



Community Solar gets enthusiastic reception in Fremont, Neb.

The 1.5-megawatt Fremont Community Solar Farm unleashed a pent-up demand for renewable energy options, selling out subscriptions in just seven weeks. (Photo by Fremont Utilities)

Sometimes, you just don't know what people want until you ask them, as the municipal utilities board of directors in Fremont, Nebraska, learned when they set out to diversify their municipal power portfolio.

City Administrator Brian Newton recalled that one of his first projects after joining the city staff three years ago was to work with the board of directors on a strategic plan for their power supply. At the time, the city of around 27,000 was powered mainly by coal and natural gas. "The board decided it would be a good idea to investigate adding other resources," said Newton.

Consulting experts, customers

His initial reaction was that the customers would not be interested in solar energy. After all, Fremont residents enjoy a low residential rate of just 8 cents per kWh, and no one had installed a privately owned solar system.

So Newton took the prudent step of consulting experts before rushing

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headlong into a project. After scoring a Department of Energy Technical Assistance Grant, the city teamed up with the National Renewable Energy Laboratory and the Smart Electric Power Alliance to gauge customer interest in renewables and to explore financing options.

That was a smart move, because SEPA research has shown that a successful community solar project starts with knowing your audience. The survey SEPA conducted was an eye-opener for Newton. "More than 70 percent said they were interested in solar power, and some said they'd pay \$10 more per month for it, which I doubted," he said.

Just to make sure the survey results were on track, Newton held numerous public meetings to explain community solar to customers and get feedback from them. More than 500 people signed up to receive information about solar energy and many were adamant about joining the community affair. They not only wanted the solar power

to be sold in Fremont, they also wanted it built by local developers, financed by local money and under community control.

Designed to sell

To make participation easy, Fremont put together a unique package of options. Customers can choose between purchasing panels, buying one or more solar energy shares and subscribing to a combination of panels and shares.

Solar subscriptions can cover up to 80 percent of residential customers' annual kilowatt-hour consumption and 50 percent for commercial customers. One panel generates an average of 43 kWh monthly, while one solar energy share represents 150 kWh monthly. Customers who purchase panels are able to take advantage of the Federal Solar Investment Tax Credit, making participation even more attractive.

If the utility board of directors had any remaining doubts about custom-

ers' interest in solar, those were laid to rest when the 1.5-megawatt solar farm sold out in seven weeks. Fremont promoted the project with customer meetings, emails and bill stuffers, the usual avenues for getting the word out. Newton noted that the 1.2-MW second phase of the solar farm is selling out by word of mouth alone.

Newton may have been surprised by customers' eagerness to invest in renewables, but he told SEPA the rural community's latent environmentalism shouldn't be surprising. The community has always been firmly rooted to the land because agriculture is central to the local economy, he said. "Damaging the land or air isn't an abstract idea. Fremonters can see the impact of environmental degradation on their livelihoods."

Or, as one resident observed, Fremont's support for solar power is not a surprise, as much as it is the natural progression of a long history of civic involvement in environmental stewardship. ■



Customer engagement comes first, energy savings follow

In a state that many consider to be synonymous with energy innovation, the City of Colton Electric Utility must balance two competing challenges that will sound all too familiar to rural power providers across the nation. On one hand, San Bernardino County, California’s oldest electric utility has a fierce summer peak; on the other, a significant population of low-income customers struggles with each month’s electric bill. In true public power spirit, Colton Electric’s “Spring into Summer” campaign seeks to manage its peak by putting the needs of its ratepayers first.

The campaign, which runs from March 20 to June 20, encourages customers to upgrade certain items in their homes to energy-efficient products prior to the start of summer. The utility notifies customers about the program on their utility bills, Facebook, Instagram and the electric website.

Flyers are also placed in city hall, the electric office and community centers.

Customers can take advantage of increased rebates for box fans, ceiling fans, swamp coolers, room air-conditioning units and air-conditioning system tune-ups, as well as whole-house systems. “We want to give all

of our customers a chance to save,” explained Environmental Conservation Supervisor, Jessica Sutorus.

Utility programs for saving energy often focus on big measures like entire home cooling system replacement because those retrofits provide the best results, for both the customer and the power provider. However, low-income customers can rarely afford major home improvements, even though they need the savings as much as, or more than customers in other demographics.

Different demographic, different goals

Even so, the “Spring into Summer” promotion is as much about customer outreach as it is about energy efficiency. “You have different expecta-

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SAVE MORE MONEY WITH OUR SPRING INTO SUMMER REBATES

City of Colton ELECTRIC UTILITY

For a limited Time only! March 20th - June 20th

Colton Electric can help you lower your cooling cost this summer, we offer **increased rebate** amounts on the following items.

Box Fan* - \$25 (reg. \$15)	Whole House Fan - \$200 (reg. \$150)
Ceiling Fan - \$25 (reg. \$15)	Evaporative Cooler - \$150 (reg. \$100)
Room A/C* - \$150 (reg. \$100)	Residential A/C Tune-Up - \$120 (reg. \$60)
Solar Attic Fan - \$250 (reg. \$200)	Variable Speed Pool Pump - \$500 (reg. \$400)
Air Conditioners* - \$250/ton (reg. \$150/ton)	

Visit www.coltononline.com for more information on rebates and discounted items.

Energy Services of San Bernardino *Must be ENERGY STAR Approved

Artwork by City of Colton Electric Utility

tions than when you are marketing to more affluent customers," Sutorus acknowledged.

In that respect, "Spring into Summer" has been successful, increasing participation in the cooling rebate program by 40 customers annually, a 43 percent increase in participation. "Obviously those aren't huge numbers, but we have only 16,000 residential customers and most of the participants are investing in the smaller-ticket items," said Sutorus.

So while the savings to the customers may be meaningful, the program has not made much of a dent in Colton Electric's summer load. Many Colton families pass their homes from generation to generation and don't have the resources to make the kind of deep retrofits that are useful for load shaping. A lot of those houses are several decades old and still have the original windows, Sutorus noted. "Our



residential programs are about serving the community," she explained. "We have other plans to meet state goals for energy savings."

Part of bigger picture

Colton has recently begun to install smart thermostats throughout city facilities, and to replace old air-conditioning systems with Ice Bear high-efficiency cooling equipment. You are leaving WAPA.gov. The measures are part of the Climate Action Plan the city adopted in 2015 to reduce

greenhouse gas emissions.

This is where California's progressive approach to climate change is helpful to the small "Inland Empire" city. The state's Title 24 Building Standards Code requires developers to build housing that is highly efficient and solar- and electric vehicle-ready. This is good news for a city that is finally beginning to feel the effects of the economic recovery. "We are expecting new residential development, but industry is our fastest growing load," Sutorus observed.

Colton Electric offers a menu of commercial customer rebates, including automated online energy monitoring analysis, lighting rebates and time-of-use rates. Support for commercial customers can help grow local industry and bring more jobs to the area. More jobs mean a stronger economy, and that, too, will be good for ratepayers. ■





WAPA customers receive USDA Rural Development loans

Electric cooperatives WAPA serves in Colorado, Iowa and Minnesota are among the utilities receiving \$276 million in guaranteed loans from the U.S. Department of Agriculture to improve system efficiency and reliability. Agriculture Secretary Sonny Perdue announced the investments in a March 13 press release the day before appearing at a Senate hearing on rebuilding American infrastructure. Loans are also going to utilities in Georgia, Indiana, Kentucky, Louisiana, Maine, Missouri, North Dakota, Ohio and Virginia.

USDA Rural Development's Electric Program provides loan guarantees to help expand economic opportunities and create jobs in rural areas. Rural Development assistance supports infrastructure improvements; business development; housing; community

services such as schools, public safety and health care; and high-speed internet access in rural areas. These are the kinds of projects that could make the areas more inviting to new businesses, the people the businesses would need to fill jobs.

Improving transmission, more

The transmission system of Minnesota Valley Cooperative Light & Power Association will get 52 miles of new lines, 14 miles of improvements and \$560,000 in smart grid upgrades as part of a \$10,569,000 Rural Development loan. The co-op provides electric service to more than 5,200 consumers over 3,273 miles of line in eight counties with primarily agriculture-based economies. Small commercial loads account for 10 percent of kilowatt-hour sales. Large commercial accounts, including an ethanol plant, cheese production facility and casino, account for the remaining kWh sales and revenue.

Southeast Colorado Power Association will use \$13,000,000 in Rural Development funds to build 72

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miles of line, improve 125 miles and make other system improvements. A member of Tri-State Generation and Transmission, You are leaving WAPA. gov. the La Junta-based co-op serves 7,688 residential, nearly 1,500 irrigation and 1,100 commercial consumers across a 13,000-square-mile service territory that covers 11 Colorado counties.

“This funding will allow SECPA to advance important infrastructure efforts and provide reliable, affordable electricity essential to sustaining the economic well-being and quality of life for rural Coloradans,” said Sallie Clark, USDA Rural Development Colorado state director.

Southwest Iowa Rural Electric Cooperative You are leaving WAPA. gov. will receive a \$6,100,000 loan to build 69 miles of line, upgrade 96 miles and make other system improvements, including \$775,000 for smart grid projects. The projects the co-op

chose to put in its Rural Development application came from its \$11.4 million construction work plan for 2017-2020. “We do a plan every four or five years to identify infrastructure needs like replacing lines or poles or expanding the system where the population is growing,” explained Phil Kinser, Southwest Iowa REC chief executive officer.

A member of Central Iowa Power Cooperative, Southwest’s local economy relies heavily on agriculture. Like other recipients, the co-op’s service territory has steadily lost population over the last decade due to younger residents leaving for metropolitan areas.

Funding available

Applying for a Rural Development Loan is now more streamlined since the USDA moved much of the application process online. “Providing additional information or answers to

follow-up questions is much quicker and easier,” Kinser observed.

But a good working relationship with the local USDA field office still makes for a less-stressful application process. Kinser offered kudos to Pat Bormann, General Field Representative with the Rural Utilities Service – Electric Programs. “Pat did a great job of helping us to navigate the application process,” Kinser recalled. “His assistance was invaluable.”

Applications for the Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Loans & Grants are due April 30. Contact your local field office for more information.

WAPA congratulates Minnesota Valley Cooperative Light & Power Association, Southeast Colorado Power Association and Southwest Iowa Rural Electric Cooperative for taking the initiative to improve their systems and their communities. ■



More than one way to improve window efficiency

Window replacement strictly for energy savings carries a big price tag that can be well out of range for many homeowners. Fortunately, there are several lower-cost options for reducing energy loss through windows that utility program managers might consider adding to their incentive offerings.

Reflecting on film

Window films help block against solar heat gain and protect against glare and ultraviolet exposure. According to the International Window Film Association, professionally installed window film can block 30-60 percent of all energy being lost through window glass throughout the heating and cooling seasons. IWFA also claims that window film in commercial buildings can deliver seven times the energy saving benefits per dollar spent compared with installing replacement windows.

DOE's Energy Saver blog explains that reflective films work best in climates with long cooling seasons, because they also block the sun's heat in the winter. Other factors that impact the effectiveness of window films include:

- Size of window glazing area
- Window orientation
- Building orientation
- Whether the window has interior insulation

Incentives for professional installation of window films could be a winner for utilities serving low-income areas in warmer climates. Homeowners and businesses in such regions might welcome an affordable alternative to window replacement. Check with your state energy office to see if it offers any tax incentives you can piggy-back on your program.

Drawing on curtains, shades

Carefully chosen window attachments can also save homeowners energy for less than the cost of window replacements. The Attachments Energy Rating Council You are leaving WAPA.gov is a good place to begin exploring options. The two-year-old organization is working with DOE to provide credible and accurate information about the energy performance of residential

and commercial window attachment products.

For an overview of AERC's work, download "Window Attachments: A Call to Action," the Council's updated brief. AERC is holding its annual meeting in Annapolis, Maryland, May 22 to 24.

Efficient Window Coverings, a guide supported by DOE and Lawrence Berkeley National Laboratory, is another valuable resource for evaluating different window products for energy efficiency. Website visitors will find a calculator to help them choose the best covering for their circumstances and a comparison chart to see how coverings stack up against each other. These functions can help utilities identify a range of options to appeal to different customer segments. ■



Window coverings can offer surprising energy benefits at a lower cost than window replacements, making them a good candidate for utility rebate programs. (Photo by DOE Office of Energy Efficiency and Renewable Energy)

Phase out residential lighting programs? Not so fast...

LED, or light-emitting diode, bulbs have become a major market player in recent years and can be expected to grow when new lighting efficiency standards come into effect in 2020. Utilities might be tempted to think that there is little of this “low-hanging fruit” left for residential efficiency programs to pluck. Before utility program planners sunset this portfolio mainstay, however, the American Council for an Energy-Efficient Economy suggests you take a closer look at the particulars of your program.

Well-designed lighting programs will likely continue to garner savings for utilities through 2019, but the outlook gets more complicated on January 1, 2020. For one thing, regional differences play a role in how lighting programs perform after the standards are raised. LED adoption varies from state to state and even within states. In most of WAPA’s territory, LEDs are between 20 and 30 percent of the light bulbs purchased. That leaves plenty of room for an effective program to grow the market.

Sales data indicates that lighting programs and retail support are strong drivers of LED adoption. Also, preliminary evidence from New York and Massachusetts indicate that LED adoption drops when programs end. So utilities would be premature to start scaling back their lighting programs—certainly where LED sales are low, and even in states like California where LEDs represent 40 percent of light bulb sales.

ACEEE identifies several program options that could continue the progress in lighting efficiency, even after the standards go into effect.



- **Underserved markets:** Lighting programs can find additional savings by targeting rural, elderly and low-income market segments that have been slower to adopt LEDs.
- **Specialty lamps:** LED versions of popular specialty lamp styles are now available, including decorative, candelabra, globe and reflector lamps. Yet these styles sell significantly fewer units than general-purpose LED lamps, suggesting that consumers need more education about the products.
- **High quality lamps:** Programs should continue to promote high-performing ENERGY STAR-branded products, rather than “value” LED lamps that do not meet ENERGY STAR standards.
- **Controls:** Dimming and occupancy controls offer significant additional savings opportunities. Lighting programs can help connect consumers to quality control solutions that are easy to install and operate.

While residential lighting efficiency programs still have plenty of savings left to tap, the technology’s increasing efficiency will eventually end their usefulness. It is not too soon for utilities to start considering the next opportunities for helping customers control and reduce their energy use. ■