



Santa Clara reaches coal-free goal in 2018

SVP Chief Electric Utility Officer John Roukema sent this holiday greeting to customers to let them know the gift of a coal-free power supply had finally arrived. (Photo by Silicon Valley Power)

Silicon Valley Power (SVP) reached a major milestone in the long, determined march toward sustainability when the Santa Clara, California, utility permanently eliminated coal power from its energy supply Jan. 1.

SVP sent this greeting to its customers to let them know the gift of a coal-free power supply had finally arrived.

Various renewable resources and natural gas-fueled generation from Lodi Energy Center in Lodi, California, have replaced the 51 megawatts (MW) of coal-powered electricity SVP sourced

from San Juan Generating Station in New Mexico. The move reduces the carbon intensity of Santa Clara's power supply by about 50 percent.

Thanks to customers

The accomplishment began with both residential and business

continued on Page 2

inside

- 4 Online tools for resource planning, program development
- 5 Final 'Health and Environment' video online
- 6 DOE winter home tips
- 7 Platte River solar, storage RFP
- 8 WAPA 2018 Annual Report

Subscribe to *Energy Services Bulletin* at esnews.wapa.gov/wordpress/subscribe

customers pushing the utility to reduce greenhouse gas emissions. SVP serves many forward-thinking corporations along with a highly educated and unusually engaged group of residents. “We launched the Santa Clara Green Power Program to meet customers’ demands for 100-percent renewable power as the state established its renewable energy goals,” stated SVP Customer Services Manager Larry Owens.

Santa Clara Green Power launched in 2004, two years after California adopted a renewable portfolio standard (RPS) and two years before the first expansion of the RPS. The city continued to monitor its emissions, evaluate resources and update its goals to stay ahead of state mandates, but mostly to meet and exceed customer expectations.

Keeping up with the expectations of business customers in the center of the technology industry has challenged SVP to keep reaching higher, too. SVP Public Benefits Manager Mary Medeiros McEnroe noted, “Many of our large key customers have corporate sustainability initiatives and have been the drivers behind some of our programs.”

Businesses subscribing to Santa Clara Green include Intel—a 62-wind turbine partner—Santa Clara University, the Great American Theme Park and the city itself. A number of large commercial customers have installed solar arrays on their facilities ranging from 750 kilowatts to 1 MW per site.

Speed bumps, fast lanes on road to success

There are pros and cons to being a leader in clean power initiatives and SVP has seen both sides as it moved toward its goal.

In 1980, SVP joined Modesto Irrigation District and Redding Electric Utility to form the M-S-R Public Power Agency, You are leaving WAPA.gov. a partnership that has helped all three

“We expected that they would just find another buyer for that power, so SVP going coal-free turned out to have a much wider impact by actually decommissioning two of the four units,” said Owens. “That was a nice surprise.”

utilities evolve with the industry. In 2006, M-S-R worked to acquire 200 MW of new wind power in Brickleton, WA. “We all saw our customers buying more green power,” Owens recalled.

It was clear to the utility partners that a cleaner power supply was the road to the future. Around 2009, as the state set higher renewable energy goals and added new regulations, other California municipal utilities followed M-S-R toward the coal off-ramp. In some ways, Owen observed, the group effort gave utilities more leverage to negotiate their exit from coal power providers. On the other hand, “The more participants, the more complexity,” he said. “And there was a lot more competition for renewable energy. Ultimately, though, the cooperation among utilities was impressive.”

SVP knew that leaving their coal provider and finding cleaner power sources to replace the 51 MW was going to be difficult. But it paid off in the end when San Juan Generating

Station permanently closed down half of its units. “We expected that they would just find another buyer for that power, so SVP going coal-free turned out to have a much wider impact by actually decommissioning two of the four units,” said Owens. “That was a nice surprise.”

Future is affordable

The greatest fear that grips utilities when they contemplate a future without coal—that it will force them to raise rates—has not materialized for SVP customers.

Utilities are always retiring and acquiring purchase power contracts over time, Owens pointed out, and that will affect pricing. Shifting to the Lodi Energy Center and ramping up green power caused some upward pressures on price for SVP. In the long term, however, “The forward price curves for natural gas and renewables look better than coal,” he stated.

Switching to those resources is also an investment in meeting federal mandates to reduce carbon dioxide, nitrogen oxide and sulfur dioxide emissions, he added.

Given the many factors that shape energy costs, SVP still boasts some of the lowest electricity rates in California. The utility recently announced that there will be no rate increase for 2018, and rates are expected to remain flat for the next couple of years.

Efficiency still matters

When rates inevitably change, SVP’s strong customer relationships and menu of long-established efficiency programs will help to ease acceptance.

SVP residential customers can get rebates for efficiency measures including attic insulation, ceiling fans, electric clothes dryers, electric heat pump water heaters and pool pumps. In addition to Santa Clara Green Power, the Neighborhood Solar Program allows customers to sponsor solar

continued on Page 3



SVP's innovative use of wind technology on behalf of its Santa Clara, California, customers earned it the U.S. Department of Energy's annual Public Power Wind Award. (Picture by Silicon Valley Power)

installations on public buildings. SVP also provides homeowners with energy audits and loans diagnostic tools to do-it-yourselfers.

While SVP counts some of the world's most progressive companies among its large key customers, Medeiros McEnroe said that the small commercial customers are surprisingly engaged too. "Quite a few of our small businesses support Santa Clara Green Power, from dentists to auto shops, and many have installed solar arrays on their buildings," she said. "Sustainability is a community value in Santa Clara."

Keeping costs down is, nevertheless, still a top concern for small businesses, so SVP offers rebates for specific systems like lighting, as well as custom measures. The utility has also partnered with the Food Service Technology Center for a program to teach food service employees to manage energy and water costs.

SVP also provides energy benchmarking to help companies understand their energy and water use and set goals for improvement. "We have been able to help many customers through free snapshot audits and

by educating them about the value of purchasing energy-efficient equipment," Medeiros McEnroe said.

A utility customer program manager's work is never done, and sustainability will always be a moving target. Achieving the coal-free goal is impressive but there are still peaks to manage and costs to control. WAPA has no doubt that with the support of its committed customers, SVP will meet each new challenge, exceed expectations and continue to impress. ■

Check out tools for resource planning, program development

Everyone loves to get a new tool that will make their job easier, whether it is a power sander for



refinishing furniture or a calculator to help you choose the most cost-effective renewable resource or efficiency measure. Here are some “gadgets” that might be just what you need.

Choose your clean power

The Green Power Partnership, a program of the Environmental Protection Agency, has released a new Green Power Supply Options Screening Tool to help you sort through the different supply options. There are many ways to purchase green power—such as green tariffs, competitive green power products and off-site power purchase agreements—and determining which purchasing method works for you can be difficult.

Users answer a few simple questions about their organizations, including their locations and annual energy consumption. The Excel-based tool will describe which supply options might be most feasible, according to the relevant federal, state and utility policies. Background documents accompany the tool to explain how the results are defined and the logic used to produce the result for each supply option.

Calculate equipment efficiency

The DOE Office of Energy Efficiency and Renewable Energy (EERE) created the Better Buildings Residential Program Solution Center as a repository for the lessons learned from other EERE programs dedicated to improving building efficiency. Utility program administrators will find resources here

that help them plan, operate and evaluate residential energy efficiency programs.

The Solution Center has recently been branching out with more information about the technical aspects of home performance programs. A new section focused on technology solutions explores innovative technologies, offers installation guidance and estimates potential energy savings.

New pages highlight HVAC systems and heat pump water heaters, two applications that account for about 67 percent of home energy consumption. Use the reports, best practices and other resources to support program offerings and help you to reach your energy-efficiency program targets.

Identify energy savings potential

Researchers at the National Renewable Energy Laboratory (NREL) have developed ResStock, a versatile tool that takes a new approach to large-scale residential energy analysis.

The ResStock software achieves unprecedented granularity and accuracy in modeling the diversity of the single-family housing stock by combining:

- Large public and private data sources

- Statistical sampling
- Detailed sub-hourly building simulations
- High-performance computing

The research team has run more than 20 million simulations using a statistical model of housing stock characteristics. The results uncovered \$49 billion in potential annual utility bill savings through cost-effective energy efficiency improvements.

Using ResStock analysis, utilities can target energy-efficiency improvements to specific customer segments to improve cost-effectiveness. Resource planners can determine which measures and distributed energy resources are best for relieving grid congestion and what housing stock segments can provide the greatest load flexibility.

Utility program managers, municipalities and state energy agencies can use ResStock to identify the most cost-effective—and energy-saving—home improvements. The tool is also valuable for helping cities and states figure out how buildings contribute to energy or emissions targets. NREL is pursuing partnerships with industry to adapt ResStock for specific utility, manufacturer, state and local applications.

NREL will be offering the ResStock software at no cost, leveraging DOE’s open-source building energy modeling ecosystem of OpenStudio® and EnergyPlus™. These cloud-based collections of software tools allow users to model energy use for heating, cooling, ventilation, lighting and plug-and-process loads without a supercomputer. ■

ACEEE releases third, final video in ‘Health and Environment’ series

Energy Retrofits Clear the Air in Pittsburgh, the final installment in a three-part video series from the American Council for an Energy-Efficient Economy (ACEEE), is now available to watch online.

The videos share the stories of homeowners in three eastern states, and the effect energy-efficiency upgrades have had on their lives. The theme running through the series is that reducing energy waste lessens the need to burn fossil fuels to generate electricity. Those cuts deliver big gains

in health, because pollutants from burning fossil fuels contribute to four of the leading causes of death in the United States: cancer, chronic lower respiratory diseases, heart disease and stroke.

The series is part of ACEEE’s new Health and Environment program,

launched last year to research the linkages among health, environment and energy efficiency, and to educate policymakers. Later this year, ACEEE will release a series of reports that will further explore the health and environmental benefits of saving energy.

A two-day Conference on Health, Environment & Energy ACEEE is planning for December will showcase the research and promote others’ work in this growing field. Utilities are welcomed to attend the conference in New Orleans to add their voices to this critical conversation. ■



Warm up with DOE's winter home tips

Energy Saver is the U.S. Department of Energy's consumer resource on saving energy and using renewable energy technologies at home. Check out the website, blog and Energy Saver Guide for consumer education material.

Around this time of year, we are all getting fed up with cold weather and the high utility bills that come with it. Your customers might appreciate some suggestions for saving money and keeping warm over the next few (or, in some places, several) weeks. The DOE Office of Energy Efficiency and Renewable Energy has just the thing for your website or bill stuffer. Here are simple steps we can all take to stay warm.

1. Spruce up the fireplace

Before you build that cozy fire and settle in with a good book and a hot beverage, give your fireplace some love.

Replacing your inefficient wood-burning fireplace with a more efficient wood stove or gas insert can turn your pretty—but high-maintenance—fireplace into a viable way to heat your home. Converting your fireplace will not only save you on monthly heating costs, it can improve air quality in your community. It could even put money back in your pocket—some states offer rebates or tax credits for upgrading your inefficient fireplace.

If you aren't ready to update your fireplace, try adding glass doors with a heat-air exchange system. Make sure your fireplace is cleaned and your flue damper properly sealed. Also, try to keep the fireplace damper closed when you don't have a fire burning to keep heat from your furnace from going up the chimney.

2. Reverse your fan

The same ceiling fan that helps to keep you cool in the summertime can also help circulate warm air in the winter. Look for a little switch on the motor housing to reverse the direction of your fan, pushing warm air down and recirculating it through the room. How do you ensure that your fan is spinning in the correct direction? When you look up, the blades are spinning clockwise.

3. Protect your lawn so it can protect you

Properly planned landscaping can save you energy and increase your home's comfort. Windbreaks can help keep your heating bills under control by blocking the cold winter wind around your home. A wall or fence, evergreen trees and shrubs planted on the north, west and east sides of your home can be most effective in creating a windbreak and reducing heating costs.

continued on Page 7



Energy Saver is the U.S. Department of Energy's consumer resource on saving energy and using renewable energy technologies at home. Check out the website, blog and Energy Saver Guide for consumer education material. (Photo by DOE Energy Saver program)

Especially in some parts of the West, wet spring snowfall can snap branches that provide cooling shade during the summer. Worse yet, a broken branch could fall on a power line and cause an outage in the neighborhood. Use a broom or a mop to shake the heavy snow off tree branches and relieve some of the weight.

4. Air-seal then insulate

Reducing the amount of air that leaks in and out of your home is one of the most cost-effective ways you can cut heating and cooling costs, improve

durability, increase comfort and create a healthier indoor environment. Caulking and weather stripping are two simple and effective air-sealing techniques that offer quick returns on investment, often one year or less

5. Windows, windows, windows

Your windows do more than provide a view of snow-covered yards. They also provide a barrier to the cold. Windows with low-e coating reduce heat loss and even reflect back part of the room's heat. Installing storm windows can also reduce heat loss through windows by

about 10 to 20 percent.

If replacing windows is too big an investment, return to Step 4 and put some fresh caulk around the panes and sill. Choose window coverings designed to help improve the performance of old windows. As a bonus, your home will get a little spring facelift to help you through the last dreary weeks of winter.

Read more about sustainability and implementing energy upgrades within the home on DOE's Energy Saver blog, a great resource for customer education material. ■

Platte River RFP calls for solar power, storage proposals

Colorado-based Platte River Power Authority on Feb. 21 issued a request for proposals (RFP) for at least 20 mega-

watts of new solar energy capacity that could be added to its system. The RFP also calls for up to 5 megawatt-hours (MWh) of energy storage capacity.

In the RFP, Platte River said it would consider proposals for a long-term power purchase agreement for solar projects that could be built and operational between June 2019 and the end of 2021.

Platte River also expressed strong interest for technologies that could store up to 5 MWh of energy. Proposals in response to the RFP will be due by 4 p.m. Mountain time on March 30. ■



Annual Report highlights WAPA'S service to customers, communities in American West

Fiscal Year 2017 Annual Report, Serving Communities, Saving Communities

Western Area Power Administration published its Fiscal Year 2017 Annual Report, Jan. 31. This year's theme, "Serving Communities, Saving Communities," highlights WAPA's accomplishments for the year and demonstrates how WAPA serves communities across the West by focusing on availability, reliability, security and quality.

"Delivering power is about so much more than moving electrons. Our power and our services make a difference in communities we serve," said Administrator and CEO Mark A. Gabriel in his introductory letter. "We are honored to deliver reliable and renewable power to communities who need it most." ■



ENERGY SERVICES Bulletin

March 2018

The Energy Services Bulletin is published by Western Area Power Administration for its power customers. The mailing address is Western Area Power Administration, P.O.Box 281213, Lakewood, CO 80228-8213; telephone 720-962-7508.

The mention of any service, product, or technology does not constitute an endorsement of same and Western, the Department of Energy, or the United States Government cannot be held responsible or liable for use thereof.

Editor: **Kevon Storie** Designer: **Grant Kuhn**



Energy Services