



Solar stock tank group purchase 'a huge success'

Holy Cross Energy Program Administrator Mary Wiener learned about the SunTank passive solar stock tank from members Kevin White and Rachel Marble, who got one for their horses. (Photo by Joey Calabrese, Holy Cross Energy Communications Specialist)

Utility program managers know that equipment rebates are not only a building block of load management strategies, but are also an effective customer outreach tool. Surprisingly effective, in the case of Holy Cross Energy's recent Passive Solar Livestock Tank Sales Event.

The Colorado electrical cooperative teamed up with Clean Energy Economy for the Region (CLEER) and Pine Ranch Products in October to offer the SunTank stock watering tank at wholesale pricing to livestock owners in three Rocky Mountain counties.

Members responded enthusiastically to the offer, placing 30 orders for a total of 58 tanks. "It caught us a little off guard," admitted Mary Wiener, Energy Efficiency Program administrator for Holy Cross Energy.

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Manufactured by the Utah-based company, the tank eliminates the need either for costly electric heating units or for manually breaking and shoveling ice that forms on tanks in subzero weather. The water in the heavily insulated tank is not exposed directly to sunlight so it is algae resistant and requires less cleaning than a conventional stock tank. As far as Wiener can tell, it is the only product of its type on the market.

Product opens doors

Holy Cross has offered a \$250 rebate on solar stock tanks for several years as part of its WE CARE carbon reduction program, but there have been few takers. "We don't have a big agricultural load," Wiener explained. "It's mainly a few irrigation pumps."

At \$649 to \$825, the retail price for the 25- and 42-gallon SunTanks might be a barrier as well. However, Wiener thinks that the lack of interest in the rebate mainly stemmed from members not being aware of the offer. "I didn't know about solar stock tanks until a member told me about them," she said.

Wiener learned about the water tanks during a home energy audit she performed for members Rachel Marble and Kevin White, who are horse owners. The couple was understandably excited to show off their new solar-heated SunTank to their power provider's efficiency expert. Wiener, for her part, immediately recognized an opportunity to connect with members she rarely saw outside of the occasional request for an energy audit.

CLEER, a public benefit organization which frequently partners with Holy Cross on member efficiency programs, had expressed interest in doing an outreach project for agricultural members. While the stock tank is not likely to have a big impact on Holy Cross's load, "It was something that would really help our members," Wiener said. "Utilities should be looking for services they can offer besides just electricity."



Booboo and his owner Rodney, a Holy Cross lineman foreman, wait for the installation of their new SunTank. (Photo by Joey Calabrese, Holy Cross Energy Communications Specialist)

Word gets out, orders come in

Getting members' attention is just as critical to a program's success as identifying valuable products and services. Holy Cross started the promotion with a booth at the local Potato Day Festival, which attracted a lot of members with a drawing for one of the stock tanks. Two articles in local newspapers followed the festival and the October sale was posted on the utility website event calendar.

If Pine Ranch received orders for more than 10 tanks, buyers would get the wholesale price. The company eliminated the shipping fee by agreeing to drive the tanks from the Santa Clara, Utah, factory. To sweeten the deal, Holy Cross increased the rebate from \$250 to \$300 and covered the 2.9 percent sales tax in the rebate. How could livestock owners resist?

In fact, not many did. Colorado Mountain College alone ordered 10 tanks for the veterinary technology program on its Spring Valley campus. The SunTanks support the school's sustainability efforts while providing the program's animals with a cleaner, more accessible water source. The sale was so successful, Pine Ranch was swamped by the number of orders and had to move the late November delivery date to mid-December. "I didn't realize we had so many livestock animals in our territory," observed Wiener.

Success has its price

Although the partners are pleased that the promotion succeeded far beyond their expectations, Holy Cross has no plans to repeat the Passive Solar Stock Tank Sale soon. "I would do some things differently if we did it again," Wiener acknowledged. "It was a lot of work for a very small member segment."

Some changes she would make to the program include taking preorders and holding the sale in September to make sure that the tanks arrive by November, ahead of the freezing weather. Wiener also advises choosing your partners carefully, as some organizations that initially wanted to join the promotion failed to follow through with the promised support. Pine Ranch, however, did a great job, she added. "The company was really well organized, which helped them handle the big order."

Ultimately, Holy Cross Energy counts the Passive Solar Stock Tank Sale as a win, and Wiener believes other cooperatives with livestock customers should consider doing a group purchase event. "Try something new," she urged. "It was good for our customers and our relationship with them, and it brought attention to a great product made by a small business." ■

SMUD recognized for innovation at gathering of state utility regulators

WAPA congratulates customer Sacramento Municipal Utility District (SMUD) on receiving an innovation award at the annual meeting of the National Association of Regulatory Utility Commissioners (NARUC) in November.

The award for Municipal-level Innovation in Regulatory Policy recognized SMUD's work testing a new cooling technology that significantly reduces summer peak loads. SMUD's project was one of 10 innovation awards NARUC presented at the meeting in Baltimore, Maryland.

Widely recognized need

For summer-peaking utilities, the air conditioning load is the 600-lb. gorilla.

According to a 2006 California Energy Commission report, on the hottest summer days, air conditioning alone accounts for more than 30 percent of the peak demand on the statewide electric network. Conventional rooftop-packaged cooling units—80 percent of building systems—exacerbate the heavy demand that summer air conditioning puts on the grid.

In a hot, dry climate (like much of WAPA's territory), indirect evaporative

cooling (IDEC) technology has shown strong potential for reducing peak demand. It works on the same principle as direct evaporative cooling lowering air temperature by causing water to evaporate. The main difference with an indirect system is that a heat exchanger is used to cool the air supplied to the living space. The fact that the technology also uses less water than the direct method makes it even more attractive in the drought-wracked West.

IDEC cooling was an excellent candidate for SMUD's Customer Advanced Technologies (CAT) Program, designed to help customers use and evaluate new or underutilized technologies. The CAT program pays some of the costs for installing the demonstration equipment.

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TriTool employees get a look at the new indirect evaporative cooling system SMUD tested on their facility. The Climate Wizard also improved air quality on the shop floor. (Photo by Sacramento Municipal Utility District)

Tale of two businesses

SMUD enlisted two large customers, both with cooling issues, to participate in a demonstration spanning the summers of 2014 to 2015. Tri-Tool, a custom tool manufacturer, replaced its conventional cooling system in the shop with a Climate Wizard IDEC system. Environment Synectics, which provides environmental services for the government, installed a hybrid system combining Climate Wizard units with conventional systems.

The CAT program paid for the incremental cost of the Climate Wizard over standard air conditioning technology. The units are manufactured in Australia, so between shipping costs and smaller-scale production, the initial cost of the equipment can be a barrier to adoption. But SMUD Program Manager Jim Parks observed, "If your

region has enough hot days, you will get your money's worth."

SMUD monitored the companies' summer energy use after the significant retrofits to determine savings compared to the Title 24 (California's energy efficiency standards) baseline. The results from a summer of data collection indicated that both companies had reduced their energy use for cooling by around 50 percent compared to code requirements.

"That falls right in the mid-range of Climate Wizard estimates of 40- to 65-percent savings," said Parks.

The benefits of IDEC for Tri-Tool went beyond lower electricity bills. The Climate Wizard not only made the facility more comfortable, but it purged contaminated air from the shop floor. The dry air supplied by IDEC also reduced the humidity in the shop, a problem caused by the

use of water in the manufacturing process.

Recognition rolls in

The NARUC award is not the first one SMUD has received for the IDEC project. APPA honored the project with its 2017 Energy Innovator Award and then nominated it for the NARUC award. "I didn't know we were in the running until NARUC called to tell me that we won," recalled Parks.

He added that SMUD enjoys getting the recognition. But it would be even better if the awards called attention to a product that, in the right climate, can reduce a large commercial customer's energy use by double-digit percentages. The Climate Wizard could also help summer-peaking utilities effectively reduce their air conditioning loads. And that is better than any award. ■



The pilot system installed at Environmental Synectics combined Climate Wizard Units with conventional cooling equipment to reduce energy use during the summer cooling season. (Photo by Sacramento Municipal Utility District)

CSVP Solutions Toolbox supports community solar development

With the average price of utility-scale solar electricity now at 6 cents per kilowatt-hour, it makes more sense than ever for utilities to consider adding community solar projects to their generation portfolios. And if your utility is new to the shared solar model, then you are in luck—the Community Solar Value Project (CSVP) has just introduced a new Solutions Toolbox to help you develop a successful program.

In community or shared solar development, customers subscribe to solar project output or purchase or lease solar panels. According to the Smart Electric Power Alliance (SEPA), some 170 utilities nationwide currently offer or are planning to offer community solar.

The CSVP focuses on helping utilities to develop programs that meet the needs of both the utility and the customer. This includes programs that are developed entirely by the utility, as well as programs where the utility works with non-utility service providers.

Six sides of box

The Toolbox distills the wisdom and experiences of dozens of utilities and their trade allies to identify best practices that deliver value while speeding the project to market. The site, “Solutions Outside the Box,” addresses six challenge areas:

1. Cross-departmental program design
2. Strategic solar project design
3. Best-practice financing and procurement
4. Target marketing for customer acquisition

5. Integration with solar-plus measures, such as energy storage and demand response (DR)
6. Analytics, streamlined to get from project economics to program pricing

These issues will sound familiar to anyone who attended the CSVP workshop WAPA hosted at the Electric Power Training Center last June. One takeaway from that event was that every utility planner faces problems unique to their policy environments, organizational structures and customer demands.

Rich in resources

With that in mind, the CSVP built flexibility into the toolbox, stocking each topic with top planning guides, technical summaries, presentations and training webinars.

- **The Process** is a flexible, solutions-oriented roadmap utilities can follow to develop their own community solar programs. *High-Value Community Solar: A Brief Guide to Utility Program Design*, a report in presentation format, summarizes lessons learned and introduces



the planning resources on the website.

- **Strategic Design** introduces the benefits of local, community-scale solar and of designing with strategic integration value in mind. This section provides tips for making high-value design choices, from strategic siting and solar tracking to gaining added value from solar shade structures. It dovetails with economic analysis process discussed in Section 6, Net-Value Assessment & Pricing.
- **Procurement for Products & Services** is an area offering many opportunities for improving net value. Among the resources here, you will find CSVP’s concise outsourcing decision key, project financing models suitable for investor-owned or consumer-owned utilities and a procurement resource guide with direct links to publications on developing a solar request for proposal.

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- **Target Market Research & Segmentation** is a relatively new approach for utilities, but it is required for success with community solar. This topic covers best practices for community solar programs, with references to relevant resources, a webinar, market research checklist and step-by-step guide to *Market Research and Market Segmentation for Community Solar Program Success*. WAPA customer SMUD and other Utility Forum members joined CSVP on fieldwork for these resources.
- **Companion Measures**, such as solar-plus-storage and DR, can be

integrated into community solar projects to create new options and value streams. CSVP's guide to DR companion measures and guide to storage companion measures define options on either side of the meter that can complement community solar. An annotated resource list is a useful companion guide.

- **Net-Value Assessment & Pricing** provides detail on CSVP's streamlined analytic process to speed the path from early-stage program design to competitive program pricing. It begins with an overview presentation and a paper on CSVP's streamlined

economic analysis and includes three generic scenarios illustrating how this analytic approach applies in different utility settings. A presentation and blog on pricing strategy clarifies the last step in this approach.

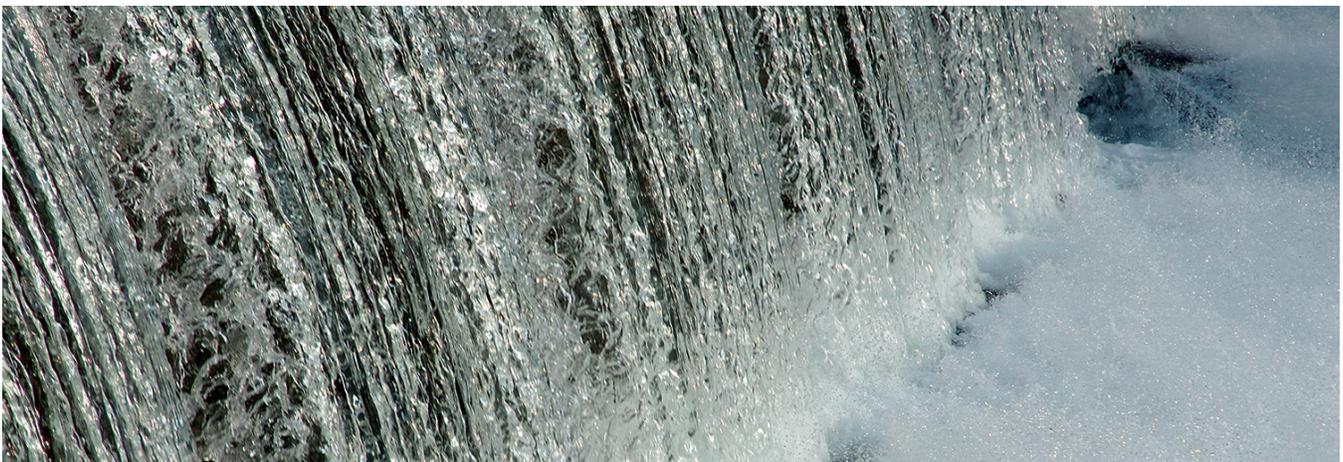
The CSVP developed the Solutions Toolbox in partnership with energy industry experts and utilities, including SMUD. The DOE SunShot Initiative provided funding for the project under its Solar Market Pathways program. For more information about Solutions Toolbox or the Community Solar Value Project, contact Jill Cliburn at 505-490-3070. ■

Wholesale electric rate for federal hydropower decreases in nine states

Starting Jan. 1, 2018, electric utilities receiving federal hydropower in nine Rocky Mountain and northern Great Plains states will see lower firm hydropower rates from Western Area Power Administration for the second year in a row. The lower rates will result in savings of roughly \$40 million dollars annually for customers.

Firm power customers with contracts with WAPA's Pick-Sloan Missouri River Basin – Eastern Division will experience a 15-percent decrease in the composite rate, and customers with Loveland Area Projects contracts will see a 14-percent decrease.

The two projects serve 415 electric utilities in Montana, North Dakota, South Dakota, Iowa, Minnesota, Wyoming, Colorado, Kansas and Nebraska with federal hydropower and related services. ■



Eco Pulse 2017 ends year on message of unity

In a country that increasingly seems to be defined by its division, it can be hard to market products and services that everybody needs, a challenge not lost on electric utilities. Happily, there are still some things people agree on—energy efficiency comes to mind—and the latest Eco Pulse report explores how to use those areas of agreement to tell your product’s story.

Agreeing on Earth

United We Understand takes a deep dive to look at the values that drive the attitudes and behaviors people have with regard to sustainability. The data collected in the report suggest that the values structure in our country has more common roots than news headlines would indicate.

A survey of 2,000 respondents showed that Americans believe three things:

1. We all deserve a clean planet.
2. There’s a big problem happening with our environment.
3. Everyone bears responsibility for fixing environmental problems.

Also, the number of respondents who say sustainability is an important part of their consumer choices has increased since 2013 and they believe that companies should do their part. However, a majority of respondents believe companies won’t take action unless a law requires them to.

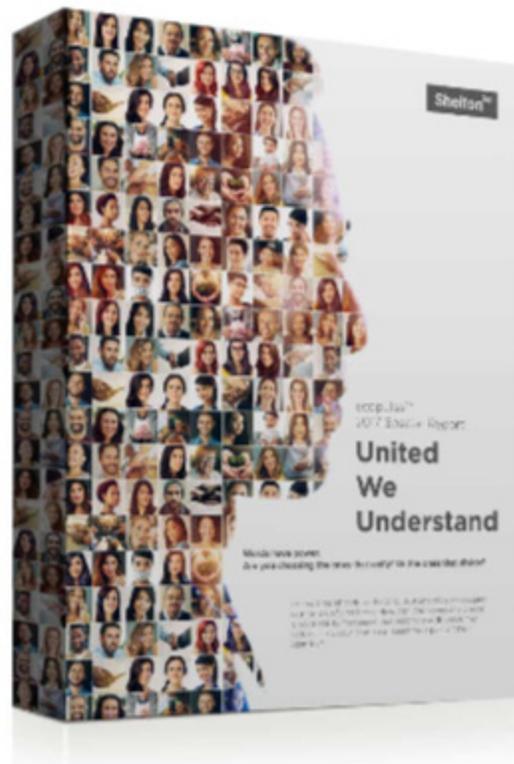
Words matter

The report shares words that can unify Americans and thereby help brands connect with consumers. Using words that unite can help businesses use sustainability to build their brands across a broader audience. For utilities, the carefully chosen marketing language can create support for sustainability initiatives and program offerings, ensure a message that resonates and increase customer loyalty.

Language that divides rather than unites is also covered in the report. Words that trigger neutral or negative responses tend to have a less clear meaning across different demographics and do not resonate with our broader beliefs about how the world works.

Speak to values

Researchers concluded that Americans value the environment more than we might expect, but their reasons for doing so differ. Using a set of agreement statements developed in the seminal book, *Environmental Values in American*



Artwork by Shelton Group

Culture, the Eco Pulse report found motivations that can be categorized into three distinct groups: earth-centric, human-centric and economic-centric. By understanding these values, and how to articulate them, you can better leverage your sustainability story, build your customer relationships and drive program participation.

You can download *United We Understand* for free from the Shelton Group, but registration is required. Start off 2018 with a revitalized marketing strategy for your customer programs and don’t forget to tell Energy Services how it goes. Happy New Year! ■

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