



## **Solar Home Renewable Energy Credits (SHRECs)**

### **Growing Connecticut's Solar Market**

**OPPORTUNITY:** Connecticut has an opportunity to save ratepayers millions of dollars and create local jobs by lowering the cost of its Class I Renewable Portfolio Standard (RPS) policy while helping scale up deployment of more clean, renewable energy in our state. The governor is proposing a cost-effective solution to grow in-state jobs by supporting the booming domestic solar power industry in our state.

**CHALLENGE:** The Green Bank's residential solar investment program (RSIP) is a victim of its own success. The RSIP has already achieved the state's statutory goal of creating 30mW of new, in-state residential solar PV under budget and eight years ahead of schedule. Our rapid and otherwise unprecedented success in growing Connecticut's solar market has created a market environment where the demand for solar is now outpacing the incentives available through RSIP.

**SOLUTION:** The governor is proposing the creation of a Solar Home Renewable Energy Credit (SHREC) program. The SHREC would create a partnership between the state's non-municipal electric utilities and the Green Bank. Similar to the existing ZREC/LREC<sup>1</sup> programs, the utilities would enter into 15-year contracts with the Green Bank to purchase the stream of RECs produced from residential solar systems. The Green Bank would use the revenues from the 15-year fixed price contracts to continue investing into the residential solar market through the RSIP program.

**SHARED BENEFIT:** A SHREC policy will not only save Connecticut ratepayers between \$68 to \$186 million<sup>2</sup> on Class I RPS policy costs over the life of the program, it will also enable residential solar to continue to be a catalyst for over \$532 million of economic development and create over 6,000 jobs throughout the state.<sup>3</sup> To date Connecticut residential ratepayers have received minimal direct benefits from RECs sold into the RPS market. The SHREC addresses this inequity in a cost effective manner and ensures success with built-in cost containment features.

#### **Cost Containment Measures of SHREC**

- A SHREC will have a price ceiling, ensuring it cannot be sold for more than the alternative compliance payments utilities must pay in lieu of REC purchases, which is currently \$55.
- A SHREC cannot be sold for more than the price of a small ZREC. This ensures that the costs borne by non-municipal utilities – which are passed through to ratepayers – will be lower than at present under realistic assumptions.
- The SHREC funds the RSIP, which is a declining block incentive that has decreased three fold over the last three years.

**RPS: Renewable Portfolio Standards** are designed to increase development and production of energy from renewable resources by imposing mandated targets for retail sales of renewable generation

**RSIP: Residential Solar Investment Program**

**SHREC: A Solar Home Renewable Energy Credit**

<sup>1</sup> Zero-emission Renewable Energy Credit and Low-emission Renewable Energy Credit

<sup>2</sup> Sustainable Energy Advantage SHREC market analysis, February 10, 2015

<sup>3</sup> Connecticut Center for Economic Analysis at the University of Connecticut economic analysis of SHREC, February 10, 2015

## A FORWARD-LOOKING SOLUTION: SHREC addresses several issues

### 1) Residential solar incentives are running out

Governor Malloy's new residential solar goal of no less than 300mW by 2022 is achievable, given the trajectory of consumer demand. However this expected demand volume will outpace RSIP's ability to provide incentives, even at greatly reduced levels.

### 2) Current policy doesn't produce enough domestic clean energy

Connecticut, like most states, has a Renewable Portfolio Standard (RPS) that directs utilities to secure increasing amounts of renewable energy on behalf of ratepayers. Unfortunately, less than 5% of the electricity used to fulfill RPS is produced in-state; most of it comes outside our state. **Far more economic development and job creation from RPS policy is happening out-of-state than here. The SHREC addresses this problem through local projects.**

### BACKGROUND: Success-to-date with residential solar PV<sup>4</sup>

The Green Bank administers the RSIP with the mandate of creating at least 30mW of new, in-state residential solar PV by the end of 2022. The Green Bank has achieved this goal under budget and eight years ahead of schedule – the 30mW target was met and doubled in 2014 with installations on over 8,000 households. We have effectively doubled the legislative target using only 65% of the resources made available by statute through 2022.

### The Green Bank is delivering more clean energy using less ratepayer and taxpayer incentives, and creating local jobs with domestic clean energy deployment.

- Installed costs reduced 30% since 2011
- State incentives reduced by over 60% since 2011, and are the lowest in the region at \$0.5/W
- Over 15% of installations are located in distressed communities

### Demand has doubled year-over-year:

- A \$10 million market in 2011 became a \$25 million market in 2012, a \$50 million market in 2013, and over \$150 million market in 2014.
- Over 1,500 direct job-years and 2,200 indirect and induced job-years have been created from the RSIP.

### Renewable Energy Credits (RECs)

Utilities comply with RPS by purchasing RECs. A REC is a tradable certificate that represents all the positive environmental attributes of electricity generated from a residential solar electric system, separate from the actual electricity itself. Each time a clean energy system generates 1,000 kilowatt hours of electricity, a REC is metered that can be sold or traded as a transferable commodity. When a buyer makes an environmental claim based on a REC, the REC is considered used. The buyer can no longer sell the REC and it is permanently retired. Connecticut recognizes three classes of RECs, distinguishable by the type of generator used to produce them. When utilities buy too few RECs they instead must pay an alternative compliance payment.

Please contact Matt Macunas at the Connecticut Green Bank with any questions.

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<sup>4</sup> Data provided as of February 6, 2015 in the Market Watch Report.