

Comments of SolarCity on the NYSERDA Proposal for “NY-Sun”

I. Introduction

We thank the New York State Public Commission for the opportunity to provide these comments. SolarCity is a national leader in renewable energy services. The company serves thousands of communities with 25 operations centers in 11 states, including Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Maryland, Massachusetts, New Jersey, New York, Oregon, Pennsylvania, Texas, Washington and Washington D.C. SolarCity's customers include thousands of homeowners, more than 100 schools including Stanford University, government agencies such as the U.S. Armed Forces and Department of Homeland Security, and well-known corporate clients, including eBay, Intel and Walmart. We have hundreds of New York customers and over 25 New York based employees.

The NY – Sun program, through the petition of the New York State Energy Research and Development Authority (NYSERDA) is an ambitious re-launch of New York’s Solar PV program. If deployed appropriately, the commitment of \$108 million dollars, per year, through 2015 can set the solar industry on the path toward full commercial deployment of solar PV technology. With \$5 million of this earmarked for the administration of programs this leaves a resulting \$103 million for deployment. We believe a split of a third (33%) for residential and small commercial, and two-thirds (66%) for larger commercial solar is an adequate division. We do not believe this programmatic funding should come at the expense of other renewable programs.

While we are strongly encouraged by this funding commitment to solar PV, this funding cannot simply be injected into existing programs with the expectation for full success. Current programs must be modernized to ensure efficient use of rate payer funds, leverage private investment, and provide for the growth of the New York solar industry into a self-sustaining market.

II. Residential and Small Commercial Market

NYSERDA has done best in the nation work in fostering an active installer base in the state. In the mid-1990s the base of installers was effectively zero and has grown to well over 200, with well over 100 very active in the program. This was done in less than one decade of work. However, as in all

industries, the programs that are effective at establishing a **new** industry and a **scalable** industry are quite different. If NY – Sun programs are to be adequately leveraged, a new era of governance for these solar programs must be implemented.

**A. Establish a clear incentive track that provides a road map to ZERO subsidy** - Under the current programs we have no clear trajectory to ZERO subsidies -- also known as **grid parity** (the price at which solar is equal to the supply from the grid). Price adjustments and incentive corrections will always be painful to the industry. Providing a clear, disciplined trajectory to zero incentive, will help the local industry plan for this event and allow new entrants to make adequate planning and hiring decisions. This process will help the local installer base internalize and prepare for this event. ***Please see "Attachment I" for best practice example.***

- **Use a more effective incentive scheme through a Performance Based Incentive (PBI)** – Deploying a PBI is the single most important improvement NYSERDA can institute to its program. This will immediately improve the efficiency of systems and the cost at which they will be installed.
  - An upfront rebate means that all money for solar investment needs to be on hand at all times in a given year. Under a PBI the agency does not need to have all money on hand, only what it needs to make quarterly payments. Given the lessons learned, through the recent economic crisis, on the time value of money this is an important consideration.
  - A PBI is a method where customers/installers only get paid for energy produced, usually paid out over a business quarter. If the system does not produce, it does not get paid. This means many of the redundant, and costly, system performance checks can be eliminated. Systems, of course, will still be inspected to meet code.
- **Local factors still key to grid parity** – Knowing the local market – e.g. *drive time to installation, permitting processes, building local labor pools, establishing suppliers, etc.* – is essential to this process. While grid parity may be achieved in a neighboring state with similar electricity prices – for instance Massachusetts – this may not necessarily be so for New York. It will take a comparable local solar investment. These cost reductions only occur by doing actual solar installations and development work. This cannot occur through studies or pilot projects.
- **Leverage all business models** – The National Renewable Energies Laboratory (NREL) called the solar lease the break through model for 2011<sup>i</sup>, effectively changing the demographic of who can invest in solar. With this development low and moderate income people are increasingly able to participate in the solar value proposition. NYSERDA did not allow the lease until late 2011, LIPA still does not, and Con-Ed service

territory is in question. Third party ownership of solar also assists municipalities and non-profits, such as churches, invest in solar, since these entities are not able to participate in the federal investment tax program that has driven much of the solar investment in this country.

- B. Allow efficient businesses to grow and expand – *eliminate installer caps*.** Under the current program installers are capped at 300 kW *per month*. This cap throttles growing businesses that are installing cost effective solar.
- **Punishes developers for doing what was asked – installing low cost solar with job creation.** Reasons cited for restricting business this way is a budgetary control mechanism. However, if the best practices previously mentioned -- instituting a PBI and having known funding trajectories -- are established this will be less of an issue.
  - **We cannot achieve grid parity if these caps are not lifted.** There will not be adequate opportunity to scale. This cap essentially means that each installer can operate one solar installation shop in one region of the state. Using SolarCity as an example, we have a warehouse that operates out of the Albany/Capitol District area. Under this program we cannot open similar shops in Syracuse, Buffalo, the Hudson Valley, and New York City. This limits the amount of new jobs we are able to create in the state.
- C. The market for residential and small commercial systems is different. Separate residential and small commercial –** It is advisable to separate small commercial systems from residential systems. The economics – due to permitting, size, and utility schemes – of each type of project tend to be different.
- **Cap residential at 10 kW –** projects above this level could still move forward, they simply would not be incentivized beyond this size.
  - **Anything non-residential and above this limit would be small commercial and would receive an appropriately sized, declining PBI incentive.** This market should be served from the 10kW to the 100kW level. (Current 50kW cap).
- D. The market must stand on its own –** In general NYSERDA over manages each and every solar application and installation. It should be the responsibility of NYSERDA to develop a meaningful system of oversight, and manage that system, not each individual installation. There are adequate systems suggested above, and national best practices that can ensure good governance, program security and reliability that will allow the industry to achieve market parity without wasteful bureaucracy. The solar industry is committed to reliability and safety. Under the current programs, too much of the risk is assumed by NYSERDA and the state and not enough by the industry.

### III. Large Commercial Market

NYSDERDA has recently introduced a revolutionary new “geographic balancing program” known as PON 2156. This program is intended as a way to deploy commercial scale solar in down state regions. The base of this program is very strong. Many of the first solicitation bids came in at very competitive prices. With the NY – Sun program New York has the opportunity to expand and deliver on this program by instituting more efficient programmatic rules and expanding this program to more regions in the state. ***Please see “Attachment II” for best practice example.***

**A. There should be more than one commercial project solicitation a year.** The preference would be quarterly solicitations, but no less than two.

- **Solar PV pricing is still incredibly dynamic.** To date we have seen price drops of 50% in six month periods. We could still see significant price drops over any given multi-month period. On the balance of system side (non-hardware or material costs) as NY scales up we will see further drops in cost. This means that in a twelve month period we have missed opportunities to install more solar at a lower cost to the rate payer if bids are only solicited on 12 months intervals.
- **Win or go home.** In an environment where it is win or go home developers and installers have misaligned incentives:
  - **The bid process could attract some installers and developers for “fly-in” opportunities.** Where developers fly in only for a bid and fly out when the bidding is complete, win or lose.
  - **This environment will also encourage cut throat bidding.** It should be a programmatic element to encourage competitive bids. However, bids should also be realistic. A cut throat bid that does not contribute to meaningful project development only adds to program costs.
- **All geographic areas must be served.** New York is a very diverse state, both geographically and economically. For NY – Sun to be counted a success, all of these regions must be served.
  - **Regional development** – based on New York Independent System Operator (NYISO) load zones, it would be simple enough to consider what percentage of the RPS, through the systems benefit charge (SBC), each zone is contributing.
    - Regions should receive at least commensurate opportunity, relative to their investment, to participate in NY – Sun.

- Regions should only compete against zones with comparable solar economics.
  - **LIPA must also be developed** – We understand that LIPA customers do not pay into the SBC. However, the opportunity for solar to develop on Long Island is enormous.
    - **We recommend a program of similar scale be developed through LIPA.**
    - **We recommend that all business models be allowed to participate. LIPA does not currently allow the lease or a power purchase agreement. This prohibition effectively limits the demographic of citizens who can participate in the solar value proposition to the most affluent.**
- **Strict quality assurance procedures should be deployed.** The measures would ensure the queue contains only fresh, viable projects and that budgetary constraints are respected and met.
  - **Establish performance assurance system.** To assure that the queue only contains viable projects under a two-plus solicitation scheme, a performance assurance/security deposit system should be implemented. Without a performance assurance, this system gives developers a zero-cost option on public funding. The penalty for non-development is near zero. A suitable recommendation is 20% of the applied value of the incentive. (i.e. if applying for \$1,000,000 in funding a security deposit of \$200,000 would be required within 45 days of the award).
  - **Projects should be accepted on a known and well defined stacking process.** Lowest bids, with known and clearly defined non-price criteria accounted for, will be considered first until program funds are exhausted. The last bid criteria are as follows:
    - If the final bid in the stack would exceed the program funds by 10% then the bid is rejected and the program is closed.
    - If the final bid in the stack is between 0% and 10% of remaining funds, then the bid is accepted and the program is closed.
- **Commercial projects should be granted awards on a “per project” basis** – NYSERDA should change PON 2156 from a program where a developer is awarded a pot of funding and is then sent out to prospect for projects, to a program where funding is awarded on a “per project” basis.

- This is the prevailing practice in most other solar program of this kind and scale. Familiarity in contracts and approach further competitive pricing, assist in economies of scale and project development.
- Projects move forward or are stalled for a variety of reasons. Projects are best served when funding terms are known and well quantified. It is difficult to cobble together a portfolio of projects to meet the strict NYSERDA deadlines here employed. The program is better served when know projects that can be quickly and efficiently executed are brought to the table for incentive allotment.
- **Omit completely or more clearly define subjective “other non-price criteria”.**
  - If non price criteria (systems in economically disadvantaged regions, grid constrained areas, etc.) are a programmatic goal, project developers would like to know those objectives upfront so such projects might be adequately pursued.
- **Emphasis should be on awarding bids to entity/company.**
  - Solar businesses have a host of persons working a project at any given item. These people move, are designated new assignments or leave companies for a variety of reasons. The program should focus on awarding funding to installer/companies rather than focus on awarding bids to “persons”.

#### IV. Conclusion

We appreciate the time of the Commissioners and staff in considering these comments. This initiative is impressive in its level of commitment and signals a new era of steady commitment to clean, renewable solar energy. The benefits of solar electricity are well known; solar provides safe, reliable energy when we most need electricity resources. We think only with programmatic changes can this funding be deployed in a way that promotes a mature domestic industry, rewards job creation and achieves cost effective solar. This concludes the comments of SolarCity. We have provided two attachments as exhibits of currently working programs. We look forward to your decision in this matter.

Sincerely,



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Deputy Director of Government Affairs  
SolarCity

## Attachment I

### California Solar Initiative

In California, the primary driver of distributed solar is the California Solar Initiative (CSI) program. The program was launched in 2007 as a market transformation program. The idea was to kick-start the solar market by providing high incentives initially and then decreasing those incentives over time. Incentive decreases have been based on installed capacity targets - not dates. The theory was that as the market scaled, installed costs would decline, and eventually solar would be cost effective without any subsidies. The program was set up to last ten years (2007-2016). Due to remarkable reductions in price, the incentives have declined faster than expected. There were ten incentive “steps”, and California is already in step 8 for commercial incentives and step 9 for residential incentives. Further cost reductions are necessary for continued market expansion.

The CSI incentive table is below. Residential incentives are paid up-front as a \$/Watt rebate. Commercial incentives are paid based on generation output during the first five years of operation as a \$/kWh performance-based incentive.

**CSI Step table: CSI Rebate Levels by Incentive Step and Rebate Type**

		EPBB Payments (per Watt)		PBI Payments (per kWh) over five years	
Step	Statewide MW in Step	Residential	Non-Residential		
			Commercial	Government/ Non-Profit	
1	50	n/a	n/a	n/a	
2	70	\$2.50	\$0.39	\$0.50	
3	100	\$2.20	\$0.34	\$0.46	
4	130	\$1.90	\$0.26	\$0.37	
5	160	\$1.55	\$0.22	\$0.32	
6	190	\$1.10	\$0.15	\$0.26	
7	215	\$0.65	\$0.09	\$0.19	
8	250	\$0.35	\$0.05	\$0.15	

9	285	\$0.25		\$0.03	\$0.12
10	350	\$0.20		\$0.03	\$0.10

For more information, see the California Solar Initiative website at <http://www.gosolarcalifornia.org/csi/index.php>



## Attachment II

### Connecticut Zero-Emission Renewable Energy Credit Programs

Governor Malloy recently signed into law P.A. 11-80,. This omnibus energy bill creates an innovative mechanism to incentivize distributed solar PV within the commercial, institutional, and industrial market segments.

The legislation establishes a defined annual incentive budget and encourages developers to compete for the lowest incentive within that budget . As solar costs come down, the fund enables more development to occur, enabling sustained industry growth. It is estimated that this program will foster the development of 300 – 350 MW over the next six years.

A second defining feature of the legislation is that it provides 15-year incentive contracts with the distribution utility. This is critical because the long-term surety of future revenues with a creditworthy entity is essential to securing project finance, and corrects for the market design imperfection seen in other performance-based programs in competitive electricity markets (e.g., New Jersey, Maryland, and Ohio). It also allows for the incentive to be “amortized” over a longer-term, minimizing the annual program budget impact while enabling program scale.

The salient features of the Connecticut program include:

- Total lifetime program funding of \$720 Funding level will begin at \$8MM annually and ramp-up by \$8MM in each successive year through year 6 (\$48 MM annual max); funding continues through year 21 to honor 15 year contract commitments.
- Competitive solicitation for 15-year SREC contracts conducted by the state’s 2 electric distribution companies. Developers will bid their required ZREC incentive price and bids will be rank ordered from lowest to highest required incentive price until all funds are exhausted.
- Eligibility limited to projects that are: 1) located in CT; 2) behind the utility revenue meter; 3) up to 1 MW in size; and 4) zero-emissions Class I renewables (i.e., excludes fuel cells).
- Separate auctions for systems: 1) up to 100 kw; 2) 100-250 kw; and 3) 250 – 1,000 kw. Systems in the 100kw and below block entitled to a standard offer price equivalent to the weighted average price of the annual auction for 100-250 kw projects plus 10%.
- Maximum bid price of \$350/SREC for 15 year contract. Maximum bid price to decline by 3-7%, as determined by the Public Utility Regulatory Authority (PURA), prior to each annual solicitation. This adjustment does not require annual declines within contracts.
- First annual solicitation – on or around July 1, 2012.

For more information, see

[http://www.murthalaw.com/files/summary\\_of\\_public\\_act\\_1180\\_bill\\_1243\\_copy1.pdf](http://www.murthalaw.com/files/summary_of_public_act_1180_bill_1243_copy1.pdf)

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<sup>i</sup> <http://www.nrel.gov/news/press/2012/1759.html>