

The Current and Future State of Solar

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Agenda

- > Solar Trends and Market Overview and Trends
- > Residential Markets

➤ 3rd Party Ownership

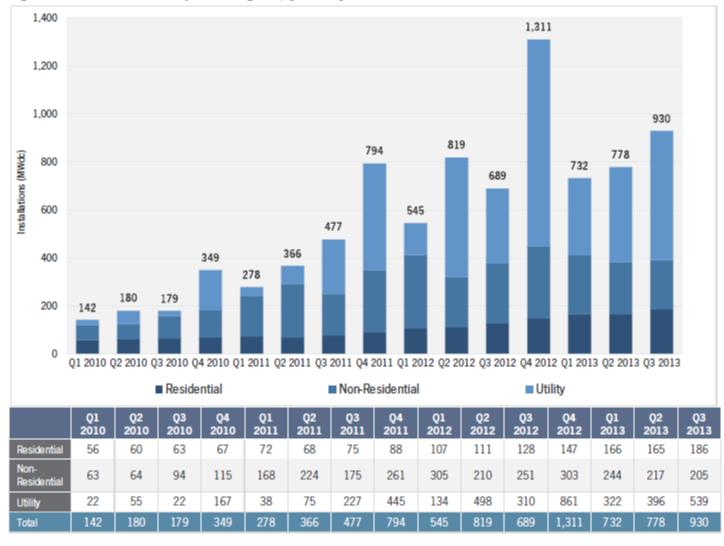
- ➤ Which builders are using solar and why?
- ➤ What differentiate Solar Integrators
- ➤ SolarCity Who are we?

Solar trends – US PV Installations

- There are nearly 143,000 solar workers in the U.S., a 13.2 percent increase over employment totals in 2011
- In 2013 a new solar project was installed every 4 mins
- The U.S. installed 930 megawatts (MW) of photovoltaics (PV) in Q3 2013, up 20 percent over Q2 2013 and 35 percent over Q3 2012. Equal to about 130,000 homes.
- This represents the second largest quarter in the history of the U.S. solar market and the largest quarter ever for residential PV installations.

The solar industry has grown 50% year over year

Figure 2.1 U.S. PV Installations by Market Segment, Q1 2010-Q3 2013



Solar trends – US PV Installations

In 2013 the US likely for the first time in more than 15 years installed more solar capacity than world leader Germany.

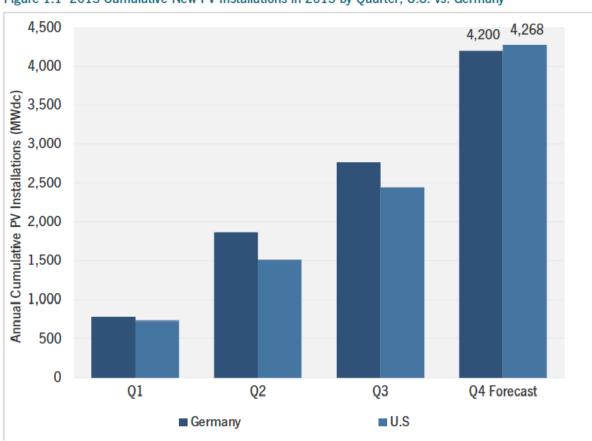


Figure 1.1 2013 Cumulative New PV Installations in 2013 by Quarter, U.S. vs. Germany

Solar trends – US PV Installations

- While the utility solar sector represented more than half of new PV capacity installed, the residential market showed significant growth and posted the segment's largest quarter in history with 186 MW installed.
- Blended average PV system prices fell 4.2% in Q3 2013 compared to the previous quarter, reaching a new low of \$3.00/W (utility, commercial and residential)
- We forecast that the U.S. will have installed a total of 4.3 GW of new PV in 2013, up 27% over 2012. Approximately 10 GW total installed capacity.

<u>Solar trends – US PV Installations</u>

- The <u>residential market</u> continues to see the most rapid growth of any segment in the U.S. solar market.
- Through Q3, residential PV installations were up 45% yearover-year and we anticipate further expansion to 52% by the end of Q4.
- The economics of residential solar are highly attractive in a number of states today (most notably California, Hawaii, and Arizona), but the Northeast (MA, CT, NY) and Mid-Atlantic (NJ, MD, DE) markets also provide good economics.

Solar trends – US PV Installations...continued

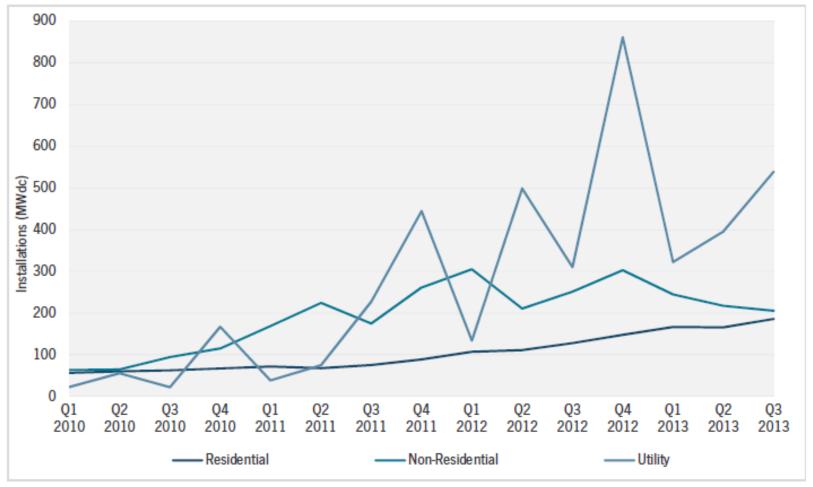
- After a slight downturn in Q2 2013, the residential market resumed its steady incremental quarterly growth in Q3.
- Nearly 31,000 individual residential installations were completed in the third quarter, bringing the cumulative total in the U.S. to 360,280.
- In 2013, it is forecasted approximately 115,000 residential installation will be completed.
- 20 of the 28 state markets we track grew on a quarterly basis.

Solar trends – US PV Installations...continued

- #1 California installed 98.8 MW of residential PV in Q3, up 22% over last quarter and more than 50% of all residential solar.
- #2 Arizona installed 16.9 MW of residential PV, up 11% quarter-over-quarter, amidst uncertainty surrounding net energy metering and a lack of new state-level incentives. This accounted for 9% of all residential solar.
- #3 Hawaii installed 16 MW of residential PV, down 25% from their peak mainly due to oversaturation of the grid.

Solar Growth by Segment

Figure 2.4 U.S. PV Installation Trends by Market Segment, Q1 2010-Q3 2013



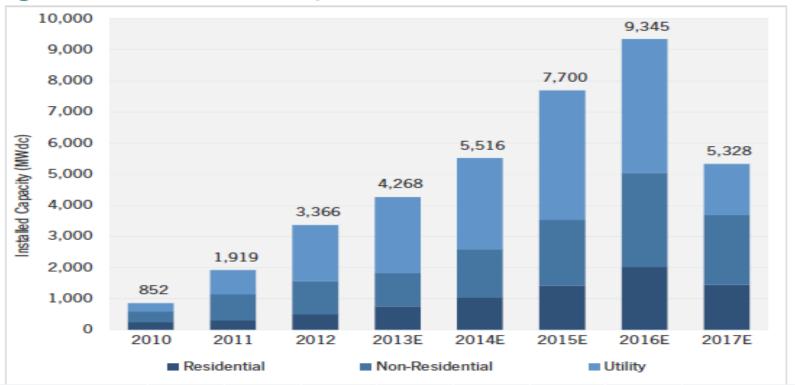
186 MW were installed in Q3 of 2013 for residential – up 45% over 2012



Market Outlook

• The residential segment is expected to grow to approximately 300,000 units by 2016, then potential contract to 200,000 in 2017 with the tax credit resetting to 10%

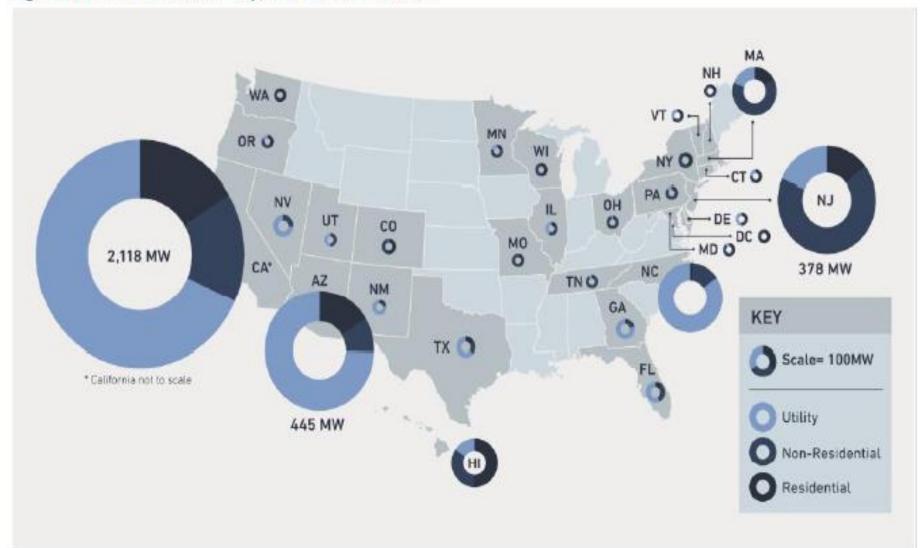
Figure 2.24 U.S. PV Installation Forecast, 2010-2017



Market Segment	2010	2011	2012	2013E	2014E	2015E	2016E	2017E
Residential	246	304	494	753	1,031	1,418	2,014	1,447
Non-Residential	339	831	1,069	1,063	1,543	2,111	3,030	2,238
Utility	267	784	1,803	2,452	2,943	4,171	4,301	1,642
Total	852	1,919	3,366	4,268	5,516	7,700	9,345	5,328

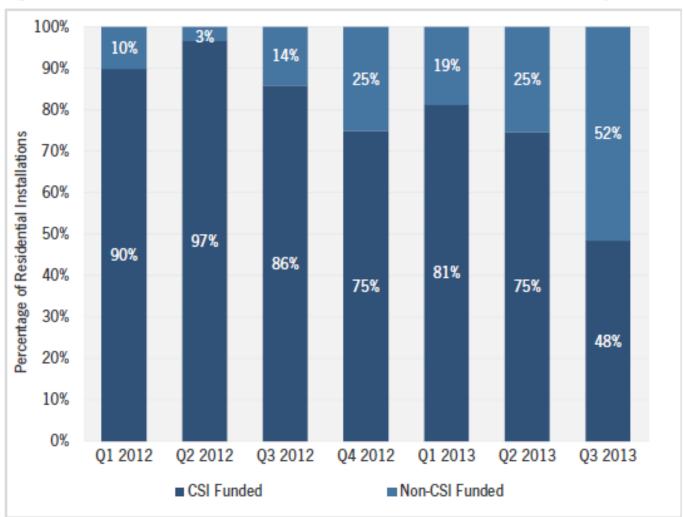
2013 Forecast by Market

Figure 2.12 U.S. PV Installation Map, Year End 2013 Forecast

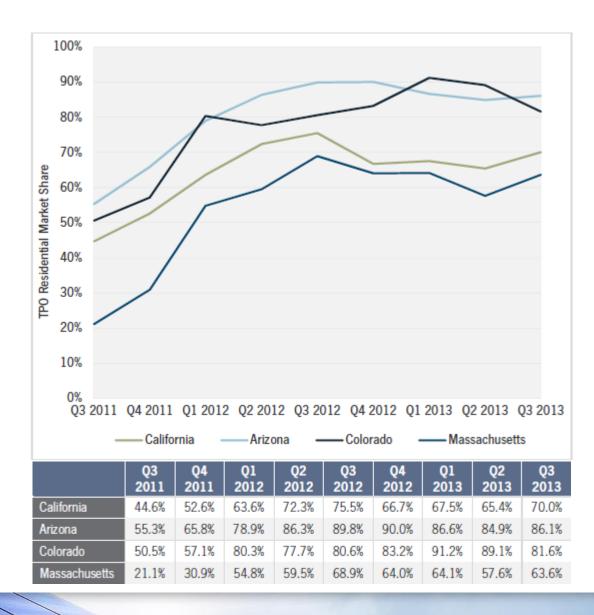


California Installation with / without incentives

Figure 2.12 CSI-Funded vs. Non-CSI Funded Residential Installations, California IOU Territory



3rd Party Ownership by State



3rd Party Ownership.....continue

- In most markets, third-party-owned (TPO) residential PV systems continue to prove an attractive option for many homeowners.
- Arizona, California, and Massachusetts saw TPO market share rebound in Q3 2013.
- As the TPO residential space matures in the midst of competing financial products, there are a number of companies that have emerged as market leaders.
- These companies are increasing the rate at which they deploy systems, which allows for the negotiation of better equipment supply contracts and access to lower cost of capital, which is critical as state-level incentives are threatened or face expiration in some states.

3rd Party Ownership.....continue

- A factor that will impact the viability of the TPO business model is the role utilities will play in the DG market.
- It is possible that utilities may enter the residential PV market, offering existing customers discounts on retail rates by owning and operating residential systems themselves.
- Some utilities have already invested in project finance funds created by TPO providers or have directly invested equity in these companies, but generally through the utilities' unregulated independent power producer (IPP) arms.
- Utility investment in DG provides more opportunities for market growth across the U.S. because of utilities' access to and business relationships with existing customers.

3rd Party Ownership......continue

\$0 Down Lease

- Generally available in CA, AZ, CO, HI, OR, MD, DE, DC, NJ, MA, and CT
- \$0 money down Monthly payments by homeowner
- Tax Credits and Incentives are passed through to homeowner
- Added benefit of depreciation expense
- Term usually 20 years

PrePaid Lease (20 Year)

- Typically, 50% less than cash purchase
- Tax Credits and Incentives are passed through to homeowner
- Added benefit of depreciation expense
- Term usually 20 years

Cash Purchase

- 10-30% savings
- Has become a small % of solar deployment

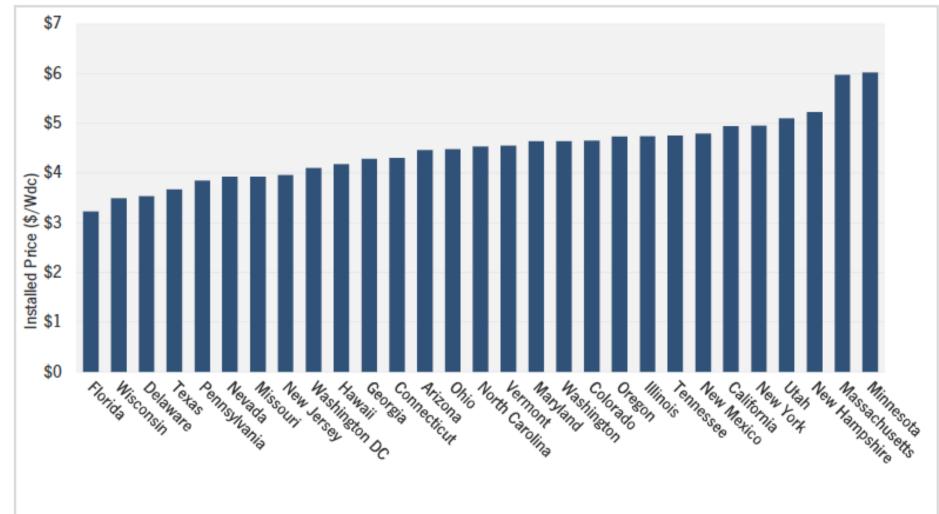


Pricing

- Module pricing climbed to levels of around \$0.75 /W in Q3 2013 from \$0.70 / W.
- •From Q3 2012 to Q3 2013, residential system prices fell 9.7% percent, from \$5.22/W to \$4.72/W (price to consumer).
- •Quarter-over-quarter, installed costs declined by 2% percent. Installed prices came down in most major residential markets including California, Arizona, and New Jersey.
- Residential prices vary significantly from state to state, in part due to the relative maturity of each state's solar market.

Pricing.....continued

Figure 2.33 Average Residential Installed Prices by State, Q3 2013



Pricing.....continued

Figure 2.41 U.S. Polysilicon, Wafer, Cell, and Module Prices, Q3 2012-Q3 2013

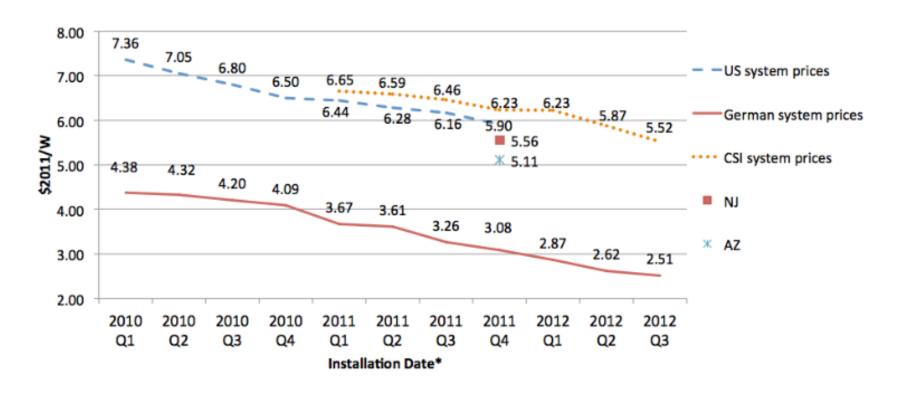


US versus Germany installed pricing

Installed Price Gap Was \$2.8/W in Q4 2011 and Differential Continued Through 2012



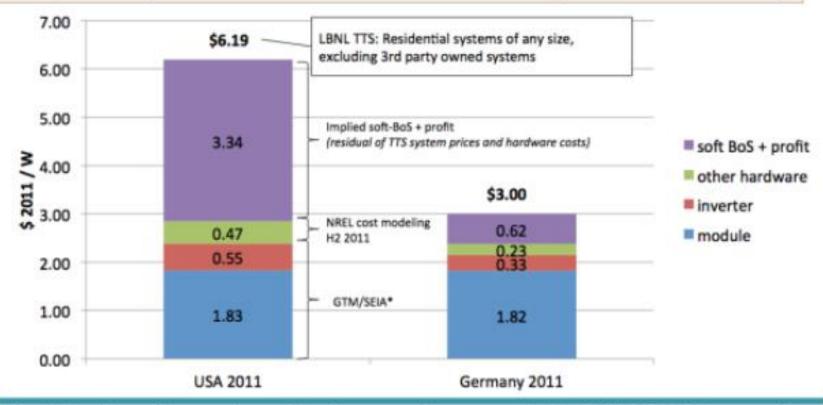
Median Installed Price of Customer-Owned PV Systems ≤10 kW





US versus Germany installed pricing

Total soft costs for residential PV in Germany, including margin, are just 19% of the implied soft costs for U.S. residential PV (\$0.62/W vs. \$3.34/W)



Note: US module and inverter prices are based on average factory gate prices for Q4 2010-Q3 2011 as reported by GTM/SEIA with an adder of 10% to account for supply chain costs. Inverter efficiency assumed to be 85%.



Which National Builders are including solar in the construction of new homes?























SheaXero - the "No Electric Bill" Home

- Shea Homes partnered with SolarCity last year to launch SheaXero, a net zero energy home
- In just one year, SheaXero has generated more than
 \$10 Million in savings homeowners
- SheaXero offered in 5 states -Arizona, California, Florida, Nevada and Washington
- Have completed 2,000 SheaXero homes in less than 2 years



Why is solar growing so rapidly with new home construction?

- Differentiates their communities from other builders and the existing home resale market
- The retrofit market demonstrates the demand
- Solar homes sell faster & for more money than comparable non-solar homes
- Higher pride of home ownership and lower cost of operation
- Easy to add on to existing design no modifications to roof or electrical panel
- Energy Packages make the most sense Aesthetically & Financially when you design & build them into the construction & mortgage of the home



Benefits of Solar to Home Builders & Buyers

- Homes sell faster with solar Increased Volume
 - Solar homes sold 20% faster than the equivalent non-solar
 - Buyers are more interested in solar when it was-preinstalled
 - 88% of homebuyers are looking for energy efficient features on their new home¹
- Homes with solar sell for higher prices Increased Sales \$\$
 - Solar homes sold for 17% more than similar homes without solar
- More satisfied customers Increased Customer Satisfaction
 - Homeowners with solar typically have lower monthly energy costs which results in higher satisfaction

- 1 http://www.ilsr.org/homes-solar-sell-faster-and-more/, http://www.nrel.gov/docs/fy07osti/38304-01.pdf
- 2- Berkeley Labs report An Analysis of the Effects of Residential Photovoltaic Energy



Solar Adds Value – Perception Matters



- Immediate Savings
- Fixed long term costs
- \$2.30 to \$2.60 per watt
- Appraisal Tools

- Higher costs
- Escalating Utility Bills
- \$12K to \$17K per house

Why Go Solar Now

Home solar is rapidly becoming "The New Normal"

- 20-25% of all new homes in CA had solar 2013
- 10% of all new homes in AZ had solar in 2013
- Q3 2012 represents the US best solar install rate on record to date¹

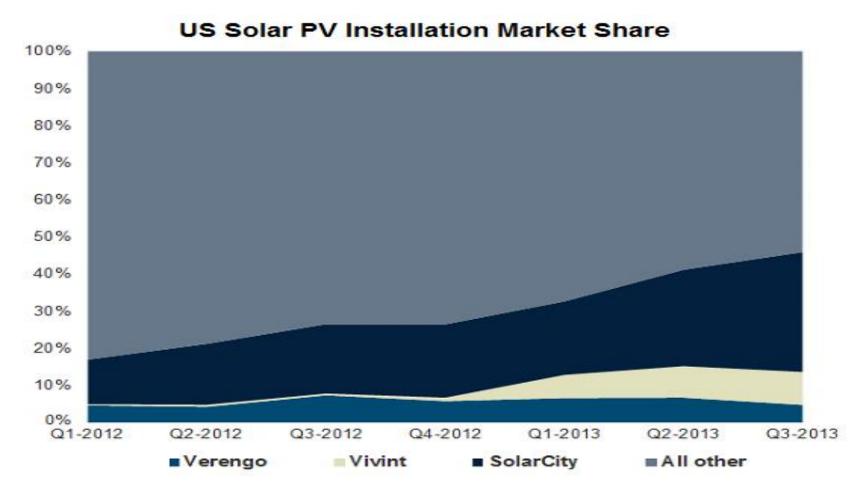
Solar is more affordable than ever

- Financing options can make solar cost less than you pay the utility
- Adding the prepaid lease to the total home price, and the buyers include it in their mortgage, they are immediately cash flow positive with utility savings

1 - http://www.seia.org/research-resources/solar-industry-data



Solar Installers



- SolarCity installed ~ 33% of all solar systems in Q3 2013
- •Vivint installed ~ 8% and Verengo installed approximate 4%

What differentiates Solar Providers?

- Product and Services
 - Cash
 - \$0 Down Lease
 - Full Prepaid Lease
- Products
 - Solar Thermal / Solar PV
 - High Efficiency Panels
 - Micro-inverter versus Single String Inverters
- Sales Strategies
 - Buying Solar vs. Buying Energy

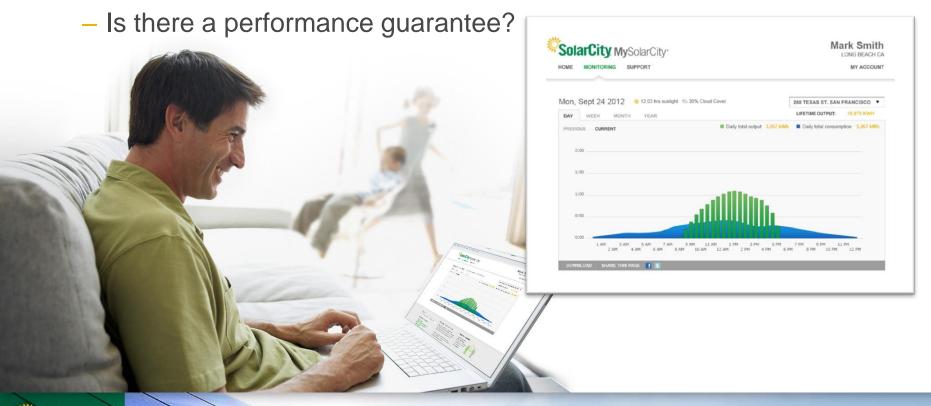


What differentiates Solar Providers?

- Maintenance, Monitoring and Performance Guarantee
 - Does Homeowner have access to monitoring?

olarCity

- Does solar Integrator perform maintenance and monitoring?
- What level of customer care is provided by solar integrator?



SolarCity Confidential

Slide 31

SolarCity's Builder Program

- Largest National Footprint- We work where you work
- Multiple Solutions to offer: Lease / Purchase
- Dedicated Team of resources for our Builder Partners
- One Stop Shop
 - ✓ Installation
 - ✓ Financinge,
 - Marketing
 - Sales Training
 - Monitoring and On-going Maintenance
 - ✓ Customer Service
- A Value Proposition that works!



About SolarCity - Industry Experts

- Leader in Clean Energy Services
 - 1 in 3 Solar Homes are powered by SolarCity
 - Providing electricity to more than 100,000 buildings
 - Database of 1000+ municipalities and utilities thousands of markets nationwide
 - Trusted by major national brands
- Over 4,000 Employees and growing
- >\$3 Billion Raised in Structured Financing
- +18 states, Puerto Rico and Washington DC















SolarCity is changing the energy industry

- NASDAQ: "SCTY"
- #1 National Residential Solar Market Share
- \$6+ Billion in market cap
- Full Service Provider = "One-Stop Shop"













Sales

Financing

Engineering

Installation

Monitoring & Maintenance

SolarCity Locations & Regional Operations Centers

Upcoming Markets: Missouri and Georgia

