Outlet

Silicon Valley Power, City of Santa Clara 1500 Warburton Avenue Santa Clara, CA 95050 www.siliconvalleypower.com







What It Takes to Keep the Lights On

Many customers may not realize that Silicon Valley Power (SVP) has staff working behind the scenes twenty-four hours a day, seven days a week, 365 days a year. These highly skilled System Operators continuously monitor and control the electric transmission and distribution system, as well as the City's water system. They address power outages and electrical emergencies, dispatch water and sewer calls after work hours and respond to customer calls. They are an important part of the team that ensures you have the power you need to get the job done, whether it's flipping on a light switch, making a cup of coffee or working on worldchanging innovations.

The System Operators are the first to respond when a power outage occurs. When the power goes out on an electric distribution line, the first indication is received through an alarm on the Supervisory Control and Data Acquisition (SCADA) network. The System Operator then verifies system conditions on SCADA and dispatches a Troubleshooter to look for the cause of the outage in the field. The System Operator then communicates to utility staff and management so they can notify customers of the outage through SVP's website and social media channels. The System Operator directs the troubleshooting process and the Troubleshooter inspects equipment and reports his findings to the System Operator.

Once the cause of the outage is located, the System Operator develops the restoration plan. When possible, the System Operator begins a switching program that will isolate the fault and move customers not directly served by the



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Three Percent Rate Increase to Advance Reliable Power System

On November 16, the City Council approved a three percent rate increase that will take effect in January 2022 for Silicon Valley Power (SVP) customers. SVP's stable, low rates mean SVP customers save more than an estimated \$150 million in annual electric costs compared to businesses in neighboring cities, whose rates have risen up to ten percent.

Funds from the rate increase will help ensure a sustainable, reliable and affordable power system for Santa Clara in the future. These funds will be used to make improvements to the electric system so that SVP can continue to provide high-quality service to customers. The upgrades include replacing old power poles, crossarms and transformers, all of which will help prevent outages. Additionally, the funds will help cover the rising costs of power transmission on the grid and additional environmental and reliability requirements.

As a not-for-profit entity, SVP bases its rates on operating expenses and regulatory policies. SVP and other municipal utilities are working to educate legislators about the benefits of maintaining low rates for customers.



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damaged equipment to adjacent circuits. This restores power to as many customers as possible, leaving only those served by the damaged equipment without power until repairs are made. As part of the switching plan, the System Operator directs the Troubleshooter to open or close specific switches. Where available, the System Operator may also operate SCADA-controlled substation equipment to expedite restoration efforts. Once the System Operator establishes a safe work zone for the lineworkers or electricians, a clearance is issued and repairs to the damaged equipment begin. Following repairs, System Operators develop and direct a switching plan used to restore the electric system to its original configuration.



What's New with the Power Content Label?

The Power Content Label is published every year with the purpose of educating Silicon Valley Power (SVP) customers about the generation resources delivered to their home or business. This year the label includes the California Energy Commission (CEC) calculated emissions number.

The 2020 Power Content Label has a new format that is broken down into two major sections. The left side of the label highlights the carbon intensity of each type of electricity product SVP offers its customers. The right side displays the percentages of energy sources that make up each product. SVP has four types of electricity products offered to our customers:

- SVP Residential Mix This is delivered to residential customers and consists of 100% eligible renewable and/or greenhouse gas-free energy.
- SVP Non-Residential This is the commercial and industrial power mix.
- SVP Green Power Standard Mix The majority of participating customers are residential customers and already receive clean energy under the SVP Residential Mix. By participating in the Santa Clara Green Power Program, they support the purchase of 100% renewable energy credits (RECs). However, with the change in the Power Content Label reporting requirements this year, SVP can no longer show unbundled RECs that are not considered California Eligible Renewable as part of the Power Content Label. The Green-e certified RECs purchased through the Santa Clara Green Power program are not recognized by the CEC unless they are registered as California Eligible Renewable.

- SVP National Green Power Mix This is a separate label for business customers who procure global energy offsets to contribute to their sustainability and carbon-neutrality goals. The CEC does not recognize any unbundled RECs that are not considered California Eligible Renewable and will not allow the Green-e certified renewable RECs be displayed on the California Power Content label. These customers are delivered the same energy as the SVP Non-Residential Mix.
- 2020 SVP Power Mix with the California Independent System Operator (CAISO) Emissions Factors — This shows the actual and verifiable numbers and presents a more accurate picture of what SVP's actual overall emissions are based on hourly grid emissions.

If you compare the 2020 Power Content Label to the past few years, it appears that SVP's Power Mix has fewer renewables and carbon-free energy than in the past. This is a result of impacts on resources by the drought and wildfires. In an average hydroelectric year, SVP receives over 45 percent of our clean energy from those resources. In 2020, this number was slightly over 23 percent, including both large and small hydroelectric facilities. Due to the Camp Fire, SVP still cannot access the Grizzly small hydro project that yields an average 43,000 megawatt hours (MWh) per year.

SVP is in various stages of clean energy procurement for the future, negotiating contracts for over 700 megawatts of energy, totaling over 2,200,000 MWh annually. This is equivalent to powering over 366,000 homes. These resources will be constructed and brought online over the next five years.

For more information in SVP's power resources, visit siliconvalleypower.com/powermix.

					2020 POWER							
Silicon Valey Power												
www.siliconvalleypower.com												
Greenhouse Gas Emissions Intensity (Ibs CO₂e/MWh)						Energy Resources	Residential	Non- Residential	Green Power - Standard	Green Power - National	2020 SVP Power Mix w/CAISO EF	2020 CA Power Mix
Residential	Non-Residential	Green Power - Standard	Green Power - National	2020 SVP Power Mix	2020 CA Utility Average	Eligible Renewable ¹	40.2%	31.7%	100.0%	26.0%	32.4%	33.1%
		Chain Fourt. Statistic	Contain tone	WCAISO EF	2020 04 00.00	Biomass & Biowaste	0.0%	2.6%	0.0%	0.5%	2.2%	2.5%
0	542	0	581	317	466	Geothermal	0.0%	8.1%	0.0%	5.2%	7.4%	4.9%
1000						Eligible Hydroelectric	0.0%	8.8%	0.0%	6.4%	8.0%	1.4%
Residential					Solar	11.1%	0.2%	100.0%	0.0%	1.6%	13.2%	
800	800 Non-Residential						29.1%	12.2%	0.0%	13.9%	13.3%	11.1%
						Coal	0.0%	0.0%	0.0%	0.0%	0.0%	2.7%
Green Power - Standard						Large Hydroelectric	59.8%	12.2%	0.0%	13.5%	15.2%	12.2%
400 Green Power - National						Natural Gas	0.0%	18.4%	0.0%	36.9%	19.0%	37.1%
						Nuclear	0.0%	0.0%	0.0%	0.0%	0.0%	9.3%
200 = 2020 SVP Power Mix w/CAISO EF						Other	0.0%	0.0%	0.0%	0.0%	0.0%	0.2%
						Unspecified Power ²	0.0%	37.6%	0.0%	23.7%	33.3%	5.4%
					-	TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		Percentage of Re		0%	0%	53%	1%	1%				
¹ The eligible renewable percentage above does not reflect RPS compliance, which is determined using a different methodology. ² Unspecified power is electricity that has been purchased through open market transactions and is not traceable to a specific generation source. ³ Renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled renewable energy credits (RECs) are tracking instruments issued for renewable generation. Unbundled RECs are not reflected in the power mix or GHG emissions intensities above.												
For specific information about this electricity portfolio, contact:						Silicon Valley Power (408) 244-SAVE (7283)						
	Forgeneral	information about	http://www.energy.ca.gov/pcl/									
For additional questions, please contact the California Energy Commission at:						Toll-free in California: 844-454-2906 Outside California: 916-653-0237						

The SVP System Operators are also responsible for monitoring SVP's electric transmission system. The transmission network is interconnected throughout the Western U.S. In the South Bay area, it is a highly interconnected system requiring SVP's System Operators to have visibility outside the boundaries of SVP's service territory. When an unplanned transmission outage occurs outside SVP's system, SVP must still respond due to the interconnection. Depending on the cause and proximity of the outage to SVP, an outage on another utility's transmission line may cause a power quality event that impacts SVP's network, requiring the System Operator to take action to maintain reliability in the region.

SVP must also prepare for planned outages that are required to allow a neighboring utility to work on its equipment or to respond to operational concerns, such as a Public Safety Power Shutoff (PSPS) event. The System Operators use sophisticated analysis tools to determine if the outage of a transmission line in the region will cause an outage in SVP's service territory. These tools provide System Operators with the ability to make real-time decisions necessary to maintain the reliability of the electric system.

In the summer of 2020, generation resources were insufficient to meet the high demand of the California power grid and the California Independent System Operator (CAISO) declared a System-wide Emergency, initiating rotating power outages. When a System-wide Emergency is declared, the CAISO must either find more generation resources or initiate a load shed. When orders are given for SVP to shed load, the System Operators must act quickly to avoid a much larger outage. SVP's System Operators are responsible for cutting power to customers, communicating with utility staff who can communicate to customers, and continuing to monitor and control the electric grid and ensure its stability. After the load shed events called by the CAISO in 2020, SVP created load shed plans that incorporate shedding blocks of load in a well-communicated and controlled process. If an event like this occurs again and SVP is called upon to respond, the utility is ready to handle the situation under this new plan.

System Operators, along with all SVP staff, work tirelessly to provide safe and reliable power to Santa Clara residents and businesses. They take great pride in the work they do to maintain the safe and reliable delivery of power. As conditions throughout the area continue to change, SVP's System Operators continue to be prepared for unknown events.





Jesse Delgado Journeyman Lineman Troubleshooter

Background: Before joining Silicon Valley Power (SVP), Jesse Delgado worked for several utilities, including Sacramento Municipal Utility District and PG&E. He first started as a journeyman lineman in 1988 and now works for SVP as a troubleshooter. Jesse is responsible for investigating power outages and restoring services. The everyday challenges of the job keep him on his toes, as each power outage is unique and needs to be handled carefully. He enjoys thinking through how he can fix problems to minimize power outages for the community.

Comment: Jesse feels grateful for the opportunity to serve his community. "When somebody's out of power for hours and you're able to restore their power, there's a satisfaction in helping other people."

Favorite pastime: In his free time, Jesse likes to ride his Ultra Classic Harley Davidson motorcycle with his friends. He recently rode all the way to South Dakota to attend Sturgis, one of the largest and longest running motorcycle rallies attended by hundreds of thousands of motorcyclists from across the country.

Working at SVP: Jesse enjoys the company of his colleagues here at Silicon Valley Power. "There are a lot of good people here, which makes it fun."