About SolarCity

- The Leading Solar Service Provider in the U.S.
  - More than 30,000 projects completed or underway
  - Serving thousands of markets nationwide—AZ, CA, CO, DC, DE HI, MA, MD, NJ, NY, OR, PA, TX, WA and Ontario, Canada
  - Installing ~600 new projects per month
  - #1 Market Share

- 1,600+ Employees
- Raised $1.4 Billion in Structured Financing
SolarCity – Full Service Provider

SolarCity provides a single source for solar financing, design, installation, monitoring and maintenance.
SolarCity Locations & Regional Operations Centers

- Arizona
- California
- Colorado
- Delaware
- Hawaii
- Maryland
- Massachusetts
- New Jersey
- New York
- Ohio
- Oregon
- Pennsylvania
- Texas
- Wash D.C.
SolarCity Locations & Regional Operations Centers

Arizona
California
Colorado
Delaware
Hawaii
Maryland
Massachusetts
New Jersey
New York
Ohio
Oregon
Pennsylvania
Texas
Wash D.C.
**Walmart**

Multiple locations in CA, AZ, NJ and CO

- > 30 MWs installed by end of 2011
- > 120 systems under contract

<table>
<thead>
<tr>
<th>Total System Size</th>
<th>23 MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed</td>
<td>2010-2011</td>
</tr>
<tr>
<td>Type</td>
<td>Ground mount, Rooftops and Carports</td>
</tr>
<tr>
<td>Locations</td>
<td>90 stores installed; 120+ by end of 2013</td>
</tr>
<tr>
<td>Industry</td>
<td>Retail</td>
</tr>
</tbody>
</table>
SolarStrong

Multiple locations nationwide

> Targeting 120,000 base housing systems
System Size | 6+ MW 
---|---
Installed | 2011 
Type | Ground mount and Residential Rooftops 
Location | Tucson, AZ 
Industry | Government/Military 

**Davis-Monthan Air Force Base**

Soaring Heights Community

First SolarStrong project
<table>
<thead>
<tr>
<th>System Size</th>
<th>394 kW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installed</td>
<td>October 2010</td>
</tr>
<tr>
<td>Type</td>
<td>Car Port</td>
</tr>
<tr>
<td>Location</td>
<td>Hillsboro, OR</td>
</tr>
<tr>
<td>Industry</td>
<td>High Tech</td>
</tr>
</tbody>
</table>

**Intel**

Jones Farm Campus
SolarCity and Home Depot

SolarCity offers solar through 400 Home Depot Stores.

The Home Depot’s Trusted Partner

The Home Depot works only with home service professionals who meet the highest standards for experience, know-how and customer service. This month you can save $1,000 on solar power with SolarCity and The Home Depot! Use promo code FEB1000 to request your coupon.
Will 3\textsuperscript{rd} Party Solar Raise Rates for Everyone?

- Assume a customer cuts 1000 kWh /year by updating the “beer fridge” in the garage.

- Assume their neighbor cuts 5000 kWh / year by putting in solar panels.

- Is the second customer raising everyone’s rates?
  - If using fewer kWh from the utility is bad, energy efficiency should be discouraged.

- In fact, solar energy in many ways saves all other ratepayers money – it produces most during the hot Summer afternoons when the grid is most stressed and power is most expensive.
Will 3<sup>rd</sup> Party Solar Cause Unreliability?

- If 1 solar kW hurt reliability (needed 1 backup kW, ) “capacity value” would be **negative 100 percent**.
- If 1 solar kW didn’t hurt or help, “capacity value” would be **zero percent**.
- If 1 solar kW knocked out the need for 1 backup kW, “capacity value” would be **positive 100 percent**.
- In PJM market, it is **positive thirty-eight percent**.
- In Colorado, it is **40%**.
Has 3rd Party Solar Caused Unreliability?

PJM solar MW (DC) – NC is 7%
Will 3rd Party Solar Cause Unreliability?

- How does the grid know what is in the contract?

- A residential solar system might be 5 kW. A hair dryer would be about 1.2, a microwave oven 1.5.
  - It’s hard to predict how many microwaves will be turned on twenty minutes from now.
  - It’s a little easier to predict how much solar generation will be active twenty minutes from now.
  - It’s much easier to predict how much solar generation will be operating tomorrow.
    - Especially if it’s spread around; one cloud can’t cover the whole state.
Solar and Reliability
Intermittency is Not Unreliability -24? 7? 365?

Please Note:
We depend on the users of Roadtechs.com for the outage dates shown below. If you can provide updated outage info, please click on the "Change" link for the unit you are updating.

Click here to add a new plant to the list.

Click here to download the list in a spreadsheet compatible CSV format.
Why do Businesses Not just Buy With Cash?

- Why do businesses lease space per square foot instead of buying buildings?
- Why do businesses lease copiers per page instead of buying copiers?
- Why do businesses rent trucks per mile instead of buying them?

We find: Capital constraints, desire to focus on core business, desire to have full performance guarantee. Nonprofits and state agencies see solar pricing drop by half when PPAs, not just leases are allowed.
Why is there a Monopoly on Electric Service?

- The grid as a “natural monopoly” where the market fails.
  - The government steps in to set “fair prices”.

- Should the government extend these protected monopolies into other businesses, by banning competition?
  - Could someone seeking solar get competing bids?
    - Yes. In fact most do.

- Where does the limit lie?
  - “What happens between two consenting adults, behind the meter”
  - Safety, reliability and interconnection are the state’s business
  - Banning competition is not
## 3rd Party Solar

<table>
<thead>
<tr>
<th><strong>Is</strong></th>
<th><strong>Is Not</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A privately negotiated contract, in a competitive market</td>
<td>A Government-Protected Monopoly</td>
</tr>
<tr>
<td>Reducing a Customer’s Own Load from a system on their Own Property</td>
<td>Deregulating The Market, Allowing Private Development of Power Plants Miles Away</td>
</tr>
<tr>
<td>A Source of Generating Capacity</td>
<td>A Threat to the Grid</td>
</tr>
<tr>
<td>A Way to Leverage Private Capital</td>
<td>A Means of Raising Rates</td>
</tr>
<tr>
<td>A Way to Enable Nonprofits to Go Solar</td>
<td></td>
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