SOLARIZE Rhode Island

Round 1 Pilot Overview

July 2015

REF Commerce RI Renewable Energy Fund

State of Rhode Island Office of Energy Resources

SmartPower® Let's Get Energy Smart.

Introduction

In the summer of 2014, the Rhode Island Commerce Corporation's Renewable Energy Fund (REF) partnered with the Rhode Island Office of Energy Resources (OER) to design and implement a program called Solarize Rhode Island (Solarize RI) to help reduce the soft costs of small scale solar photovoltiac (PV) systems for residential and small commercial customers. This program is designed to drive community adoption of PV projects through a partnership focused on localized marketing and installation efforts, which in turn help to drive down the installation cost within the selected community through a group purchasing model.

In the fall of 2014, REF and OER, also in partnership with the non-profit marketing firm, SmartPower, (the "program administrators") with additional support from the John Merck Fund, launched a Round 1 nine-week Solarize pilot campaign in the town of North Smithfield. In the spring of 2015, Round 2 of the pilot began in the towns of Tiverton and Little Compton. To guide future participants of Solarize RI, the program administrators created this overview, which includes details of the program structure, timeline, process, and lessons learned from Round 1. An update to this overview will be provided at the end of Round 2 to summarize results from the entire pilot.

Solarize RI Pilot Overview

The Solarize RI model relies on three key components:

1. A coordinated education, marketing and outreach campaign targeted at home and business owners that is deployed by a team consisting of municipal leaders, solar PV installers, and grassroots volunteers and coordinated by the program administrators.
2. A tiered pricing structure for the installation of solar PV that provides increased savings as more people in the community participate.
3. For limited-time time period the selected solar installer offers a reduced price for solar.

The Solarize RI Pilot demonstrated that these three components allow the solar installer to reduce customer acquisition costs, thus enabling the installer to pass through cost savings to customers. The combination of these elements resulted in greater adoption of solar PV at a lower cost to the customer. Additionally, the Solarize RI pilot demonstrated that residents and businesses are more inclined to install a solar PV project when they are educated on the benefits of the technology, are receiving a good value proposition, and have the support of both the community and other local advocates. The result of Round 1 of the pilot was a dramatic increase in education of North Smithfield residents about Solar PV and interest in solar technology.

In North Smithfield, 84 new projects, totaling 623.7kW of solar capacity, were contracted during the nine-week period (October 10th-December 15th). Prior to the Solarize RI campaign only four solar PV projects had been installed in the community.[1] In addition, 37 of the 84 contracts signed were signed during the last two weeks of the Program. This activity had the effect of lowering the statewide cost of solar from an average of $4.35/watt to $3.95/watt as of the writing of this report.

[1] This information is based from National Grid's list of interconnected projects as of Spring 2014.

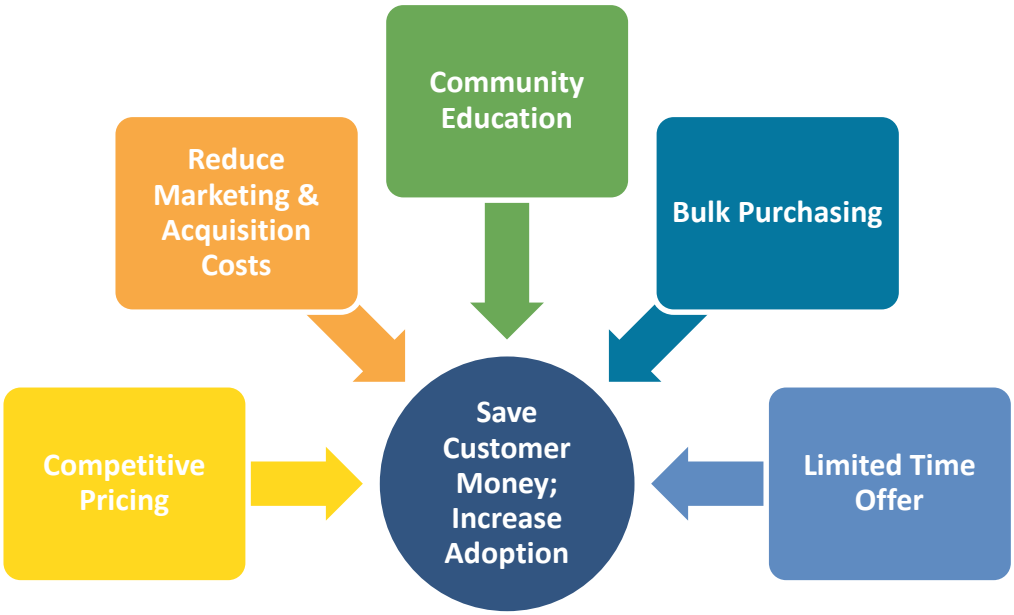

Figure 1: Solarize RI Pilot Stakeholder Roles

The Solarize RI model engages several stakeholder groups. They include:

- Program Administrators (REF, OER, and SmartPower)
- Solar PV Installers
- Town Officials
- Local civic groups and volunteers
- Homeowners and business owners in the selected community

Each stakeholder plays a key role in the Program and coordination among all groups is crutial to the success of the campaign.

In Round 1 of the pilot, state and local agencies played a key role in providing education on the benefits and financial value proposition. But more importantly, they played a critical role in providing creditibilty to the Solarize Program. Additionally, the advocacy role of local civic leaders and volunteers also helped increase discussion of PV technology and Program interest in the community. The solar installer provided technical expertise as the trusted solar expert during the course of the Program.

Solarize Community Selection

North Smithfield was chosen as the first Solarize community due to the fact that North Smithfield had recently completed the Rhode Island Energy Challenge: Find Your Four! Campaign. The Energy Challenge is an energy efficiency program offered by Solarize program administrator SmartPower and National Grid to get residents to take specific actions to reduce their energy use. The Town performed well under the Energy Challenge. In just 20 weeks it passed a resolution to participate in the Find Your Four campaign, hosted numerous events, sent newsletters to residents and ultimately had 300 households take a pledge to be more energy efficient in their daily lives, meeting the goal of having more than 5% of households commit to saving energy.

The town's success in the energy efficiency program demonstrated it was ready and eager for another energy campaign. However, beyond residents previously being exposed to energy saving discussions and being "primed" for engagement at another level, the town leadership was incredibly enthusiastic to support the community's dive into deeper energy conscious engagement. Thus, SmartPower proposed running a Solarize campaign in the community and both the Town Administrator, Town Planner, and Town Council enthusiastically supported the idea. North Smithfield was an easy choice for Round 1 of the pilot.

Figure 2: Location of North Smithfield within Rhode Island

Solarize Rhode Island Pilot Timeline

A typical Solarize campaign takes place over a six to seven month period. However, the timeline for Round 1 in North Smithfield was significantly shorter due to a number of factors. The first was that Commerce RI was able to procure SmartPower's services as a sole source contract. Once the contract was in place, as approved by the Commerce RI Board of Directors in August 2014, planning for the Program was able to begin. OER, REF and SmartPower were able to quickly align and leverage the administrative and financial resources necessary to support a viable Solarize campaign. For example, the John Merck Fund (JMF) provided matching funds for the Solarize Pilot. JMF requested that the first pilot take place during the 2014 calendar year as 2014 was a gubernatorial election year in Rhode Island. Also, the timeline was shorter as North Smithfield had been pre-selected to take part in the program and a Request for Proposals (RFP) to choose municipalities was not needed.

Commerce RI issued the RFP for the solar installer on September 2nd. Commerce RI and OER regularly hold solar stakeholder meetings each quarter. The live Question and Answer session for the RFP was held during the September stakeholder meeting. Applications were reviewed by six members of the review team. Each of the Program Administrators had one vote and North Smithfield had three votes. The Program Administrators and North Smithfield publically announced the selected solar installer, RGS Energy, at the October 10th kickoff event held at National Marker. Coincidentally, National Marker, a North Smithfield-based company was in the process of installing a 241kW commercial project during the kickoff. RGS Energy was also the installer for that project. However, the National Marker project contract was signed prior to the Solarize campaign and as a result, that system did not count in the overall Solarize program metrics

Solarize North Smithfield Timeline 2014-2015						
	August	September	October	November	December	January
SmartPower Contract Executed						
Public Announcement of Campaign						
Town Council Votes to Participate						
Agreement with North Smithfield Executed						
Public Education and Outreach						
Marketing Plan Developed						
Marketing Materials ordered						
Installer RFP is released						
Develop and Manage websites						
Select installer						
Solarize Kickoff Event						
Solarize North Smithfield Sign up Period						
Summary of Program						

The nine week sign up period began on October 10th and continued through December 15th. Over the course of the program, the Program Administrators conducted regular conference calls with community

representatives to track progress, share metrics, and discuss upcoming events and other general program discussion.

Marketing and Public Education Efforts

North Smithfield was selected to participate in the program, in part, because the Town Administrator, Paulette Hamilton and Town Planner, Bob Ericson were enthusiastic supporters and wanted to see North Smithfield be the first Rhode Island municipality to participate. In September, the Town Council passed a resolution to be the first Solarize community after a presentation by the Program Administrators.

Program Administrator, Matt Ray from SmartPower, addresses the North Smithfield Town Council

Outreach efforts before the program sign up period began with the launch of the Solarize Rhode Island website (www.solarizeri.com). This website was designed with the idea that it would be one of the primary locations interested residents could go to learn more about the program and upcoming events and sign up for a free site assessment.

Also prior to the launch of the Solarize pilot, Program Administrators hosted a booth at Pumpkinfest, the annual fall celebration at the North Smithfield High School. The booth was located right next to the balloon-animal booth and as a result, there was a great deal of foot traffic from families. It is estimated that around 40-60 people stopped by to learn more about solar PV and the Solarize program. The event was effective in generating buzz about the program prior to the launch date. The Solarize RI website was created prior to Pumkinfest so it allowed the Program Administrators to purchase advertising materials before the program launch date. The banner used at the booth is one example (pictured below).

Program Administrators, Hannah Morini and Shauna Beland at Pumpkinfest; Solarize Rhode Island Pumpkin

The Program kicked off on October 10 with an event at National Marker Company. A press advisory was drafted and received final approval but unfortunately was not disseminated to the media due to a communications error. Despite the lack of press coverage, it was a beautiful fall day for the event and about 50 people attended. Brian F. Keene, the president of SmartPower flew up from Washington, DC to attend. Also in attendance were Marion Gold, RI OER Commissioner, Marcel Valois, Executive Director of Commerce RI, Paulette Hamilton, Town Administrator, and Michael Black, the President of the National Marker Company.

Michael Black, President of National Marker Company, addressing the crowd during the Solarize North Smithfield Launch Event

After the Solarize North Smithfield Kickoff event, the Program Administrators and RGS Energy began a public education campaign, hosting solar workshops to educate residents on solar PV. The first such workshop was held at Heritage Hall in the center of town the same week of the kickoff event. We expected between 20-30 people. Due to the outreach for the event, the crowd was larger than anticipated and it was a standing room only crowd of 123 people.

Standing Room Only Crowd at First Solarize Workshop

Two weeks later, the Program Administrators hosted another workshop to a smaller crowd of about 20 people. These meetings lasted about two hours each and featured presentations by SmartPower, the RI Office of Energy Resources, and RGS Energy. In the case of both meetings, a lively Q&A session followed the presentations.

An important aspect of Solarize campaigns is the support they receive by volunteers and "Ambassadors". In North Smithfield, three local residents served as Ambassadors and supported the program in various ways. One individual canvassed his neighborhood door to door while another gentleman created an online blog dedicated to promoting the program.

The third Ambassador was involved in the community through the Slatersville Congregational Church. He was also a former Disc Jockey and College Engineering professor. As such, this individual organized another solar workshop at the local church where he gave a presentation from the point of view of a program participant. Another approximate 20 people showed for this engagement.

During the last week of the program, the Program Administrators hosted a live PV Installation on a residence located on a busy road in North Smithfield. Municipal buildings, the High School, and a shopping center were located near this home. People who had received contracts from RGS Energy, but not signed them yet, were encouraged to attend the event. This targeted outreach saw a limited number of people stopping by, but did encourage two homeowners to go forward with signing a contract.

News Coverage - http://www.valleybreeze.com/2014-12-03/woonsocket-north-smithfield/residents-take-shine-solarize-ns#.VWikvUZnBMZ

http://money.cnn.com/news/newsfeeds/articles/globenewswire/10112892.htm

Metrics and Adders

RGS bid specific tiered pricing for the program for both residential and small commercial system. In addition, they also bid site specific adders.

Tiers	1-50kW	51kW-150kW	151kW+
Purchase Price ($/W)	$ 3.70	$ 3.60	$ 3.45

The more people who signed up for the program, the lower the cost is for all participants. North Smithfield reached Tier 2 in the second week of the program and Tier 4 in the fourth week of the program.

Solar PV is a site-specific technology and as a result, RGS Energy was allowed to bid for site-specific adders as part of their proposal. The adders they bid came in the form of two types in the different categories of: site specific, structural, electrical, warranty, and other. The first type of adders were cost/watt adders that were included as a set price for every installed watt. The second adders were flat rate adders, or a one-time dollar increase per project. In some cases, a custom quote would be needed depending on the situation.

Factors	Increased Cost ($/watt)	Flat Rate Adders ($)
Site Specific		
Multiple roof arrays		$ 200.00
Standing seam metal roof	.10/w	
Steep roof > 30 degrees	.15/w	
Tall roof	.05/w	
Pole mounted system		$ 4,250.00
Ground mounted system	.85/w	
Structural		
Reinforcing rafters	Custom quote	Custom quote
Electrical		
Electrical panel upgrade		$ 3,000.00
AC combiner panel		$ 450.00
Supply side tap		$ 300.00
Electrical subpanel upgrade		$ 400.00
Meter upgrade		$ 575.00
Interior conduit run	Custom quote	Custom quote
Extended Warranty	.30/w	
Other		
Additional cost micro-inverters	.30/w	
Small system adder	.45/w	
Large system cost subtraction	-.20/w	

RGS Energy was also responsible for ensuring that customers who signed contracts understood the price they were paying for their solar PV system. The Renewable Energy Fund, who received the grant

applications, checked each turnkey contract to make sure that the correct total project cost was indicated.[2] In all cases, the final cost needed to be clear and transparent.[3]

One way the REF ensured transparency was by the utilization of an adder form that RGS needed to submit with each grant application. At project completion, this form will be submitted a second time to ensure that if any change orders were needed, the final cost was known to the customer. In most cases, customers contracted for a price higher than that of the base tier. However, not all homes and site conditions are similar. There were several adders RGS bid that were not needed during the Program but they wanted to make sure if they were needed, there was a clear and transparent price for that site condition. Below is breakdown of the prevalence of the various adders.[4]

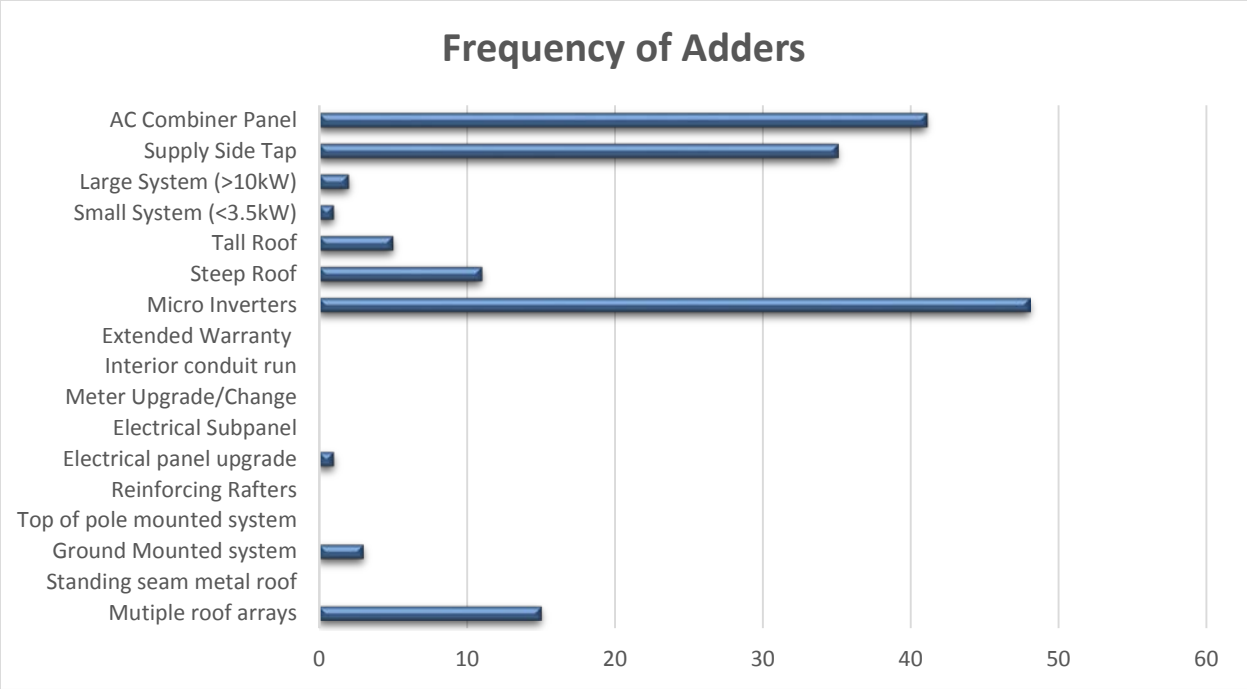

Figure 2: Frequency of Adders for Applications received in Blocks 4 and 5 of the Small Scale Solar Program

As the Program was wrapping up in December, RGS notified the Program Administrators that the SolarWorld 275 panel watt, the specific module bid in their initial proposal, was not readily available. RGS recommended moving to the 280 watt. This meant changing many of the contracts that had been previously signed during the fall months with a change order. RGS asked for and received permission, from the Program Administrators to change the panel they would be installing for customers who signed contracts through the Program. Town officials were also notified of the equipment change. Each week,

[2] All projects contracted through Solarize Rhode Island were eligible for the Renewable Energy Fund Small Scale Solar Program.

[4] RGS Energy applied to the REF in Blocks 4 and 5 for a total of 50 projects.

RGS Energy provided detailed metrics to the Program Administrators. Below is a breakdown of the number of contracts that were signed in each of the nine weeks the program was open.

Also, Program Administrators, RGS Energy, and town officials held bi-weekly phone calls to discuss weekly metrics, upcoming events, and answer questions. These calls also helped make sure that the entire team had the best information possible to answer questions from interested residents.

Conclusions

The Program Administrators identified several key factors to the resounding success of Round 1 of the Solarize Pilot:

Education. Basic education about solar electricity, available incentives, and project economics is a key driver of generating interest and increasing adoption of the technology.

Tiered Pricing Helps Drive Adoption. Tiered pricing helps to motivate residents to participate, and to sell to each other. This resulted in compounding program success, as further pricing tiers were reached and additional money was saved by all.

Timing and Deadlines Drive Participation. A deadline was important in motivating North Smithfield community members to take action and commit to signing a contract. There was a clear spike in participation as successive pricing tiers and the enrollment deadline approached**.**

The selected Installer needs to be ready. An Installer should be prepared from an operational and staffing perspective to manage the intake and management of an extremely large volume of leads at the onset (and through the duration) of the program. In addition, the community and Installer should work together to create a combined outreach plan at the onset for the course of the program.

Lessons Learned

Many lessons can be drawn from the Program Administrators experience working in North Smithfield. Some key points include:

A Marketing Plan should be created in advance of Program Launch. Due to the unique nature of selecting North Smithfield, a well-developed marketing plan was not in place at the time the program launched. North Smithfield worked with the Program Administrators during the Program to identify events and event locations. However, a specific marketing plan complete with event dates, plans for tabling, and locations to host events, were not identified prior to launch of the program. The plans for advertising, types of marketing materials, and other ways to communicate with potential customers were not identified prior to the launch of the Program.

The Installer needs to have a Customer Relations Management (CRM) System. RGS was able to utilize their existing CRM system to manage leads, track customers who had received contracts, and accurately report metrics on a weekly basis. This allowed Program Administrators to know what tier the Program was in on a weekly basis and target specific marketing efforts towards certain customers.

Selecting communities in RI that have already participated in the Rhode Island Energy Challenge: Find Your Four campaign seems to be a useful strategy for the pilot because the community has already been engaged on energy issues. Also many of the Ambassadors have already been identified as well as potential partner organizations in the community.

Overall, the program administrators were pleased with the success for the Phase 1 North Smithfield pilot. Phase 2 of the Solarize program recently concluded in Tiverton and Little Compton and that program too was considered successful. As a result of the pilot, the Program Administrators are pleased to report that future rounds will occur in Rhode Island as the Solarize program will now be an official program during 2015-2016.

About Commerce RI

The Rhode Island Commerce Corporation's Renewable Energy Fund (REF) is dedicated to increasing the role of renewable energy throughout the state. The REF provides grants and loans for renewable energy projects with the potential to create electricity in a cleaner, more sustainable manner, while stimulating job growth in the green technology and energy sectors of Rhode Island's economy. Using funds from the 'system benefit charge' on electric bills and Alternative Compliance Payments, Commerce RI helps offset the cost of renewable projects for businesses and homeowners.

About Rhode Island Office of Energy Resources

The mission of the OER is to lead Rhode Island to a secure, cost effective, and sustainable energy future. OER works closely with private and public stakeholders to increase the reliability and security of our energy supply, reduce energy costs and mitigate against price volatility, and improve environmental quality.

About SmartPower

For organizations and companies looking to engage customers in energy efficiency and clean energy actions, SmartPower is the bridge linking directly to residents and businesses. Named the nation's best non-profit marketing firm, SmartPower's exclusive focus on energy efficiency and clean energy results in high visibility, high impact on-the-ground community campaigns designed to transform how customers use, adopt and invest in clean energy and energy efficiency.