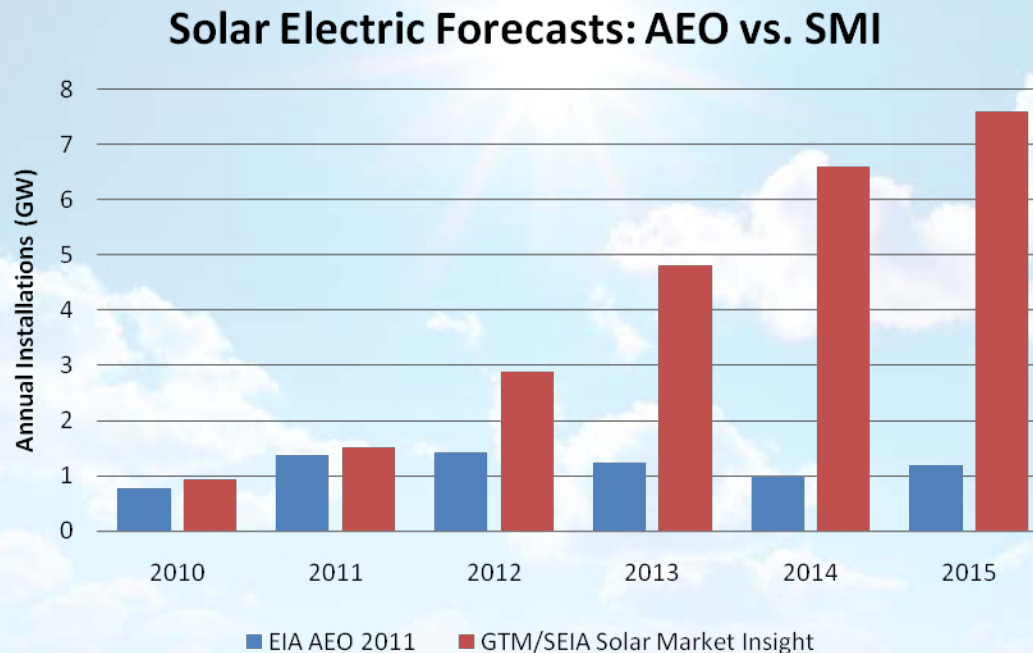
U.S. Solar Market Insight

- Partnership with GTM Research
- Quarterly updates
- Free Executive Summary
- Detailed full reports available for purchase
- Cover PV, CSP and Solar Heating & Cooling technologies



Accurate and Timely Data

- Energy Information Administration (EIA) PV and Solar Thermal reports typically report on year-old data.
- EIA's Annual Energy Outlook has typically underestimated solar deployment and its forecasts through 2015 are well below those of independent forecasts.



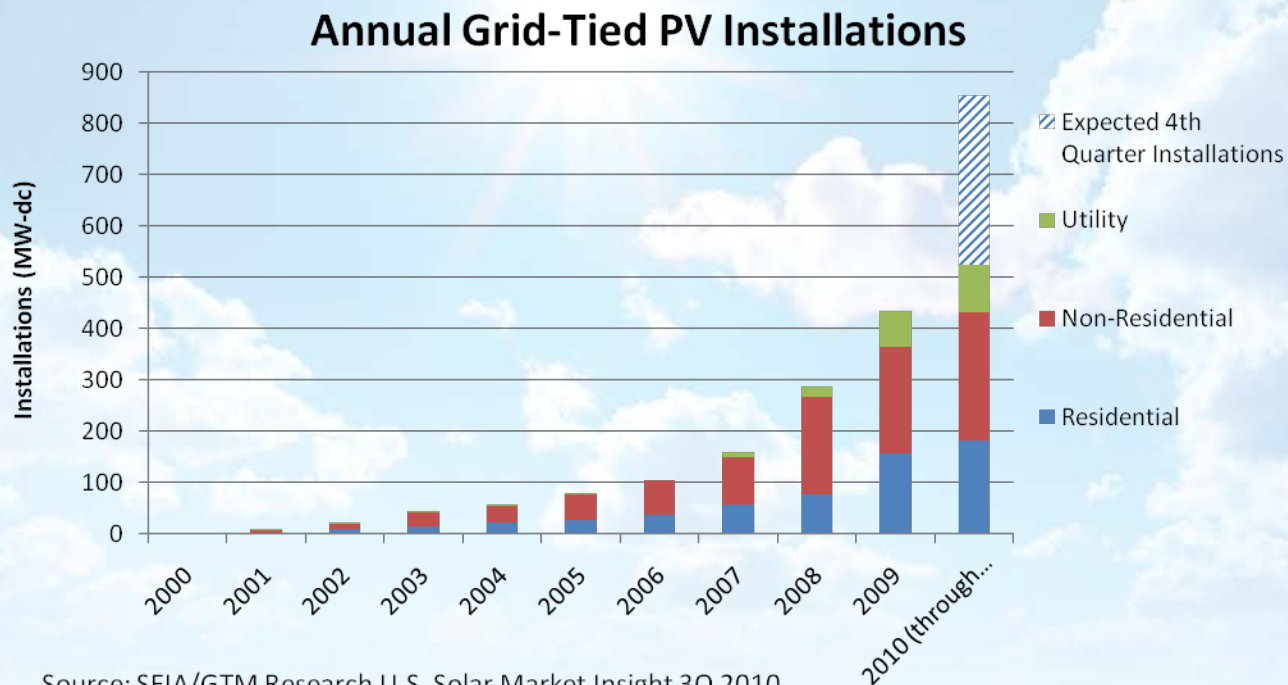
Photovoltaics



Residential PV System
Photo Courtesy of SolarCity.

PV Installations

- As of the end of the Q3 2010, there were a total of 123,000 PV systems installed in the U.S with a cumulative capacity of 1,550 MW-dc.
- 2010 was another record year for PV installations in the U.S.
- Grid-connected PV installations will nearly double over 2009 levels.

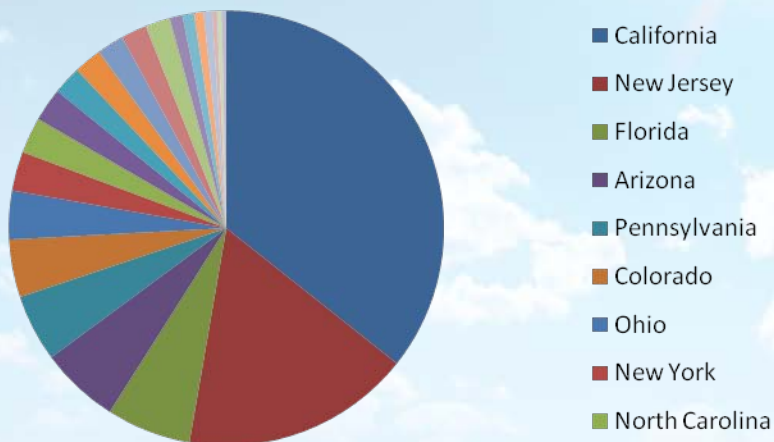


Source: SEIA/GTM Research U.S. Solar Market Insight 3Q 2010

PV Installations by State

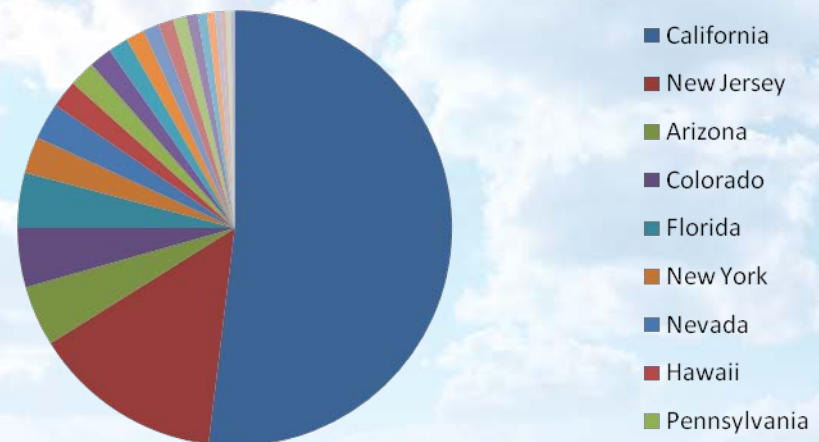
- PV installations growing more geographically diverse
 - While California accounts for over half of the cumulative installations to date, most of the new installations are happening outside of California.

PV Capacity Additions Q1-Q3 2010



Source: SEIA/GTM Research U.S. Solar Market Insight 3Q 2010

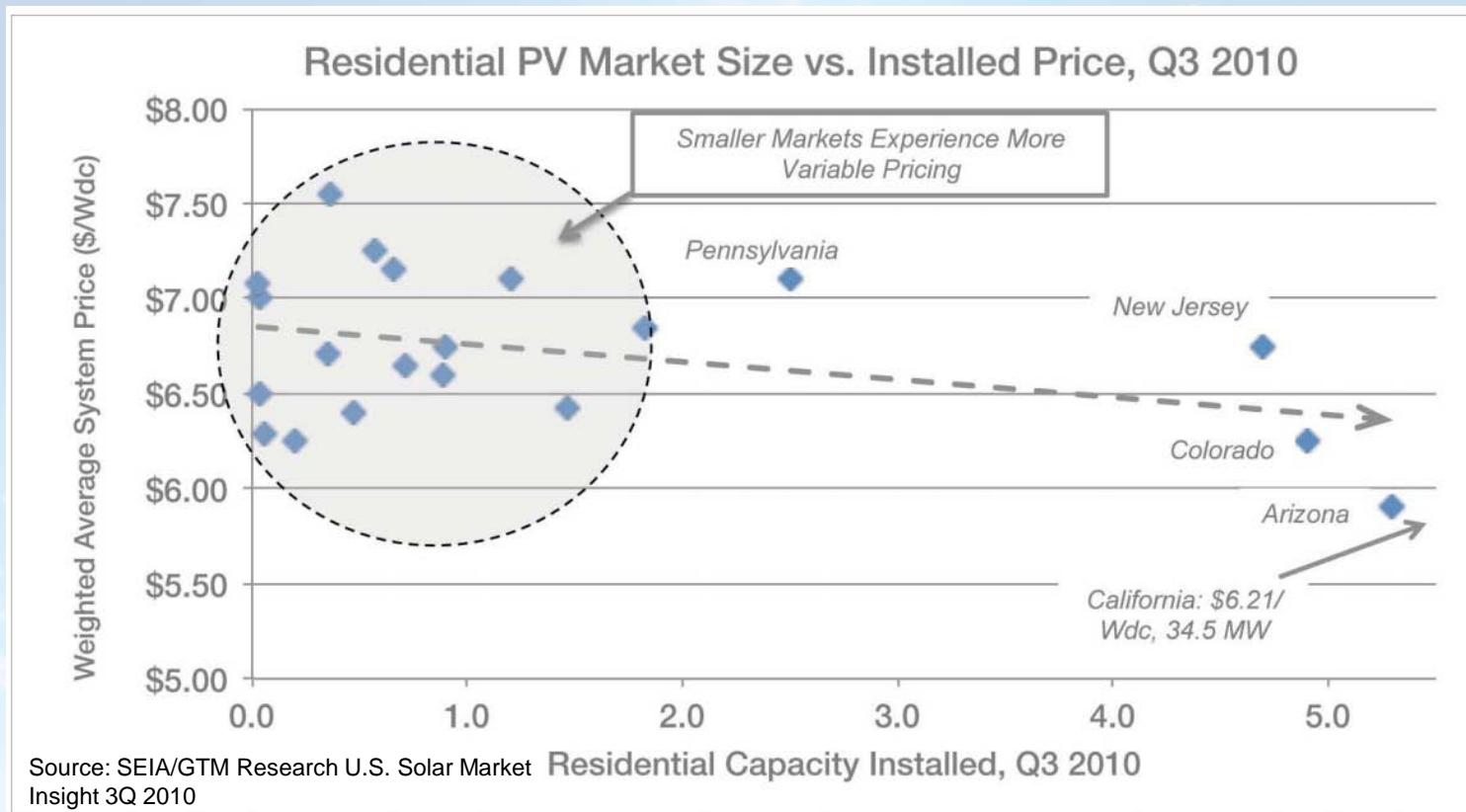
Cumulative PV Capacity as of Q3 2010



Source: SEIA/GTM Research U.S. Solar Market Insight 3Q 2010

Cost Drivers

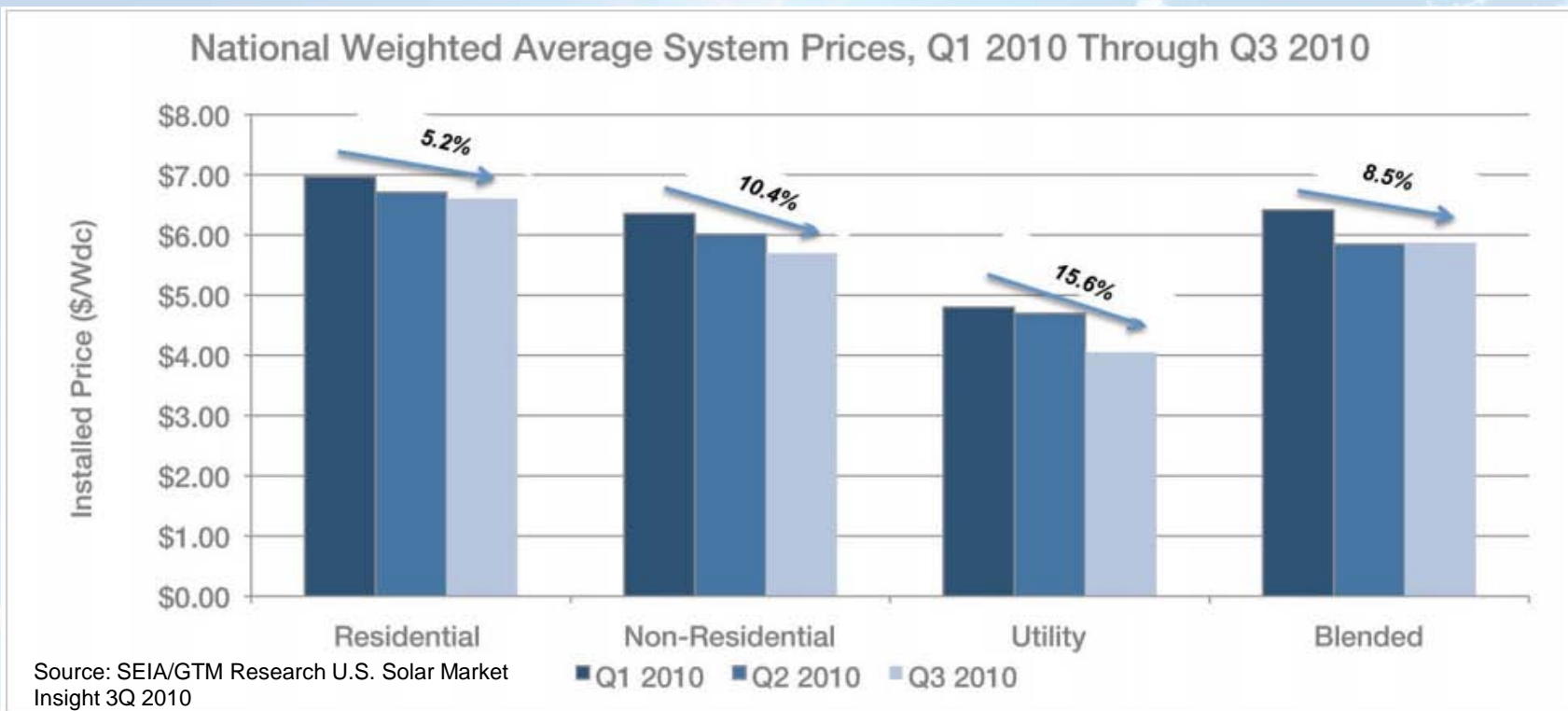
- Strong relationship between industry size and equipment costs
- Weak relationship between state market size and installation cost
 - Permitting costs vary from zero to several thousand dollar per system



Source: SEIA/GTM Research U.S. Solar Market Insight 3Q 2010

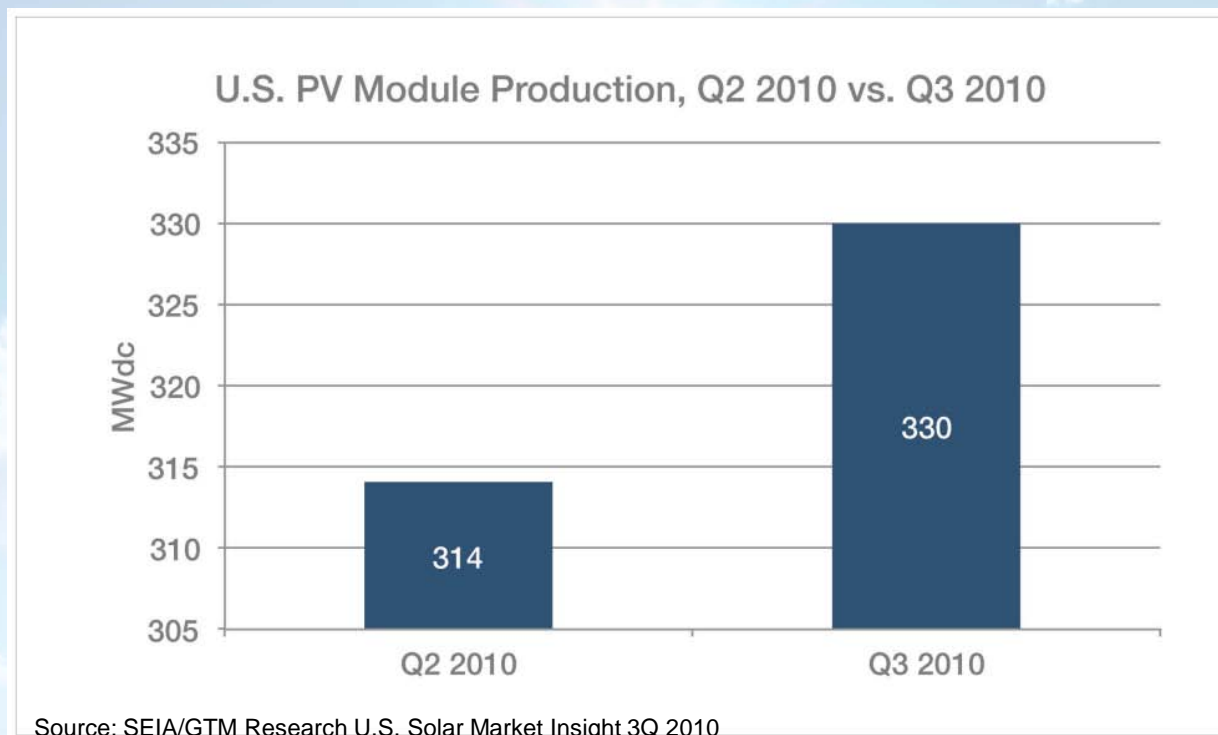
PV Cost Trends

- Data through Q3 2010 shows progress in all three market segments.



PV Manufacturing

- Despite recent announcements, domestic PV manufacturing is on the rise.
- New facilities in AZ, OH, OR, MT, TN, MS



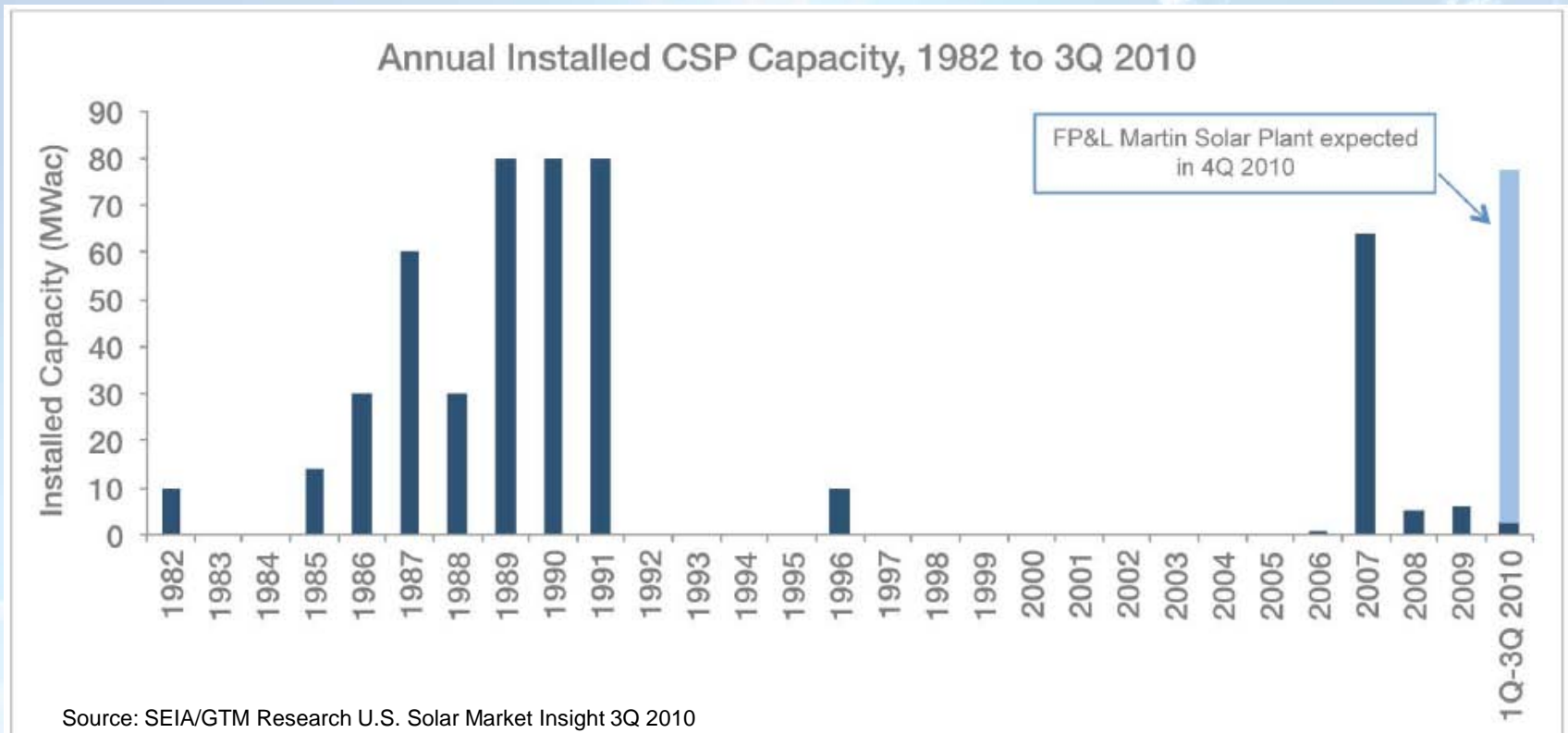
Concentrating Solar Power



A power tower from eSolar Sierra SunTower 2.
Photo courtesy of eSolar.

CSP Facilities

- Only demonstration plants in 2008 and 2009.
- FPL Martin hybrid plant came online in late 2010.



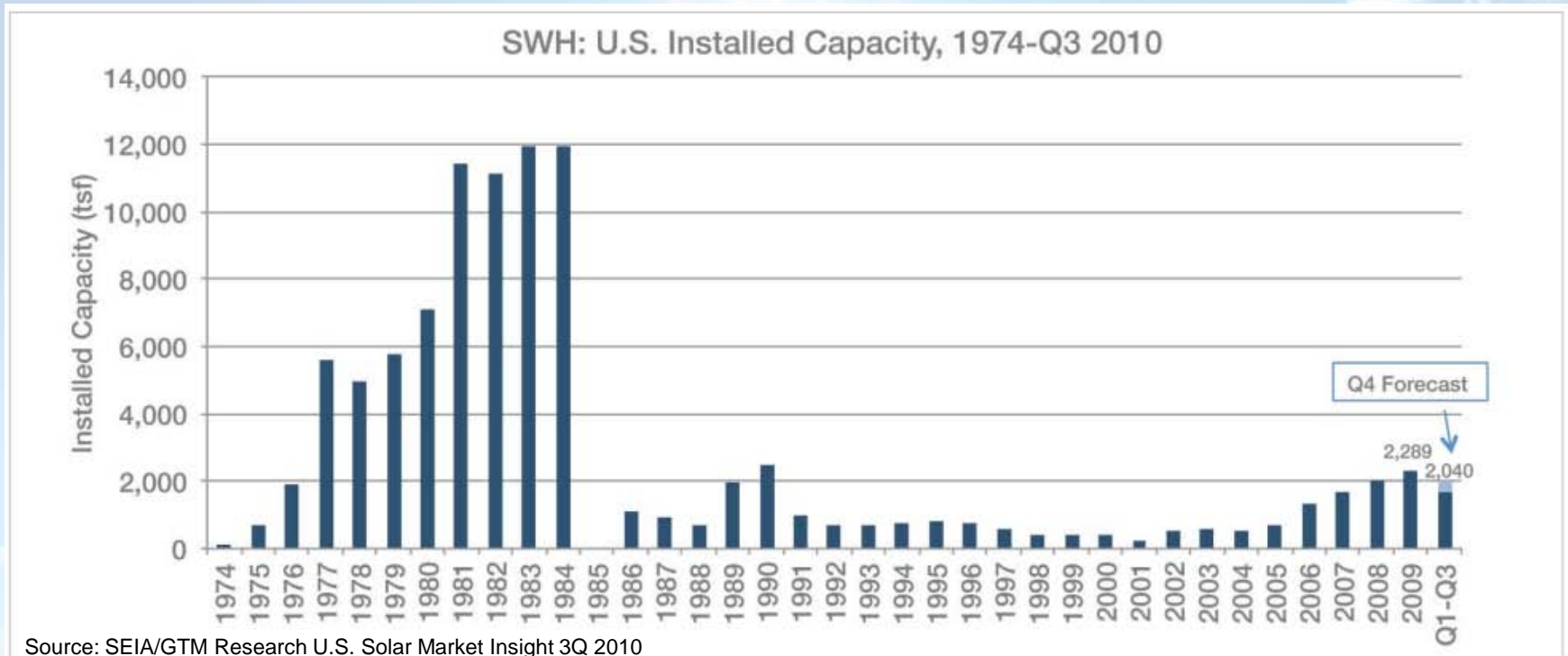
Solar Water Heating



Residential Solar Water Heating system with flat plate panels.
Photo courtesy of Caleffi Solar.

Solar Water Heating Installations

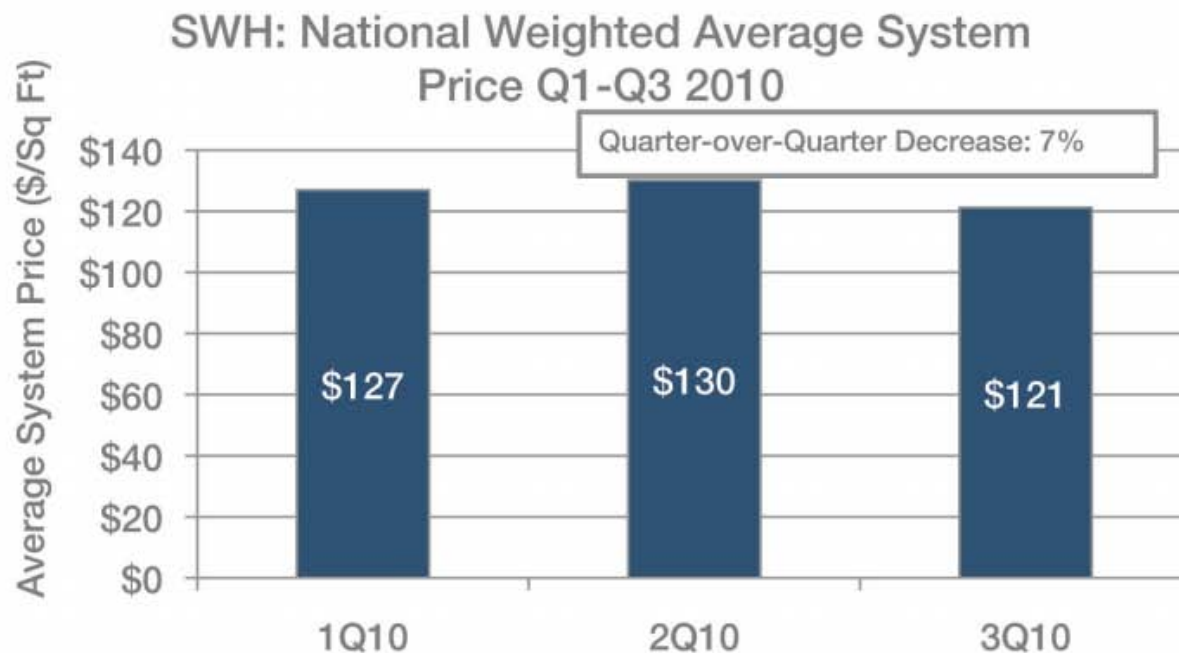
- Solar Water Heating hasn't recovered to its peak in the 1980's but has been on an upward trajectory since 2005.
- Slight decline expected for 2010 due to changes in Hawaii market.



Source: SEIA/GTM Research U.S. Solar Market Insight 3Q 2010

Solar Water Heating Cost Trends

- SWH is a more mature technology and fluctuations in price are more representative of the mix of system sizes installed over a given period.

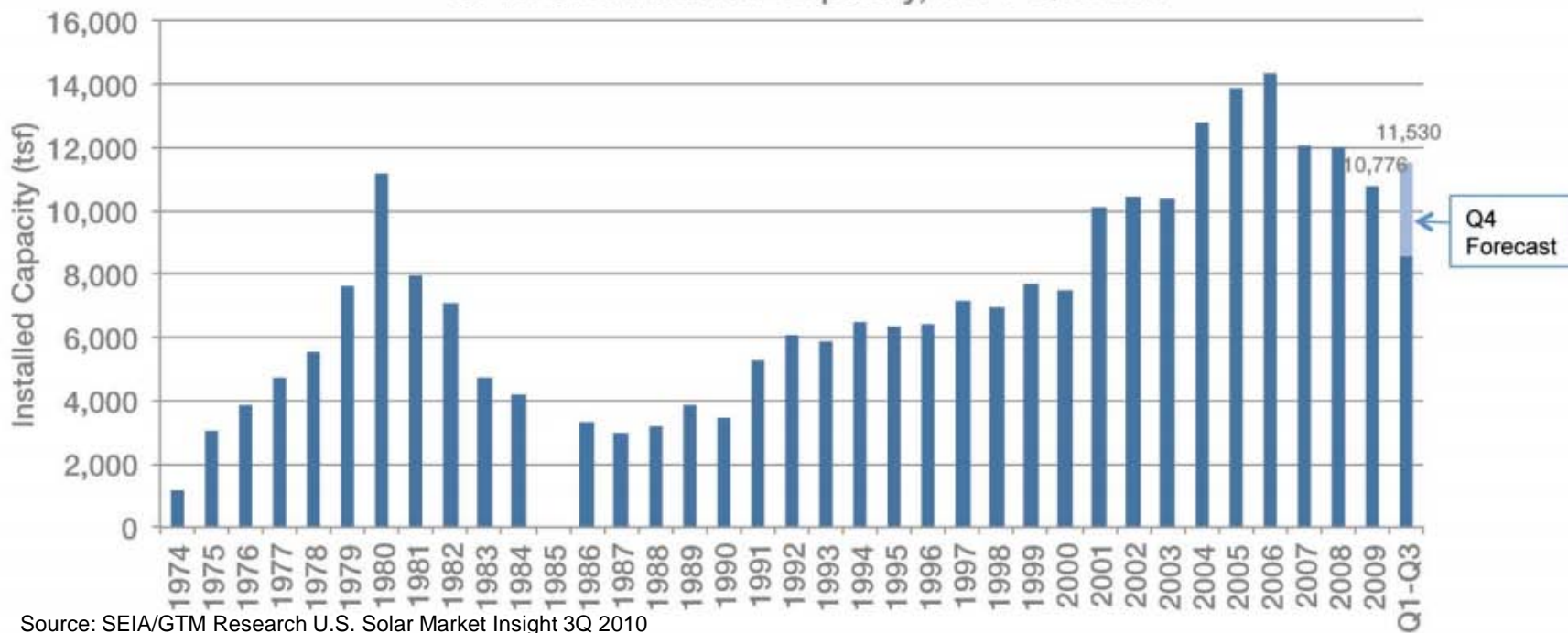


Source: SEIA/GTM Research U.S. Solar Market Insight 3Q 2010

Solar Pool Heating Installations

- SPH set for modest gain after 3 years of declines tied to the weak housing sector.

SPH: U.S. Installed Capacity, 1974-Q3 2010



Source: SEIA/GTM Research U.S. Solar Market Insight 3Q 2010

SEIA's Solar Vision for 2015 and 2020



Questions

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Federal Solar Policy Update for 2011

Scott Hennessey, Senior Manager for Government Affairs
Jan. 26, 2011

Clean Energy States Alliance Webinar

Overview

- Solar Policies in the 111th Congress
- Solar and Jobs
- Solar Policies in the 112th Congress
- How to get involved in the US Solar Industry

U.S. Solar Policy

Utility

- Rebates
- Net metering
- Feed-in Tariffs
- Performance-based incentives
- Renewable energy credits (RECs) for RPS compliance

Local

- Property-Assessed Clean Energy (PACE) Financing
- Property tax exemptions
- Sales tax exemptions
- Rebates

State

- Rebates
- Performance-based incentives
- Tax credits
- Renewable Portfolio Standards (RPS)
- Net metering
- Feed-in Tariffs
- Interconnection rules

Federal

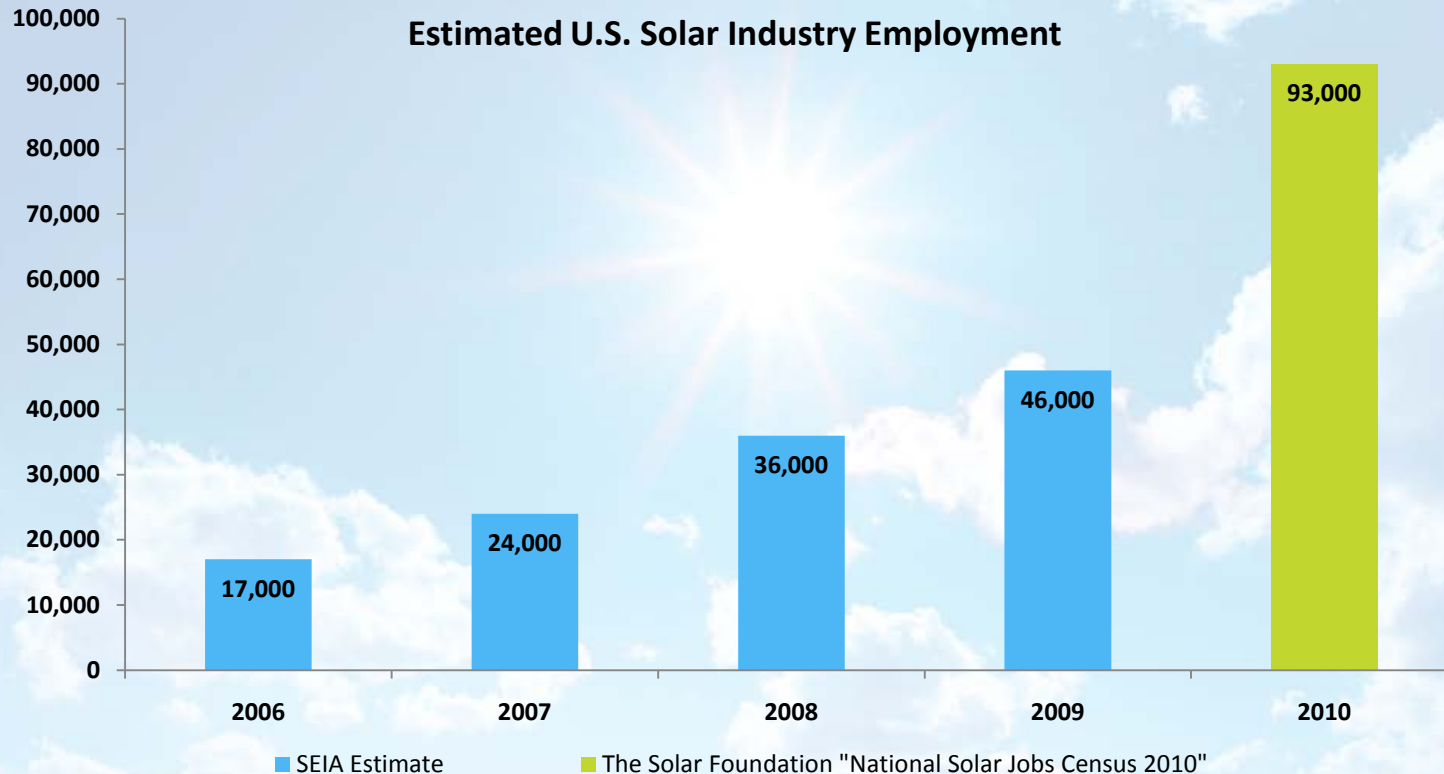
- 30% Investment Tax Credit (ITC) covers 30% of the cost of solar energy systems.
- 30% Treasury grant in lieu of ITC for projects that “commence construction” by December 31, 2010 and come online

U.S. Solar Policy: Federal level

- SEIA worked with the 111th Congress on the following Federal policies:
 - 30% Investment Tax Credit (ITC)
 - covers 30% of the cost of solar energy systems.
 - ARRA created numerous solar programs
 - 1603 Treasury Program
 - Manufacturing Investment Tax Credits
 - Loan Guarantee Program
 - Comprehensive Climate and Energy Legislation
 - Renewable Energy Standard (RES)
 - Transmission policy
 - Clean Energy Development Authority (CEDA) or “Green Bank”
 - Climate Policy: cap and trade, cap and dividend
- Message focused on job creation, economic benefit of solar.
- SEIA successful in bi-partisan support of many policies.

Solar Consistently Creating Jobs in the U.S.

- The TGP and MITC were major drivers of the growth in solar jobs from 2009 to 2010.



Top 10 States for Solar Jobs*

Rank	State	Est. Solar Firms 2010	Solar Jobs 2010	Est. Solar Jobs 2011	% Change
1	California	1,072	17,352	36,000	26
2	Pennsylvania	282	3,193	6,700	21
3	Texas	170	3,068	6,400	12
4	Michigan	76	3,023	6,300	14
5	Wisconsin	89	2,885	6,000	9
6	Colorado	254	2,528	5,300	23
7	Georgia	62	2,157	4,500	35
8	Arizona	230	1,815	3,800	16
9	New York	225	1,654	3,500	20
10	Indiana	25	1,628	3,400	13

*Data from The Solar Foundation "National Solar Jobs Census 2010"

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

U.S. Solar Policy: Federal level

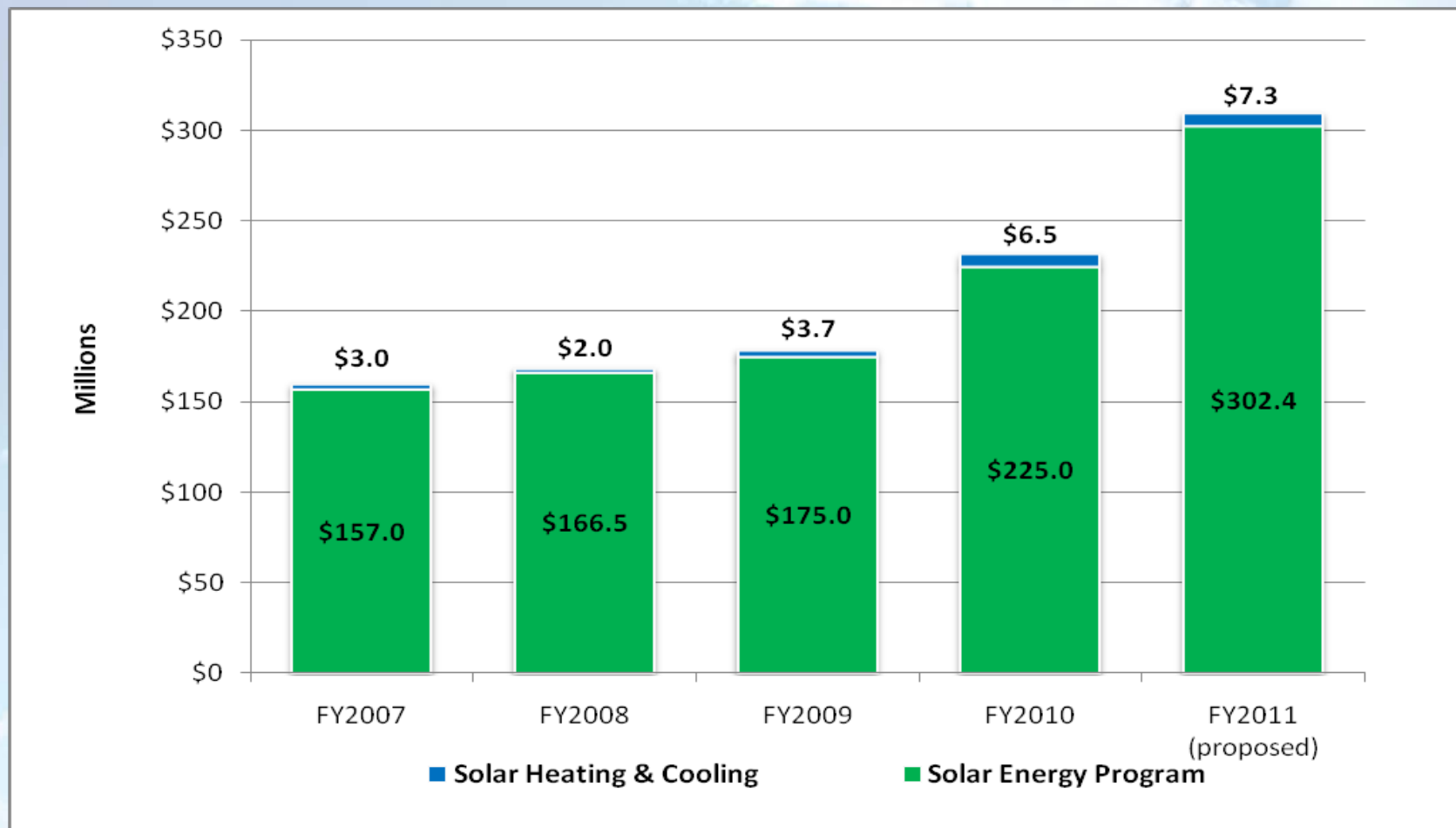
- SEIA to continue work with the 112th Congress on the following issues:
 - Changes to loan guarantee program and restoration of funds, manufacturing incentives
 - Other opportunities as they arise, still early to tell
- Might see a Clean Energy Standard
- Other opportunities for solar:
 - EPA moving forward with greenhouse gas rules, SEIA investigating potential to be included in guidelines
 - Solar on Public Lands
 - Look to the states for action for renewables and climate

U.S. Solar Policy: Federal level

- Republican Congress not necessarily bad for solar policy
 - Solar ITC passed in a Republican Congress in 2005, signed into law by a Republican President
 - 8 year extension of the ITC in 2008 supported by Republicans in Congress and signed into law by a Republican President
- SEIA to continue working with both sides of the aisle

Government Affairs

- FY2011 Appropriations Update



Government Affairs

- FY2011 Appropriations Update (continued)

	FY2010 (current funding)	Administration Request (FY2011)	Senate Appropriations Committee	House Appropriations Committee
Solar Energy Program (PV, CSP, and related activities)	\$247 million	\$302.4 million	\$272 million	No action yet
Solar Water Heating	\$6.5 million	\$7.3 million	See note below	No action yet

Notes:

- The Senate committee specified that \$50 million in the Solar Program is to fund CSP demonstration projects through the Demonstration Zone project.
- Solar Water Heating exists within the Building Technologies program. Although the Administration submits a specific budget number for solar heating and cooling activities, Congress only specifies an appropriation for the Buildings program as a whole. The requested funding for Buildings was largely maintained, so it is likely that SWH will fare equally well.
- The Senate committee specified that \$5 million within the Buildings Program will fund Solar Decathlon activities.

1603 Treasury Program

- Overview
 - Treasury program that monetizes commercial tax credit
 - Applicants receive 30% rebate on system costs when placed in service
 - Treasury will review and respond to applications within 60 days
 - Applicants will receive funds within 5 days of being approved
 - \$5.8 billion distributed as of 1/4/11, with \$472 million for solar
 - 1,433 solar projects in 42 states plus DC
 - SEIA successful in getting a 1 year extension of the program
 - Projects must begin by 12/31/2011 and be complete by 1/1/2017

Manufacturing Tax Credit

- Overview
 - Covers new & expanded assets used to manufacture advanced energy property; projects certified by Treasury, in consultation with DOE, through competitive process
 - Initial funding of \$2.3 billion exhausted
 - 183 projects in 43 states
 - 58 solar projects
- Current Goal
 - SEIA supports the Administration's proposed \$5 billion in additional funding for the Sec 48C program
 - Expand section 48 ITC to include equipment

Loan Guarantee Program

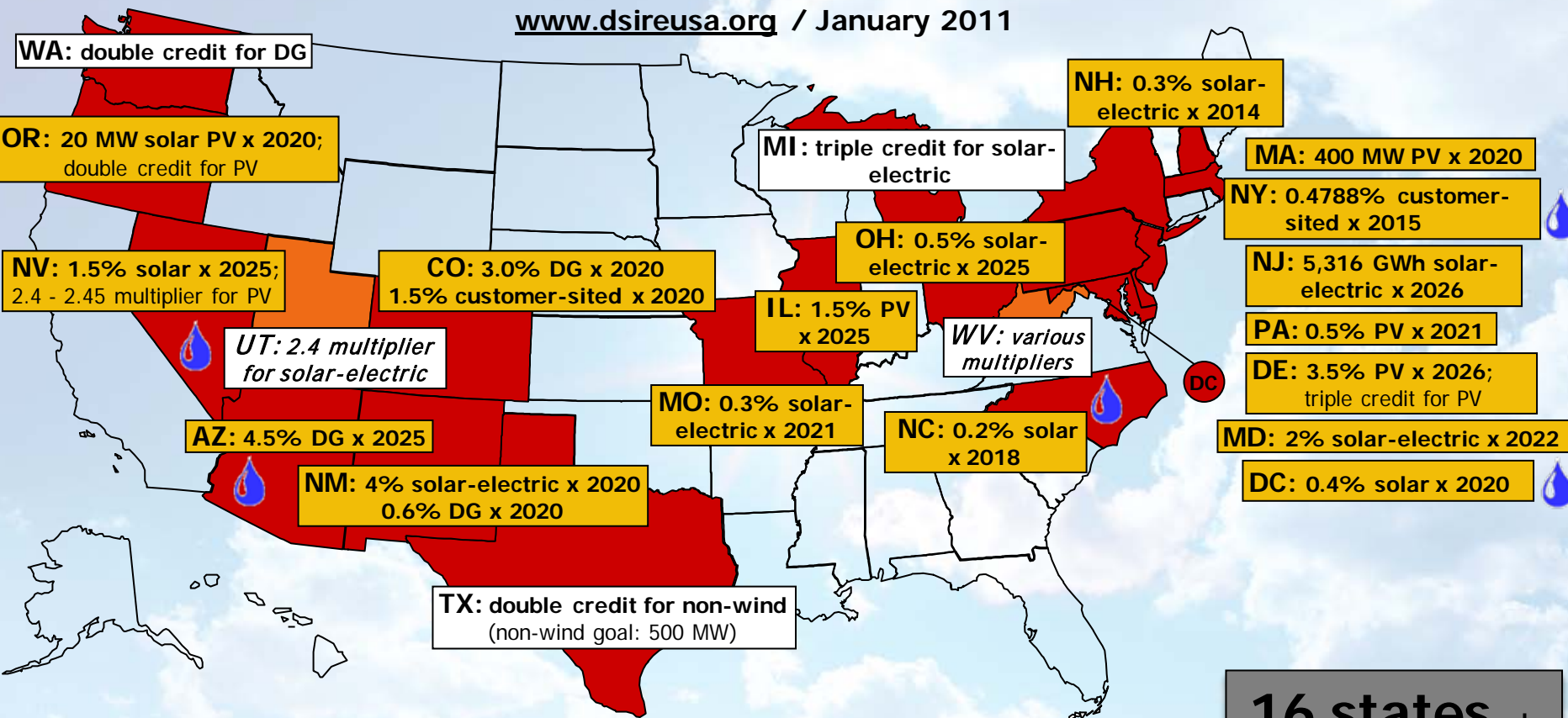
- Overview
 - Establishes a temporary loan guarantee program at DOE for renewable energy projects, manufacturing facilities, transmission
 - Covers: solar electric and solar thermal, associated manufacturing, transmission projects that “commence construction” by 9/30/2011
 - Appropriates \$4 billion for credit subsidy cost
- Current Goal
 - Restore \$2 Billion Raided to Fund “Cash for Clunkers”
 - Extend the “Commence Construction” Date by Two Years
 - Simplify and streamline Application Process

U.S. Solar Policy: State and Local level

- State policies vary
 - Rebates
 - Tax credits
 - Renewable Portfolio Standards (RPS)
 - Net metering
 - Feed-in Tariffs
 - Interconnection rules
- Local
 - Property-Assessed Clean Energy (PACE) Financing
- Utility
 - Rebates

RPS Policies with Solar/DG Provisions

www.dsireusa.org / January 2011



16 states + DC have an RPS with solar/DG provisions

- Renewable portfolio standard with solar / distributed generation (DG) provision
- Renewable portfolio goal with solar / distributed generation provision
- 💧 Solar water heating counts toward solar provision

Emerging Issues for our Industry

- Environmental Health and Safety
 - Recycling
 - Fire safety
 - Manufacturing waste
- Trade
- Labor
- Buy American Act
- U.S. Feed-in-Tariff
- Solar on Public Lands
- Negative Solar Ads

How to get involved in the US Market

1. Join SEIA – WWW.SEIA.ORG

- Expand your business
 - Fast-track government approval
 - Access to federal funds
- Network of 1,100 companies
 - Top global manufacturers, financiers, installers
- Shape markets and policy in America
 - 20 Active issue groups
- Discounts to conferences
 - Solar Power International
 - PV America
- Karen Nedbal, Director of Membership (knedbal@seia.org)



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Dallas, Texas USA

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- 30,000+ Attendees
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- Focused B-to-B show
- SolarPowerInternational.com
- October 17-20, 2011 – Dallas, Texas!



PV America

- Solar is energizing the Northeast/Mid-Atlantic region
- 3,000+ attendees
- www.pvamericaexpo.com
- April 3-5, 2011 – Philadelphia, PA!



THANKS!

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