

JANUARY 2026

NEWSLETTER





The Evolution of Scattergood Generating Station

By William Glauz

The Board of Water and Power Commissioners approved and certified the Final Environmental Impact Report for the Los Angeles Department of Water and Power's (LADWP) Scattergood Generating Station (SGS) Units 1 and 2 Green Hydrogen-Ready Modernization Project. This project will continue the evolution of this important electricity generating resource making it cleaner, allowing it to use hydrogen as a fuel, eliminating the use of ocean cooling water, and improving efficiency.



Los Angeles' primary source of electricity through World War II was hydroelectric, beginning with hydroelectric plants built for the construction of, and as an integral part of the delivery of water through the Los Angeles Aqueduct in the early 1900s. In the 1930s the Boulder Canyon Dam, since renamed Hoover Dam and

Hydroelectric Plant was built on the Colorado River in southern Nevada and delivered about 70% of Los Angeles' electricity needs at the time.

Los Angeles continued to grow significantly through the 20th century. Electricity use also grew considerably with the expansion of air conditioning after 1950. In order to meet the growing electricity demand, LADWP needed to add significant electricity generating resources. These new generating resources included adding four large steam turbine generating plants, Harbor in the 1940s, Valley in the early 1950s, Scattergood in the late 1950s and Haynes in the mid-1960s. These plants were built to operate on bunker oil or natural gas. Bunker oil was the fuel of choice into the 1980s, but air quality concerns and the economics of oil versus gas, caused these plants to convert to natural gas by the 1990s.



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Scattergood Generating Station (Continued from Page 1)

The Scattergood steam plant started with two steam turbine generators of about 179 MW each installed in 1958 and 1959 on a 56-acre parcel of ocean front property in Playa Del Rey. The plant was named for Ezra F. Scattergood, the first chief electric engineer of the Los Angeles municipal power system. The plant added a 460 MW third steam turbine generator (unit 3) in 1974.

A single cycle steam turbine requires a cooling source to condense exhaust steam from the turbine back to water for the most efficient use of the turbine. For LA's three coastal power plants, Scattergood, Haynes and Harbor, ocean water was used for cooling. Unfortunately, the use of ocean water for cooling also resulted in discharging the heated cooling water back into the ocean, impacting sea life. Consequently, LADWP has since been required to eliminate ocean water cooling at Scattergood by 2029.

As part of its elimination of ocean water cooling, LADWP replaced SGS unit 3 in 2015 with two fast-start single-cycle units and a cleaner and more efficient combined-cycle, natural gas-fired unit, resulting in a 500+ MW plant that uses dry cooling, eliminating ocean water cooling for that part of SGS.

To complete its ocean water cooling elimination at SGS, LADWP proposes to replace units 1 and 2 with a combined cycle plant of 340 MW. This plant would use air-cooled condensers to replace ocean water cooling. This new package will be capable of using hydrogen as fuel. The intent is to operate mixing 30% green hydrogen, using renewable energy to convert water to hydrogen, with 70% natural gas. Eventually it is anticipated that the plant could use 100% green hydrogen. The new plant is expected to cost \$800 million and be completed in 2029.

Among the benefits of these modernizing efforts at SGS is:

- 1. Providing in-basin firm capacity, meaning it can start up quickly to meet sudden demand surges or cover shortfalls from intermittent solar and wind power;
- 2. Improving grid stability in the LA basin by using the inertia of rotating generators for frequency support.
- Maintaining local generation is also important to guard against potential loss of transmission lines bringing in electricity from outside of the basin;
- 4. Eliminating ocean water cooling at SGS; and
- 5. Allowing LADWP to achieve its renewable energy and carbon reduction goals, as the use of green hydrogen does not produce carbon dioxide.

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President's Column

The year 2025 has been an eventful one for the Associates. Our January 2025, board meeting became a zoom meeting due to the Palisades Fire. We were bumped from our normal meeting room as it was being used as the emergency center for the Water System and our planned speaker from the Water System was involved with the response.

During the year, at our Board Meetings, we had presentations on the issues impacting the Power Distribution System, procedures that have been implemented in the Water Distribution System to improve efficiency and customer service, an update on the LA100 program, the perspective of the new Rate Payer Advocate, a presentation on the challenges facing the Department from our New Chief Executive Officer Janise Quiones, the current status of the Southern California Public Power Authority, an update on negotiations regarding the allocation of the Colorado River water, and the status of the 2026



Urban Water Management Plan. This has helped keep our Board up to date on the challenges and issues facing the reliable water and energy supply for Los Angeles and put us in a position to advocate for sound water and energy policies.

The Associates have played an active role in assisting the Department in the continuing refinement of the LA100 Plan. This has been done through providing the expertise of our members to the staff who are developing the plan and providing input at public workshops. The plan, which will be a living document, calls for a cleaner source of electricity, while still maintaining the reliability of the current system. It provides a road map for the investments and challenges that will be faced by the Power System in meeting the long-term goals of the plan within the schedule that has been established by the political leadership of Los Angeles without unacceptable increases in rates.

We also initiated an outreach to City Council Members to provide our experienced members perspective on the issues that will be facing the Department and the City as they seek to meet these challenging and expensive goals within the timeframes that have been proposed.

We look forward to the continued support of you, our members, as we seek to support the Department of Water in Power in its mission of providing reliable and cost-effective Water and Electricity to the residents of Los Angeles

Jerry Gewe, President

Some of the challenges still to be overcome include:

- 1. Identifying the source of green hydrogen. The infrastructure for a large-scale, reliable supply chain of green hydrogen currently does not exist and requires substantial costly investment. Also, the Trump administration recently canceled \$1.2 billion in federal funding for California's hydrogen hub, a public-private partnership to build a clean hydrogen economy and support projects like Scattergood. This move followed a decision earlier this summer to scale back federal tax credits nationally for hydrogen. The process of producing, storing, and converting green hydrogen is energy intensive and currently much more expensive than using traditional energy sources, or even direct use of renewable electricity with battery storage;
- 2. The use of hydrogen as a fuel also has safety concerns as hydrogen molecules are small, odorless, highly flammable and prone to leakage. Leaked hydrogen is an indirect greenhouse gas with global warming potential over ten times higher than carbon dioxide;
- 3. Hydrogen, as a fuel, burns at a higher temperature than natural gas. This produces more nitrogen oxides (NOx) than burning natural gas. This increased NOx leads to increased ground level ozone or smog. However, there are air quality control technologies that should be able to manage this; and
- 4. Using water to generate green hydrogen takes a small percentage of this precious resource away from other consumption needs for the water.



http://www.dreamstime.com/royalty-free-stock-images-green-hydrogenrenewable-energy-production-pipeline-gas-clean-electricity-solar-windturbinefacility-image250087709

SGS has been through several major changes over the decades. We will have to see how this modernization project will develop over the next few years.

Bureau of Reclamation Proposes "Action 5" to Increase Exports from the Delta

By Robert Yoshimura

Shortly after taking office in January 2025, President Donald J. Trump issued Executive Order (EO) 14181 titled "Emergency Measures to Provide Water Resources in California and Improve Disaster Response in Certain Areas". This was partly in response to the devastating Palisades wildfire that caused \$billions in damage and was inaccurately attributed to a shortage of water in local reservoirs. It was also a response to the long-standing problems California was experiencing in meeting water demands and building needed infrastructure to sustain water supply during increasingly frequent droughts.

In December 2025, the federal Bureau of Reclamation (BOR) adopted a plan, known as Action 5, to update the operations of the federal Central Valley Project (CVP) to increase water deliveries from the Delta to benefit farmlands in the San Joaquin Valley. According to the BOR, Action 5 will maintain protections for endangered fish species and is not expected to result in any significant negative effects to the environment.



Sacramento-San Joaquin Delta, USGS.gov

California's leaders, including its governor Gavin Newsom, responded to the BOR decision labeling it a "politically motivated decision" that caters to farmers and other big donors to President Trump. Three state agencies have warned that the proposed changes in operation of the Central Valley Project will have significant negative consequences for fish in the Delta. Of greater concern for Southern California's water agencies is the Department of Water Resources warning that Action 5 could force reductions in

deliveries to the State Water Project, likely in proportion to the increase in deliveries to the CVP. BOR does not agree that is the case and furthermore believes that concurrent increased water deliveries via the State Water Project are possible.

California's Attorney General Rob Bonta plans to explore all means to prevent the implementation of the BOR's unilateral action. In 2020, then Attorney General Xavier Becerra sued the Trump Administration over attempts to increase CVP water deliveries and was partially successful in blocking the new pumping rules.

Despite the concerns, agricultural water districts and domestic water agencies in Central and Southern California generally support this action. Federico Barajas, executive director of the San Luis & Delta-Mendota Water Authority pointed out that new regulations (pursuant to the Sustainable Groundwater Management Act) that limit the amount of groundwater pumping will require additional water sources to offset that loss.

The actions and proposed actions described here by both proponents and opponents of Action 5 are further complicated by parallel activities including updates to the Delta Plan and voluntary agreements between the State Water Resources Control Board and several water agencies. Both activities will affect the amount of water needed to sustain habitats in the Delta.

Further details from BOR are needed to fully understand the nature of water flow changes under Action 5. Those details and the California state agencies' response to the BOR proposal will determine what impact Action 5 will have on Southern California's water supplies. A follow-up will be provided in the next newsletter if additional details become available.

DOE Selects Organizations to Advance Deployment of Small Modular Nuclear Reactors

Excerpted by William Glauz from:

https://www.energy.gov/articles/energy-department-selects-tva-and-holtec-advance-deployment-us-small-modular-reactors

On December 2, 2025, the U.S. Department of Energy (DOE) announced the selection of the Tennessee Valley Authority (TVA) and Holtec Government Services (Holtec) to support early deployments of advanced light-water small modular reactors (SMRs) in the United States. These two project teams will receive up to \$800 million in federal cost-shared funding to advance initial projects in Tennessee and Michigan and help expand the Nation's capacity while facilitating additional follow-on projects and associated supply chains. These selections will help deliver new nuclear generation in the early 2030s and strengthen domestic supply chains, while advancing technology for nuclear energy development.

DOE is supporting the following first-mover teams to develop and construct the first Gen III+ small modular reactor (Gen III+ SMR) plants in the United States:

TVA - \$400,000,000

TVA plans to advance deployment of a GE Vernova Hitachi BWRX-300 at the Clinch River Nuclear site in Tennessee, as well as accelerate the deployment of additional units with Indiana Michigan Power and Elementl. Additionally, TVA plans to work with the domestic nuclear supply chain partners Scot Forge, North American Forgemasters, BWX Technologies, and Aecon. Other partners supporting the project include Duke Energy, Oak Ridge Associated Universities, and the Electric Power Research Institute.



US Department of Energy

Holtec - \$400,000,000

Holtec plans to deploy two SMR-300 reactors at the Palisades Nuclear Generating Station site in Covert, Michigan, demonstrating viability for additional orders both domestically and abroad.

Holtec is pursuing an innovative one-stop-shop approach to SMR deployment by fulfilling the roles of technology vendor, supply chain vendor, nuclear plant constructor in partnership with Hyundai Engineering & Construction, plant operator, and electricity merchant selling the power to near-by utilities and end-users.

Small modular reactors offer flexible deployment, proven technology, and the ability to leverage existing supply chains, making them one of the fastest and most scalable pathways to new nuclear capacity.

In March 2025, DOE issued a \$900 million solicitation to de-risk the deployment of Gen III+ SMRs, from which this \$800 million award is derived. The remaining \$100 million will be awarded in late 2025 to support additional deployments and address key barriers in design, licensing, supply chain, and site readiness.

Covering Canals with Solar Panels

By Jerry Gewe

In September of this year the Turlock Irrigation District (TID) began testing irrigation canals that were covered with solar panels with a goal of determining how much energy could be obtained and the operational issues that might be encountered.

This project called "Project Nexus" is a partnership between TID, the California Department of Water Resources, the University of California, Merced, and a development firm, Solar AquaGrid.

The goal of this project was to develop a proof of concept using solar covers over both narrow (25 ft.) and wide (115 ft.) canals of TID. The goals of the project were to:

- (1) Determine available power generation that could be obtained;
- (2) Determine the impact of the covers on water evaporation from canals;
- (3) Experience water quality improvements; and
- (4) Reduce vegetative growth in the canals.



This project is designed as a "proof of concept" to determine if this type of installation could be used on the many miles of water canals in California (most of which are agricultural canals used for irrigation of crops).

Initial studies indicated that if successful these types of photovoltaic covers could provide benefits beyond electrical generation including conserving land through installing the facilities over existing infrastructure, conserving water by reducing evaporation, lowering

maintenance costs by reducing weed and algae growth in the canals, and improving the efficiency of the solar panels through the cooling effect of the water below.

It is anticipated that the two installations (1,700 feet of panels) will generate a total of 1.6 MW of power.

LADWP will be evaluating the results from this project to determine if it might be feasible to incorporate this infrastructure on the uncovered portion of the LA Aqueduct that runs from the Aqueduct Intake to Haiwee Reservoir.

LADWP Expands Demand Response Programs

By William Glauz

On October 28, 2025, the Los Angeles Board of Water and Power Commissioners approved a \$195 million investment to expand LADWP's Demand Response (DR) portfolio and create new programs that aim to increase the department's current performance-based capacity from 80 MW to 340 MW. This investment, through 2031, marks a significant step forward in the Department's comprehensive strategy to transition to 100 percent clean energy while ensuring grid reliability and bill affordability.

Homeowners and businesses will have greater opportunities to conserve energy and save money on their electric bills, especially during periods of high demand, through the following programs available in 2026:

Power Savers Program Expansion

Power Savers is an energy management program for residential and small commercial customers that allows LADWP to remotely adjust a customer's thermostat up to 4 degrees during the high energy-use season. LADWP will expand the program from 42 MW performance-based capacity to 100 MW.

Commercial and Industrial Demand Response Program Expansion

C&I customers receive monthly payments in return for providing kW load reduction of a prespecified amount when requested by LADWP. This program will be expanded from 38 MW to 220 MW.

New Commercial Electric Vehicle Managed Charging

LADWP will add 5 MW of capacity by incentivizing commercial EV operators to charge their vehicles more efficiently and maximize benefits of managed charging for the businesses through advanced technology.

New Residential Electric Vehicle (EV) Managed Charging Program

LADWP will add 10 MW of capacity by incentivizing homeowners to charge their EVs during off-peak hours while saving money on energy costs.

New Internet-of-Things Device Based DR Program

Adding 5 MW of capacity by enrolling smart devices like refrigerators, dryers, washing machines, and window air conditioning units to reduce energy use during peak times.

In addition to these new programs, LADWP is also investing in a centralized Demand Response Management System (DRMS). This modern integration platform will enhance how LADWP monitors and manages demand. The DRMS will give operators better tools to coordinate resources during peak periods, improving reliability, responsiveness, and overall grid efficiency. While distinct from customer-facing programs, this new system is a key foundation for optimizing LADWP's entire demand response portfolio and supporting Los Angeles' clean energy transition.

These demand response programs will allow LADWP's customers to manage their electricity use more efficiently and reduce their electrical bills and also help LADWP protect their electrical infrastructure during high electricity demand.

California's Battery Storage Fleet Continues Record Growth, Strengthening Grid Reliability

Excerpted by William Glauz from:

https://www.energy.ca.gov/news/2025-11/californias-battery-storage-fleet-continues-record-growth-strengthening-grid

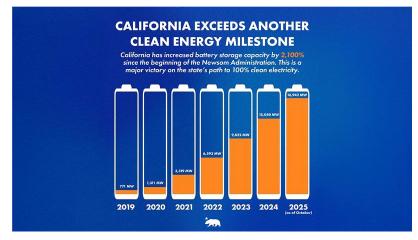
California has reached 16,942 megawatts (MW) of battery storage available — a massive buildout that's redefining grid reliability and accelerating the state's transition to 100% clean energy.

The new total marks an increase of about 1,200 MW in the past six months and a 2,100% surge in storage capacity since 2019.

Battery storage acts as a critical bridge between clean energy and reliability. By capturing excess solar and wind power when it's plentiful and releasing it when demand peaks, batteries keep the grid stable and make it possible to rely on renewable energy around the clock. California has now gone three years in a row without calling a Flex Alert for voluntary conservation – a testament to building the state's strong battery storage fleet.

Of California's total energy storage capacity, 13,880 MW come from large utility-scale projects, while the rest is from behind-the-meter battery systems installed on more than 200,000 homes (2,213 MW) and businesses, schools and local government facilities (849 MW). These smaller systems collectively account for a significant resource that can reduce demand during high-use periods, providing new ways to keep the grid balanced in real time.

California has more installed battery capacity than every other jurisdiction on the planet except for China. Within the United States, California leads all states in installed storage capacity, followed by Texas with roughly 9,000 MW.



Clean energy is now the cheapest source of electricity generation globally and the cost of battery storage has fallen by 93% since 2010.

Battery storage has already changed how California weathers extreme heat and demand surges. When unprecedented heatwaves hit the state in 2020 and 2022, it exposed the need for more flexible energy resources. State agencies, utilities and grid operators coordinated efforts to help procure and deploy more battery storage as quickly as possible.

Those investments are paying off. As mentioned above, the state has not issued a Flex Alert — an emergency call for public electricity conservation — since 2022. Battery storage has allowed the grid to ride through record-breaking heat and extreme weather without outages. In fact, the summer of 2024 was California's hottest on record according to the National Oceanic and Atmospheric Administration, yet the grid held strong with zero flex alerts issued.

Battery systems now provide enough capacity to meet the equivalent of roughly one-quarter of California's record peak demand for several hours.

Safe development and operation of battery storage systems have been, and remains, a top priority for California energy agencies. Last September, a cross-agency collaboration was developed to improve safety as technology continues evolving. Key initiatives include an update to the California Fire Code happening this year, expected to include enhanced Battery Energy Storage System (BESS) safety standards. The California Public Utilities Commission voted in March to require new safety protocols for the maintenance and operation of BESS facilities. The Governor also recently signed Senate Bill 283, which will require battery storage developers to engage with local fire authorities to address facility design, assess risks, and integrate emergency response plans. These and other ongoing efforts are based on the latest studies and consultation with experts to keep California at the forefront of safe and reliable battery storage technology deployment.

Battery energy storage systems have an increasingly strong safety record. While a few high-profile fires have drawn attention, such incidents remain extremely rare compared to the thousands of systems deployed worldwide. Construction standards have evolved, with current battery storage units built outside with fireproof panels separating battery packs and robust heat sensing technology installed for early detection of potential fire risk.

The rapid expansion of California battery storage is central to its strategy for reaching the goal of 100 percent clean electricity by 2045. Renewable energy



LADWP BESS at Beacon Solar

already supplies nearly 67 percent of in-state retail electricity sales, and California continues to retire fossil-fuel plants and will eliminate coal power from its electricity mix by the end of this year. The California Independent System Operator — which serves roughly 80 percent of the state's electricity consumers — has, on average, met demand with 100 percent clean energy for nearly six hours every day so far this year.

Mystery History Questions

Presented by Jack Feldman 🚡





A 1928 view of an early Los Angeles Aqueduct hydroelectric facility, showing the powerhouse in the canyon, the 115 kV transmission tower in the foreground, and the steep penstocks carrying highpressure water down to the turbines. Completed in the 1910s, it was the first hydroelectric powerhouse built by the City of Los Angeles to deliver commercial electricity to its residents. Remarkably, this historic facility still operates today, more than a century after it first began generating power.

1. Where along the Los Angeles Aqueduct system was this hydroelectric plant located?

- A) Owens Valley
- B) Mono Basin
- C) San Francisquito Canyon
- D) San Fernando Valley

2. What is the name of the hydroelectric plant shown in this 1928 photograph?

- A) Division Creek Power Plant
- B) Power Plant No. 1
- C) Cottonwood Power Plant
- D) Kern River No. 1

3. What made this hydroelectric plant historically significant?

- A) It was the first private power plant in Southern California
- B) It supplied electricity only to Owens Valley construction camps
- C) It was the first hydroelectric powerhouse built by the City to deliver commercial electricity to Los Angeles residents
- D) It provided backup power for Los Angeles Harbor

4. When the plant first opened in 1917, how much of Los Angeles's power demand did it supply?

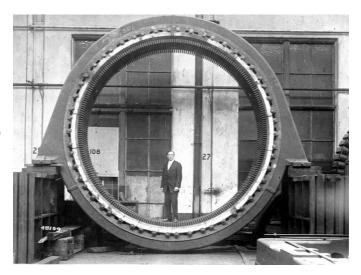
- A) About 10%
- B) Around 35%
- C) More than 70%
- D) Nearly 100%

5. This hydroelectric plant is still in operation today. On average, what percentage of Los Angeles's power needs does it supply now?

- A) About 10%
- B) Around 3%
- C) Close to 1%
- D) Less than 0.1%

Mystery History Bonus Question

Hydroelectric powerhouses along the aqueduct required enormous machinery to convert falling water into electricity. In this 1916 photograph, a worker stands inside a massive circular component being assembled, illustrating the immense scale of the early hydroelectric machinery on the Los Angeles Aqueduct.



6. What part of the hydroelectric machinery is he standing inside?

- A) The main water inlet for the penstocks
- B) The stationary portion of the generator
- C) The housing for the Pelton wheel buckets
- D) A pressure-relief chamber for the outlet tunnels

Think you got them all right?

Check your answers and explore more about Los Angeles's early hydroelectric power system at:

https://waterandpower.org/museum/Electricity%20on%20the%20Aqueduct.html

Also, see answers on Page 19

GUEST SPEAKERS

Summaries by Robert Yoshimura

GUEST OF THE MONTH OCTOBER 2025

DANIEL GARCIA, EXECUTIVE DIRECTOR SOUTHERN CALIFORNIA PUBLIC POWER AUTHORITY CURRENT ACTIVITIES AND ACHIEVEMENTS

The Southern California Public Power Authority was established in 1980 and is celebrating its 45th anniversary this year. Its purpose is to provide joint planning, financing, construction, and operation of transmission and generation projects to benefit its 12 member agencies. The membership consists of 11 municipal utilities and one irrigation district. The member agencies are shown in the box below.

The membership roster is fixed, and no new members will be added. However, SCPPA is considering associate memberships for Community Choice Aggregators who provide clean energy to many of the members.

SCPPA is governed by a 12-member board of directors. Each member agency is represented by its CEO or a designated utility company official. Governing documents include the Joint Exercise of Powers Act, a Joint Powers Agreement, By-laws, and resolutions adopted by the Board of Directors.

Over the years since its inception, SCPPA's project portfolio has grown to a total of 40 facilities located in nine western and southwestern states. The projects are heavily focused on generation but also include some storage and transmission facilities as well. Generation projects are largely renewable energy facilities such as solar, wind, and geothermal.



- 1. City of Anaheim
- 2. City of Azusa
- 3. City of Banning
- 4. City of Burbank
- 5. City of Cerritos
- 6. City of Colton
- 7. City of Glendale
- 8. Imperial Irrigation District
- 9. City of Los Angeles
- 10. City of Pasadena
- 11. City of Riverside
- 12. City of Vernon

All of the member agencies are facing similar challenges that include decarbonization and the need to accommodate electrification, changing technology and aging infrastructure, maintaining affordability, loss of local control, an aging workforce, supply chain issues, and cybersecurity. SCPPA expects to play an important role in helping the member agencies to overcome those challenges.

Some of the member agencies have set timelines for achievement of renewable energy goals that are more ambitious than required by SB 100. However, Daniel anticipates that some adjustments to those timelines are likely because of the need to maintain affordability.

The member agencies' transition to clean and renewable energy sources has changed SCPPA's approach to procurement of such sources. SCPPA's Board and key staff recently engaged in a discussion of strategic initiatives to define the clean energy landscape. That landscape is complex because of many factors. Resources and technologies are numerous and wide-ranging but SCPPA's focus is guided by the need to be affordable, reliable, and clean. Technologies include solar and wind, biomass, landfill gas, geothermal, and hydropower. Two member agencies have also included nuclear in their integrated resources plans and feel that this is a viable alternative.

SCPPA is moving away from building its own facilities because of the emergence of private energy developers who have the advantage of economies of scale. Even so, the clean energy marketplace currently favors sellers, thus buyers are now asked to assume more of the risk of pricing, regulatory changes, supply chain issues, etc. Future procurement is likely to occur via Purchased Power Agreements (PPAs) rather than by construction of generation/transmission projects and member agencies will continue to receive pricing benefits from the joint procurement process.

SCPPA is currently working on 9 projects, mostly solar and wind, and mostly PPAs. Of the nine, 5 are in California, 3 in Utah, and 1 in Arizona. Additionally, 4 projects are effectively operational or are achieving their Commercial Operating Date (COD) which is the formal transition from construction to operation. There are also 14 renewable projects and nine standalone energy storage projects on SCPPA's backup/shortlist for future development.

Projects that were recently extended or have achieved COD include Eland 1 and Eland 2, both of which are solar energy and storage projects located near Barren Ridge CA. Both projects combine 200 MW of AC solar generation with 150 MW/ 600 MWh of battery storage. The Heber 1 Geothermal project is an existing facility that was recently repowered for 52 MW of generation and its PPA has been extended for 25 years to 2052. It is in Imperial Valley CA. While SCPPA continues to seek stand-alone storage projects, there are no pumped-storage projects on their horizon.

The pricing outlook for new renewable energy projects is disappointingly high. Solar projects will cost from the mid \$40s to the high \$50s per MWh. Wind will cost over \$100 per MWh. Because of political pressure to aggressively transition to renewable energy, the demand is high, and the previously mentioned seller's market now drives prices in the renewable energy industry. Other factors contributing to such higher costs include rising property tax rates for solar development, elimination of federal tax credits, tariff volatility, permitting costs, and other such hurdles. Geothermal generation is still active in California, Nevada, and Utah, but pricing has increased compared to pre-pandemic levels. Battery Energy Storage System (BESS) costs range from the low \$10s to the high \$10s per KW-month. Unfortunately for SCPPA and the entire electric power industry, the transition to renewable energy is likely to cost more than now expected.

GUEST OF THE MONTH NOVEMBER 2025

BILL HASENCAMP METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA (MWD) UPDATE ON COLORADO RIVER NEGOTIATIONS

Veteran's Day 2025 was the official deadline established by the US Bureau of Reclamation (BOR) for agreement in principle on new permanent guidelines for the operation of the Colorado River. The seven basin states involved have been negotiating for two years trying to come up with a replacement for the 2007 interim guidelines that expire at the end of next year (officially at the end of water year 2026 which began in October and extends through September). No deal has been made, and national media have been quick to point out the "failure" of the negotiating process. However, the next deadline is Valentine's Day 2026 when details of the agreement must be announced. The seven basin states have agreed to meet every Monday to reach an agreement by then.



Water allocations to the seven basin states were first established in the Colorado River Compact signed in 1922. The Compact guaranteed water rights to the seven states with an equal allocation of 7.5 million acre-feet per year (MAFY) each to the upper basin (Colorado, Wyoming, Utah, and New Mexico) and lower basin (Arizona, Nevada, and California). An additional allocation of 1.5 MAFY was later made via a treaty with Mexico. MWD was formed in 1928 for the sole purpose of building the Colorado

River Aqueduct to provide a reliable water supply for Southern California. The Aqueduct was completed in 1941 and began delivering water and hydroelectric power that year.

From 1941 until 2000, California was able to take as much water as it wanted because the other states did not yet need the water. Within California, MWD receives 12 percent of the state's 4.4 MAFY allocation. The other 88 percent goes to irrigation districts in southeastern California. However, as the junior right-holder, MWD is granted all the surplus water from the Colorado River when available.

In 2000, several things occurred that upset the traditional operation of the Colorado River. First, a major drought began that cut River flows substantially. Second, Nevada and Arizona water usage reached their respective maximum allocations and thus eliminated the surplus previously available to California and MWD. Third, because MWD was taking all the surplus available to California, it was forced to reduce the amount of water taken from the Colorado River by 700,000 AFY to enable the state to stay within its 4.4 MAFY allocation.

In 2003, the lower basin states voluntarily and unilaterally agreed to cut 1.5 MAFY total from their allocation. That cut was divided among the states as follows: California 10 percent, Nevada 16 percent, and Arizona 28 percent. The lower basin further proposed that if cuts greater than 1.5 MAFY were needed in the future, the additional cuts would be equally divided among both the upper and lower basins. Unfortunately, the upper basin states rejected that proposal, arguing that because the lower basin states have used much more than the upper basin states, they should bear the brunt of the cuts. Needless to say, no agreement could be reached at that time.

The drought continued to worsen and caused an alarming drop in the elevation of Lake Mead (the lake formed by Hoover Dam and from which the lower basin states withdraw their share of the Colorado River water). Consequently, in 2007, the lower basin states agreed to interim guidelines for their operations (involving no action by the upper basin) that would result in cuts in deliveries to Arizona, Nevada, and Mexico but not California. The guidelines were structured to trigger those cuts based on the elevation of water in Lake Mead. The agreement was acceptable to the states other than California because California holds the senior right to water within the lower basin.

As is the case in California, most of the water from the Colorado River is used in other states by agriculture. Consequently, if significant further reductions in water use are to be achieved, agricultural users will have to do more. Federal funding for water conservation is available under the Infrastructure Act, however, much of that funding is being used for temporary conservation programs such as fallowing land. A more useful application of that money would be to construct permanent conservation facilities such as concrete lining of irrigation canals, and installation of sprinkler systems.

The elevation of water in Lake Mead has been relatively stable over the last few years and currently sits at 1055 feet. Dead pool occurs at 950 feet, below which no more water can be extracted and no power can be generated. The lowest elevation since the lake was filled occurred three years ago when it dropped to 1042 feet. MWD recently learned that a 70 percent reduction in power generation will occur below 1035 feet because the old turbines were not designed for use at that elevation and can no longer be used. Only four newer turbines were designed for low elevation operation. Such a loss in generation capacity would cause a significant cost to power utilities and their customers in Southern California.

After the seven basin states reach an agreement on permanent operational guidelines, the Bureau of Reclamation will negotiate a separate agreement with Mexico that will appropriately reduce the usage of water by the two affected states within Mexico. If the seven basin states cannot reach agreement, the BOR will impose its own guidelines on the seven states that may or may not include input of the users. MWD and California are concerned that such an imposition of rules may not be favorable to California and are thus focused on achieving a negotiated agreement by next summer.

GUESTS OF THE MONTH DECEMBER 2025

Sabrina Tsui, Manager of Resource Development Ben Wong, Manager of Strategic Planning, & Kharla Pimentel (Presenter) Water Resources Division Los Angeles Department of Water & Power

2025 URBAN WATER MANAGEMENT PLAN (UWMP)

Summary by Robert Yoshimura

A severe drought in California in the late 1970s overwhelmed the state's water agencies and exposed their lack of preparedness for such climate events. In response, the state's leaders enacted the Urban Water Management Planning Act of 1983 which requires each water agency serving more than 3,000 customers or 3,000 AF/Y of water to submit an UWMP every five years that includes the following information:

- An assessment of the reliability of water sources over a 20-year or 25-year (optional) planning time frame;
- A description of demand management measures;
- · A discussion of the use and planned use of recycled water; and
- A water shortage contingency plan.

The plan must be submitted to the California Department of Water Resources by July 2026 and is required to qualify for state loans and grants, of which LADWP has received and will continue to receive hundreds of millions of dollars for its ongoing and future projects. The UWMP will consolidate multiple planning efforts into a single plan that looks forward 25 years. LADWP has chosen the optional 5 years, so the 2025 UWMP will extend through 2050. The last UWMP for Los Angeles was completed in 2020



Water supply reliability is assessed under four

scenarios: Long-term assessments (2025 -2050 in five-year increments) must include average year hydrology, single dry year hydrology, and multiple dry year (5 years) hydrology. A nearterm assessment (2025-2030 in one-year increments) must include a drought risk assessment for that time span.

Water demand in Los Angeles has steadily declined from 650,000 Acre-Feet per Year (AFY) in 2000 to less than 450,000 AFY today due largely to declines in per capita consumption. Demand forecasts reflect these trends and anticipate gradually rising total water use over the next 25 years. The rising usage reflects the impact of expected population growth which will partially offset the declines in per capita consumption. Population forecasts developed by the Southern California Association of Governments (SCAG) show a slower growth rate today compared to their forecasts in 2020, and a lower starting point reflecting the significant decline in population between 2019 and 2023. The current forecast for Los Angeles predicts a population in 2045 of 4.3 million people compared to nearly 4.9 million forecasted five years ago.

A new component of UWMPs added by regulatory action in January 2025 are the Urban Water Use Objectives (UWUO) which require the development of water budgets for several categories of use. The categories include indoor and outdoor residential budgets, commercial, industrial, and institutional dedicated-irrigation-meter water budgets, water loss budgets, and any applicable adjustments. The budgets for each category are targets expected to be met by 2030.

LADWP is fortunate to have a large and diverse portfolio of water sources to draw from including the Los Angeles Aqueduct, the Colorado River Aqueduct, the State Water Project, Local Groundwater, and other sources such as recycled water, conservation, and stormwater capture. However, each source has its challenges that must be addressed. LADWP has partnered with UCLA to assess the water supply conditions affecting the LA Aqueduct. That assessment has concluded that the eastern California region is most likely to experience climate change impacts compared to the other sources. These impacts will require focused planning to mitigate their impacts and accommodate specific strategies into LADWP's operating plans.

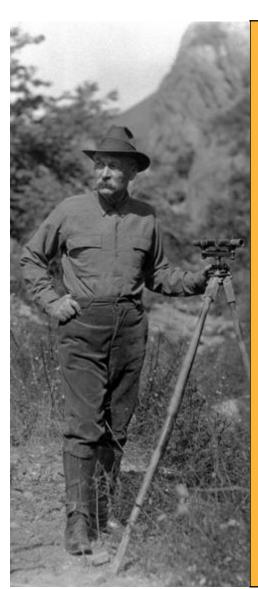
The Colorado River is facing the expiration of the Interim Operating Guidelines next year and MWD is working to formulate and negotiate new permanent guidelines in the coming few months. The State Water Project is facing uncertainties regarding its future operations and recently published a report addressing those uncertainties. Groundwater contamination in the San Fernando Basin has been a long-term problem for which the completion of treatment facilities this year will enable LADWP to again extract its full allotment of water after more than 25 years of limited usage.

LADWP has been developing the Groundwater Replenishment Project (GWRP) that will take highly treated reclaimed water from the Tillman Reclamation Plant in the southwest corner of the San Fernando Valley and pump it to the Hansen Spreading Grounds in the northeast part of the Valley. The GWRP is now under construction and when completed it will increase the amount of groundwater available for pumping into the distribution system.

Pure Water Los Angeles is another water recycling project now in the planning stages that will enable reuse of most of the effluent from the City's Hyperion Water Reclamation Plant. This ambitious project will significantly increase the water supply for Los Angeles while significantly decreasing the discharge of wastewater into Santa Monica Bay. The Master Plan for Pure Water Los Angeles was released in March 2025, and a programmatic environmental impact report is now in development.

A final requirement is the Water Shortage Contingency Plan that is a stand-alone document to be included in the UWMP. That document was created by LADWP and includes 1) a process to identify and respond to shortages, 2) the identification of six water shortage levels, and 3) identifies response actions that may be implemented to respond to shortages.

The 2025 UWMP is still in development. In 2025, the development process has included coordination meetings with MWD and stakeholder outreach efforts to gain broad input into the plan. The draft UWMP will be released early in 2026, followed by public hearings and a public comment period. The plan will subsequently be finalized and submitted to the Department of Water Resources by July 1, 2026.



Mystery History Answers

Answer Key

- 1. Where along the Los Angeles Aqueduct system was this hydroelectric plant located?
 - C) San Francisquito Canyon
- 2. What is the name of the hydroelectric plant shown in this 1928 photograph?
 - ✓ B) Power Plant No. 1
- 3. What made this hydroelectric plant historically significant?
 - ✓ C) It was the first hydroelectric powerhouse built by the City to deliver commercial electricity to Los Angeles residents
- 4. When the plant first opened in 1917, how much of Los Angeles's power demand did it supply?
 - C) More than 70%
- 5. This hydroelectric plant is still in operation today. On average, what percentage of Los Angeles's power needs does it supply now?
 - C) Close to 1%

(actual average ~0.5%, depending on water availability)

- 6. What part of the hydroelectric machinery is he standing inside?
 - **☑** B) The stationary portion of the generator

For additional information click:

https://waterandpower.org/museum/Electricity%20on%20the%20Aqueduct.html

SAVE THE DATE

2026 CALENDAR

GUEST OF THE MONTH

Meetings in Person Room 1471, JFB and Via Zoom, Check your WPA Emails for the Zoom Link



AUSTIN BEUTNER	JANUARY 14, 2026	
Former Interim GM - LADWP	Issues Facing Los Angeles	
LA Mayoral Candidate		
ANNUAL MEETING	FEBRUARY 21, 2026	
DAVE HANSON	Major issues facing	
Assitant GM - Power	the Power System	
LADWP		
ANSELMO COLLINS	MARCH 11, 2026	
Assitant GM - Water	Major issues facing	
LADWP	the Water System	
To Be Determined	APRIL 8, 2026	

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