

## Technology Advisory

### Where Does Solar Stand? Focus Group Results

On August 22, 2017 Virginia Tech and NRECA conducted a focus group with 14 representatives from electric cooperatives of Delaware, Maryland, and Virginia to discuss the status of solar generation. The following is a recap of the questions asked and input gathered. The findings represent the observations and work conducted by these utility professionals in their service territories.



#### How is solar energy different?

Solar is more common, often more accessible, and generally more scalable compared to other forms of consumer-owned renewable energy. People often associate “renewable” with “solar,” and frequently inquire about it at the cooperative. Customers are also receiving messages including marketing pieces from third party developers.

#### What is your cooperative's policy, strategy and goal towards solar?

Cooperatives want to educate their customer base about solar and have accomplished this by holding seminars, conducting solar campaigns, holding town hall meetings, creating online content, providing educational material, and encouraging consumers to talk to them before signing a contract for solar. This education can result in significant expenditure, but cooperatives think it is important to provide accurate information to the consumers. These efforts help to cement the co-op as the trusted energy partner.

There is a great deal of misinformation about solar. Some solar marketers are telling customers that once they install rooftop solar panels, they will not have to pay energy bills and may make money by selling extra solar energy back to the grid at a price higher than what they pay to the utility company. These explanations are inaccurate as consumers will still be presented with a monthly bill for energy used in excess of what the solar panels produce and for the monthly service charge. This charge covers part of the cost of service to maintain the infrastructure necessary to provide electricity to the home. According to focus group participants, the claims of no more energy bills are often more common among companies that lease solar panels.

Many utilities and industry experts suggest that customers go with trusted solar suppliers who have been around for several years. Cooperatives also want to address the issue of fairness and limit cross-subsidies.

### What are the challenges of cross subsidization?

As consumer-owned utilities, cooperatives are especially sensitive to the issue of cross subsidization. One of the co-op principles is owner economic participation. Policies and rates that cause one group to pay for the distributed generation of another are inherently unfair. Most participants in the focus group are working hard to ensure that all policies and rates are fair for all participants. Cross subsidies are not viewed favorably in general. Solar adopters have a more negative response to fixed cost charge increase because they often do not understand the cost to maintain the infrastructure required to provide them service for the times their homes cannot be powered by their distributed generation.

### Describe your typical solar customer.

Cooperatives in Delaware, Maryland and Virginia find that solar adopters can be placed into the following categories:

- Group one is older, higher income, empty nesters, doing solar because they can afford to,
- Group two is lower income, look at leasing solar as a way to save money, and
- Group three are those approached by third parties looking to lease large amounts of land for purposes of solar farms (prevalent in other states and now moving into the Virginia area).

It has also been observed that an overwhelming majority of solar installs take place on new residential construction.

### What will be the maximum percentage of solar adoption in 5 years?

There is a large amount of uncertainty. It will be driven by two main factors. The first will be the price of natural gas. If prices remain low it could adversely impact the growth of solar. The second factor is the return on investment that consumers would be experiencing. Lower panel and installation costs will help to improve the payback for consumers.

New home builders are driving some adoption in the three-state region by adding panels at the time of construction. Many see this as a feature to distinguish themselves from other home builders and a value-added feature that can increase the cost and value of the home. These are often added before the buyer is identified.

Some cooperatives are seeing a shift from owning to leasing. However, there is a lot of misinformation about leasing and net-metering.

There are also customers who do not care about the costs and are willing to pay a higher price just for the environmental benefits. Currently Virginia's regulatory policy limits aggregate net-metering capacity to only 1 percent of utility's adjusted Virginia peak-load forecast for the previous year (<http://programs.dsireusa.org/system/program/detail/40>).

### **Does the relationship between consumers and cooperatives change once consumers adopt solar?**

Typically, solar adopters become more engaged with the cooperatives, since they often have questions about the billing process. They want to educate themselves about the contract terms, billing, maintenance, and to clarify misconceptions that might arise from their dealings with marketers, service providers, or other customers. Customers often have questions at cooperative annual meetings and town hall meetings.

### **Are there similarities between Electric Vehicle (EV) and PV adopters?**

There is overlap in the number of EV registrations by county and solar adoption by county. Both products appeal to similar demographics. However, there are some key differences between EVs and PV. EV purchase is often dependent on commute distance and access to dealerships selling EVs. PV adoption depends on expected offset in energy bill, home ownership and other contributing factors.

EVs have a lower barrier to entry, since customers may be planning on buying a new car and there is relatively low cost difference between conventional and electric vehicles.

### **Will an EV owner (or members in general) be more likely to buy community solar?**

In general customers are more likely to buy community solar because:

- The cost to the individual is lower;
- Community solar panels are not tied to the house, so it is not a consideration when a consumer is selling their home.
- Easy on, easy off contracts for community solar. The consumer is not locked in for a long period;
- Renters can easily participate;
- Gives flexibility on the number of panels one can own and the length of the contract, and
- Same environmental benefits can be achieved.

### **How would you design an ideal solar program today?**

First and foremost, the rate structure must be right and fair to all members of the cooperative. It should not call for non-solar participants to subsidize the solar participants. Fair and accurate charges that reflect the true cost of service and connection to the grid should be recouped by the co-op. It comes down to the co-op always doing what they have done, which is to serve the needs and desires of their members in a fair and equitable manner. The subsidies and economic incentives should be designed so everyone pays a fair share.

### **Compare rooftop vs. local solar farm vs. large scale remote solar from customer's point of view?**

Often consumers are not presented with these different solar choices. Economics is the biggest and the most differentiating factor among these choices. Community solar has the advantage since it can be constructed at a larger scale and more cheaply.

While community solar has an economic advantage, rooftop solar has the advantage that the owner can see it every day. To some consumers this feature is important. Some cooperatives allow consumers to put their names on community solar panels to give them a feel of ownership and pride in their contribution towards the environment.

### **Relationship between the consumers and cooperatives' managers**

Cooperative managers are considered trusted advisors and often provide valuable advice and information to their constituents. JD Power and the customer satisfaction survey results confirm a high level of trust between the consumers and the cooperatives. In general, co-ops are viewed as more responsive to the needs of their members than investor-owned utilities, and feel a higher sense of social responsibility.

Consumer attitudes and opinions will be explored in a series of surveys that are under development.

### **Contacts for Questions**

- Kaley Lockwood, Technical Research Analyst, [Kaley.Lockwood@nreca.coop](mailto:Kaley.Lockwood@nreca.coop)

### **Focus Group Participants**

- NRECA
- Virginia Technology Institute
- Virginia, Maryland, Delaware Association EC
- Old Dominion EC
- Accomack and Northampton EC
- Mecklenburg EC
- Rappahannock EC
- Shenandoah Valley EC
- Southside Electric
- Delaware EC