

From the President . . .

The current population of California is estimated to be 38,715,000. Our population in the year 2020 is estimated to be 42,305,000 plus or minus, while that of the city of Los Angeles is estimated to be something over 4 million and L.A. county's population close to 10 and a quarter million. Why do I use these rather dry numbers? If you pardon the pun, it is because, I ask, "Where do we get enough water to drink, to swim and do all the other things that require water?" Simply put, we need more water, if not today then in the near future. Where is it coming from? Well, the California Water Fix people, through the Metropolitan Water District, are working on that.

In one of their documents we see the following language, "about 30% of the water that flows out of taps in Southern California homes and businesses comes from Northern California watersheds and flows through the Sacramento – San Joaquin Delta. But the Delta's declining echo system and 1,100 miles of levees are increasingly vulnerable to earthquakes, flooding, saltwater intrusion, climate change and further environmental degradation."

The California Water Fix people have a project for MWD's consideration, "the proposed project will improve the security of our water system by fixing aging infrastructure and constructing new state of the art facilities using innovative technologies and engineering practices".

The document further states "significant planning work has already been performed."

Why do I mention all of this rather dry stuff, if you pardon the choice of words? It is because, simply put, we need more water and we will continue to need more water in the future. California's population is growing, and I have not seen anything that says that population will stop at 42 million in 2020. What about 10 years from then? What will be the state of affairs in 2030? If you think about it that's not really that far away.

All of us need to be aware of these issues and support those solutions which will give us real assurance that we will have the water we need now and in the future.

As always, I invite your thoughts.

Edward Schlotman

Plan to expand California electricity grid powers up for third time in as many years



For the third time in three years, California energy officials are working to expand governance of the electric power grid to become a regional function covering as many as 14 states.

Opponents of the plan, which would fundamentally rewrite how electricity is managed across most of the West, are once again steeling for a fight.

Gov. Jerry Brown and key lawmakers are meeting with utility interests, labor groups and other stakeholders to build support for what's called a regional transmission organization, or RTO.

Promoters of the expanded-grid concept say a multi-state system would allow California to sell excess renewable power like solar or wind to other states that rely on electricity generated by heavier polluters like coal and natural gas. They also say it will save money, create jobs and protect the environment.

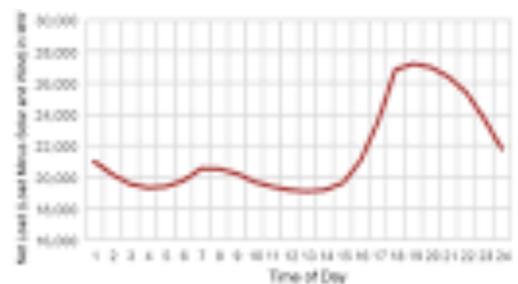
"Integrating clean, renewable energy on a coordinated Western grid more effectively uses resources and will reduce greenhouse gas emissions," said Kellie Smith, chief consultant to the Utilities and Energy Committee, chaired by Assemblyman Chris Holden, D-Pasadena. *(Continued on page 2)*

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Plan to
expand
California
electricity grid



(Continued from page 1) “This also allows for a broader mix of renewables across the western region and provides tangible economic benefits by allowing for the export of unused renewable power, like solar, throughout the region,” Smith said in an email.

Holden has been circulating draft language for a bill that would create a regional grid to supplant the work of the California Independent System Operator, or CAISO, the Folsom-based nonprofit that now controls most of the state’s power grid.

Members of the CAISO board of directors are appointed by the governor. The RTO would be overseen by a board that answers to the U.S. Federal Energy Regulatory Commission.

Consumer advocates worry that marrying California to a regional system would cede state oversight of the transmission network to federal political appointees who do not always agree with California energy policies.

After Minnesota banned the import of coal-generated electricity, for example, federal judges ruled that the Midwest Independent System Operator had jurisdiction over how power is created — not state officials — and reversed the ban.

“Based on the evidence presented so far, we don’t see that turning the CAISO into a regional entity would produce compelling benefits for California ratepayers or the environment,” said Matthew Freedman, a staff attorney at The Utility Reform Network or TURN. “We remain deeply concerned about the potential risks to California’s sovereignty.”

The idea of a multi-state grid was first proposed as part of the 1990s legislation that deregulated the California energy market. It was suspended after electricity rates skyrocketed due to price manipulation by some traders and cost consumers tens of billions of dollars. *(Continued on page 3)*



Plan to expand California electricity grid powers up for third time in as many years

(Continued from page 2) Loretta Lynch, who served as the California Public Utilities Commission president during the state energy crisis of the early 2000s, said an expanded grid could again damage ratepayers by eroding their rights to participate in public hearings and access public records.

“The new Holden bill amendments are designed to make it look like California will retain some power over the new RTO board and also that some public participation will be mandated,” she said. “Talk about putting a finger on the scale of transparency ... this is more like an iron fist for secrecy.”

The regional grid plan was reintroduced in a 2015 bill that requires California to produce at least half of its electricity from renewable sources by 2030.

The effort stalled in 2016 amid concerns that it would take away California’s ability to dictate what sources of electricity it generates and consumes. Other states in the proposed RTO rely more heavily on power generated by coal and other fossil fuels.

Last September, in the final days of the 2017 session, the proposal was inserted into legislation on a Friday night without public deliberations. Holden withdrew the bill days later, after the proposal received media attention and consumer advocates and other groups protested.

The latest effort says it would “protect and preserve a state’s authority over matters regulated by the state, including procurement policy, resource planning and resource or transmission siting within the state.”

It also would delegate authority of grid operations to an RTO board, a structure that includes representatives of utility interests in other regions.

“What would change is the governing board, which would not be solely directed by California,” Smith said.

Holden’s answer to preserving some governance authority for California is creating a committee to advise the RTO board with three members appointed by the governor. His draft bill also would “limit conflicts of interest by prohibiting any member of the governing board from directly owning any interest in energy related assets.”

Lynch and other critics say that language does not go far enough to prevent abuses.

“Why put California at risk?” Lynch asked. “Why turn the clock back and embed in California law less transparency, no outright prohibitions against personally profiting from being on an RTO board and enabling those same people to make rules that profit their former employers?”

Jan Smutny-Jones is the chief executive at the Independent Energy Producers Association, a Sacramento trade association that supports a multi-state power grid. He called the Holden plan “a big win” and said it will not affect the role of the Federal Energy Regulatory Commission or California’s clean-energy laws.

“All other (regional operators) have less state involvement All are subject to FERC tariff approval,” he said. “It is important to stress that the FERC has expressed no interest in restricting California’s RPS (renewable power rules), GHG (greenhouse gas) goals or energy efficiency standards.”

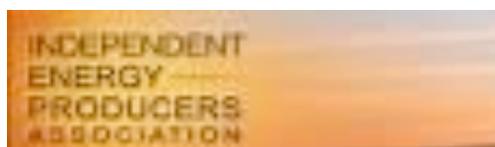
The regional grid plan would require approval from governors and lawmakers in the other participating states — support that was not immediately forthcoming when the idea was brought forward in 2016.

Regions that rely on fossil fuels to create most of their electricity worry that under a multi-state grid California could impose its environmental policies on them or seek to dictate what sources they could use to generate power.

In a Feb. 9 letter to a Utah lawmaker, attorneys in Salt Lake City offered to challenge California’s existing restrictions on coal-fired power — for \$2 million.

“California carbon emission offsets currently result in a \$28/ton adder for every ton of Utah coal used to generate electricity for export to California,” the confidential sales pitch from the Snell & Wilmer law firm states. “After 2027, California entirely bans the import of coal-fired generation.”

No decision on the expanded grid proposal is imminent. Comments on the draft legislation being circulated by Holden were due Wednesday [Feb. 28]. *ew*



Monthly Meeting

Members and guests are invited to join our Board of Directors meetings in Los Angeles at a luncheon meeting the second Wednesday of each month. 11:00 a.m.-- 1:30 p.m.

Contact any Board Member, or at comments@waterandpower.org, at least one week prior to insure sufficient meals and seating are arranged. ❖

Welcome Guests

Board meeting Guest speakers:
Wednesday, May 9, Bill Carnahan,, former interim Executive Director for the Los Angeles County Community Choice Aggregation District (now called the Los Angeles Community Choice Energy (LACCE)).
Wednesday June 12, Marvin Moon, LADWP Director of Power Engineering, will speak on “The Role of Electric Vehicles and Solar Energy in the Power System of the Future”.



James C. Barner
 Manager of Integrated Resource planning LADWP Power System



Jenny Chow
 Guest of WAPA Member, Alice Lipscomb,



George A. Higgins
 Anesthetist



Donna Schlotman
 Wife of WAPA President Edward Schlotman



Gurcharan S. Bawa
 General Manager Pasadena Water and Power. He is very knowledgeable about environmental issues and he represents Pasadena Water and Power before the Federal Energy Commission and other governmental agencies.



Hal Eaton
 great grandson of *Fred Eaton, former Mayor of Los Angeles*, an engineer and previous head of the Los Angeles Department of Water and Power Water System



Eric R. Klinkner
 Deputy General Manager and Chief Deputy, Pasadena Water and Power, an expert in utility financial planning; prior worked in LADWP Resource Planning



Jay M. Negrin
 Los Angeles Department of Water and Power, Water Quality



Fernando Paludi,
 Associate General Manager, West Basin Metropolitan Water District





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mystery HISTORY



By Jack Feldman



(1960s) - This view is looking northwest toward the newly constructed Music Center and DWP Building (JFB) as seen from the observation deck of City Hall.

In the foreground stand two well-known historic buildings, once located on the west side of Spring Street between 1st and Temple streets across from City Hall. The Gothic-style building at center-right was built in 1906 and demolished in 1973. The building at lower-left was built in 1931 and torn down in 1976.

What were the names of these two buildings?

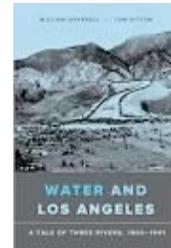
- a) LA County Courthouse
- b) California State Building
- c) Hall of Justice
- d) Federal Courthouse and U.S. Post Office Building
- e) Hall of Records

Answers at http://waterandpower.org/museum/Mystery_History.html

Visit our website at www.waterandpower.org
Electronic Newsletters are available to Associates members.
Send your requests and share your comments at
comments@waterandpower.org



By Abraham Hoffman, Ph.D.



William Deverell

WATER AND LOS ANGELES: A Tale of Three Rivers, 1900-1941 by William Deverell and Tom Sitton.

Berkeley: University of California Press, 2017.

158 pp. Illustrations, Maps, Notes, Selected Bibliography, Index. Paper, \$34.95.

www.ucpress.edu.

William Deverell and Tom Sitton have written authoritative studies on the history of southern California, collaborating on several books. Working together on the book under review, they provide a useful introduction to the ever-contentious history of Los Angeles's reliance on water and how the city has acquired it. Given the many studies on Los Angeles and water, the authors intend to relate how the city's growth between 1900 and 1941 relied on water acquisition. Their work is meant for both scholars and students. It combines a narrative with a large number of source documents, including correspondence, government reports, newspaper and magazine articles, and archival sources, especially items at the Huntington Library and the Claremont College Library.

The three rivers of the subtitle are the Los Angeles, Owens, and Colorado Rivers—the authors consider the San Gabriel River, though important, as outside the scope of the book. They divide their tale into three chapters, tracing the realization by Los Angeles politicians and businessmen that the Los Angeles River could not for long meet the needs of a fast-growing population. The solution they found lay some 250 miles away, in the Eastern Sierra—the Owens River, accessible by the construction of a gravity-flow aqueduct. The methods by which the city secured rights of Owens River water have been the subject of numerous books and articles, so the authors tell a familiar story, but one that is free of polemics and conspiracy theories. When the Owens River proved insufficient—the city's population topped a million by 1930—Los Angeles joined other southern California municipalities to create the Metropolitan Water District, resulting in the construction of the Colorado River Aqueduct.

The second chapter examines how Los Angeles dealt with the problem of flood control. Although currently suffering a prolonged drought (the rainfall season of 2016-2017 seems to have been an exception), the city's history is dotted with major destructive floods as the Los Angeles River overflowed its banks during huge rainstorms, destroying bridges and homes, killing people, and turning areas of the city into swampland. To harness the river, the Corps of Engineers tamed the river by cementing the channel and turning it into a concrete waterway that would become the butt of jokes—until a major storm would turn the river into a raging torrent manacled by its concrete corset. Thirsty as ever, the city supported construction of Boulder (later Hoover) Dam in the 1930s and the building of the Colorado River Aqueduct, though opponents cited the failure of the city's St. Francis Dam and the fear of increased taxes to pay for monstrous dams.

In Chapter 3 the authors assess the cost to the environment due to the moving of water from rivers out of their natural courses, and recent efforts made to mitigate the damage. Although the channels and aqueducts have been hailed as engineering marvels and the epitome of modern technology, bitterness among Owens Valley residents has simmered for decades over the "theft" of their water, the alkali dust blown from the dry Owens Lake, and the destruction of the region's agricultural economy. The Colorado River, divided among seven states in a compact created in 1922, was done in a wet period followed by the reality that the river cannot provide the amount of water the agreement allocated. (Continued on page 7)



Book Review

WATER AND LOS ANGELES: A Tale of Three Rivers, 1900-1941, by William Deverell and Tom Sitton.

(Continued from page 6)

An epilogue explores the challenges that lay ahead for Los Angeles and the Metropolitan Water District in supplying water for a southern California that now numbers some 18 million residents. “Environmental awareness and environmental sustainability will go hand in hand with greater awareness of water’s preciousness and scarcity,” observe the authors. “We think historical knowledge is required in order to gain that kind of critical perspective” (p. 141).

Since the authors suggest their book would be useful for students in gaining an informed view of Los Angeles’s water history, it should be noted there are some limitations in its coverage. The documents are a sampling of the contemporary views on use of the rivers. Other than the Los Angeles Times, no other local newspapers which would offer editorials and articles appear in the text. In the period covered by the book, Los Angeles newspapers included the Examiner, Herald, Evening News, Record, Express, Post, Tribune, and Illustrated Daily News, all of them providing varying views on water issues. Many of the documents are from collections in the Huntington Library, an institution well known **of** its reluctance to permit undergraduates to do research there. The bibliography lists important and well-researched books, but only one article from an academic journal

—and many important articles have been published on southern California’s relationship with its water supply. Andrae Nordskog’s notorious 1934 pamphlet, *Communication to the California Legislature Relating to the Owens Valley Water Situation*, which because of the State Seal on its cover has led careless researchers for decades to believe it is an official state document, isn’t mentioned, nor is Nordskog’s Southwest Water League’s opposition to the construction of Boulder Dam (the Nordskog Papers are at the Oviatt Library at California State University, Northridge, and are open to student research). The authors could have advised student readers to think critically about the sources not only in this book but in the writings about Los Angeles water issues done by polemical and agenda-driven writers—beyond just commenting about the movie *Chinatown*.

Limitations aside, the authors have created an important book that should raise an informed awareness among scholars and students alike in studying the complexities of how water has been an integral component in the growth and development of Los Angeles. *ew*

Abraham Hoffman teaches history at Los Angeles Valley College.

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Jack Feldman



Book Review
Abraham Hoffman, PhD



Membership
Richard West

Cape Town South Africa: First Major City to Run Out of Water?



Cape Town is a port city of four million people on South Africa's southwest coast

The residents of Cape Town have endured a four-year-drought and a major population explosion over the past 23 years that have combined to reduce reservoir storage by more than 70% since the winter of 2015. In response, city officials have implemented strict water rationing requirements and prohibitions and limitations on a broad range of water uses. Additionally, they have identified a "Day Zero" when the municipal water supply system will be turned off. Subsequently, water will be available to residents at designated water distribution stations at the rate of 7 liters (slightly less than 2 gallons) per person per day. Each person will be required to take their containers to those stations daily to get their allotment of water.

Day Zero is triggered when the water stored in their six reservoirs drops below 13% of total capacity. It was initially set as April 12, 2018 but has been pushed back on several occasions due to the increasing success of the water conservation program.

Under the program, residents are limited to 50 liters (13 gallons) of water per person per day. By comparison, each resident of Los Angeles uses about 90 gallons of water per day.



Day Zero is currently expected to occur early in 2019, depending on the amount of rainfall in their upcoming winter (it is now mid-summer in South Africa). When it occurs, Cape Town would become the first major city in the world to run out of water. It is very likely that it won't be the last.

In California, we have experienced unusual and severe drought conditions in recent years in the face of a growing population and a failure to sufficiently expand our reservoir storage and water supply facilities to accommodate long-term droughts and population growth.

In a future article after Day Zero arrives in Cape Town, I will delve into the causes and consequences of their water crisis and look for applicable lessons for us. *RL*

By Robert Yoshimura



Ed. Note: Photos of 13 gallon home trash container and 90 gallon City waste container comparison are not to scale.

US Senators Oppose Trump's Plan to Sell Power Lines of TVA and Hydro Agencies



Leading U.S. Senators blasted the proposal by President Donald Trump to sell federally owned transmission lines of the Tennessee Valley Authority and three federal energy marketing administrations that market hydropower generated at federally owned dams. In its fiscal year 2019 budget request, released Feb. 12, the administration repeated

the proposal to divest transmission assets of the TVA, the Bonneville Power Administration, the Southwestern Power Administration and the Western Area Power Administration. *RL*

SNL, Feb. 13 Tennessee Valley Authority

Update on California WaterFix

See WAPA October 2017 article: *The Delta Water Fix*.

The Cal Fix Project, proposed to address water supply issues associated with exports from the Sacramento Bay-Delta, is approaching a critical juncture. The original project, with a capacity of 9,000 cfs, was to include the construction of three intakes, three pumping stations and two tunnels at a cost of about \$16 billion. Because many of the Central Valley Project Contractors declined to participate in funding the project, the Department of Water Resources has proposed constructing the project in phases This would reduce the supply from the first phase to 6,000 cfs while reducing the initial cost to about \$11 billion.

The second phase would be constructed at a later date when funds are available. Proponents believe that staging the project will allow it to move forward under the current environmental approvals and funding. This would provide significant improvement to water supply (at least maintaining the current supply), and provide

significant environmental benefits. These include helping aquatic species through reducing reverse flows in the Delta caused by the existing pumping facilities, and diverting the water further upstream from sensitive habitats. However, the reliability and environmental benefits will be less than would be achieved under the full project.

The Board of the Metropolitan Water District has asked for an analysis of MWD's providing funds needed to complete the full project in return for obtaining the additional supply benefits for Southern California. The Los Angeles City Council has taken a position that these proposals should not result in an increase in costs and/or a greater portion of the financing burden to Los Angeles ratepayers. Vital decisions regarding this project that will have a major impact on Southern California's future water reliability will be made this spring. A reliable water supply underlies our economy and way of life. *ew*



U.S. REGULATOR moves to clear market barriers for energy storage technology

WASHINGTON (Reuters) - In a boost for electric storage technology, the Federal Energy Regulatory Commission (FERC) on Thursday approved a new rule to remove barriers to batteries and other storage resources in U.S. power markets.

The FERC order will "enhance competition and promote greater efficiency in the nation's electric wholesale markets, and will help support the resilience of the bulk power system," the commission said in a statement.

The commission found in November 2016 that existing market rules that governed traditional electric generation resources created barriers to entry for electric storage technologies.

Thursday's decision changes the rules to "properly recognize the physical and operational characteristics of electric storage resources."

The market for energy storage is small, but growing as the costs of battery systems have fallen domestically. Batteries can help solve the intermittent nature of renewable energy - dependent on sun and wind - compared with more generation sources like gas and coal, which can run all the time.

Last month, FERC voted to reject a directive by Energy Secretary Rick Perry to consider a plan to subsidize coal and nuclear plants for what he said were their

contributions in making the power grid more reliable and resilient.

FERC ruled unanimously that such subsidies were unfair and could raise power bills for homeowners and business.

"I believe that new technologies like electric storage are an important part of our ongoing discussion of grid resilience," said one of five FERC commissioners, Robert Powelson.

Fellow commissioner Neil Chatterjee said eliminating barriers to battery storage technology will result in "greater reliability and lower costs for the American people."

Renewable energy executives welcomed the FERC decision, saying it will level the playing field with conventional electric generation sources.

"Solar [power] plus storage is getting near the point where it can compete with natural gas peakers and that's a really big deal because it's sort of the last stronghold for conventional thermal energy," said Tom Werner, CEO of SunPower Corp.

"What the FERC ruling allows is the most economic solution to be able to bid in and compete." *ew*

Reporting By Valerie Volcovici; additional reporting by Nichola Groom in Los Angeles; Editing by Susan Thomas

Our Standards: The Thomson Reuters Trust Principles.

Ucla study presents L.A. with a path to independence from imported water

Asma Mahdi | February 28, 2018

Los Angeles could reduce its dependence on imported water if it does a better job of capturing local storm water, increases the use of recycled water and takes other measures recommended in a new UCLA report.

During the height of the California drought that began in late 2011, Los Angeles imported 89 percent of its water from more than 200 miles away — an energy-intensive process. After a yearlong reprieve, Southern California is again under severe water scarcity conditions: Only 2 1/2 inches of rain have fallen in Los Angeles during the past 12 months.

This time around, could Los Angeles shift its dependence from imported water to local water? A new report by UCLA researchers says the city could, eventually — if it does a better job of capturing local stormwater, increases the use of recycled water, cleans up groundwater and steps up conservation measures.

“It will take a lot of work, but 100 percent local water is possible by 2050,” said Mark Gold, UCLA’s associate vice chancellor of environment and sustainability and one of the study’s authors. “Los Angeles needs to reduce local water demand while also transforming its water supply infrastructure to maximize recycled water, groundwater supply and stormwater capture.”

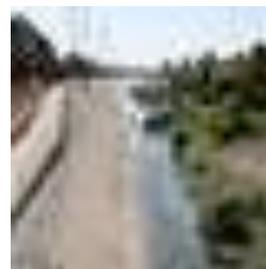
The report also suggests that the city could increase the supply of local water in groundwater basins, which the city uses as water storage reservoirs, by undertaking projects to improve the management of stormwater. Los Angeles also could bank recycled water or water imported from northern California or the Colorado River during times of plenty by letting it seep into groundwater basins.

The study, co-authored with researchers from the Colorado School of Mines, is the last in a four-part series on sustainable water management in the city of Los Angeles. This study assesses the water landscape of the entire city, taking into account greenhouse gas emissions, stormwater pollution, groundwater management, conservation and the costs and benefits of various city water supplies. The authors also offer several policy recommendations for the city.

“The key for Los Angeles to potentially reach water independence would be to simultaneously increase local

water supply while bringing down local demand for water,” said Katie Mika, a postdoctoral scholar at the UCLA Institute of the Environment and Sustainability and one of the study’s lead researchers.

The researchers analyzed various scenarios for capturing stormwater to increase, or “recharge,” local water supplies.



The Los Angeles River at the Glendale Narrows.

Katie Mika

“We learned through extensive modeling that every watershed is different, and as a result, different stormwater structural best management practice approaches are needed to achieve clean water and maximize groundwater recharge for each watershed,” said Terri Hogue, a professor at the Colorado School of Mines and co-lead author of the report.

According to the report, tens of thousands to hundreds of thousands of treatment and infiltration devices are needed throughout the watersheds to come close to meeting California water quality standards.

For example, the study found that in order to maximize water quality in the Dominguez Channel watershed, which spans 133 square miles in southern Los Angeles County, the city would need to install 65,000 bioretention basins — landscaped depressions or shallow basins used to slow and treat on-site stormwater runoff through physical, chemical and biological processes.

The researchers also determined that to achieve the best water quality in the Los Angeles River watershed, which covers 824 square miles and is the largest watershed in Los Angeles County, it could take 138,000 vegetated swales (shallow, sloped channels of vegetation) and 83,000 dry ponds (low-lying, depressed areas near rivers and lakes that typically are used to help clean stormwater). (*Continued on page 11*)

UCLA study presents L.A. with a path to independence from imported water

(Continued from page 10)

But large-scale implementation of small, structural runoff infiltration and treatment devices would be extremely difficult to complete over the next decade, the approximate time period for compliance with California water quality standards. Regional runoff infiltration and treatment solutions — like those in place in the city’s Echo Park and Machado Lake watersheds and at the Tujunga Spreading Grounds — would need to accompany the smaller measures, like distributed runoff treatment and infiltration devices.

“We’re already seeing Los Angeles take incremental steps toward local water, but more needs to be done, as we’ve seen from the backsliding on consumer water conservation rates once the state prematurely declared the drought was over,” Gold said. He added that climate change is already reducing water supplies from the Sierra Nevada snowpack and the Colorado River watershed.

Another important advantage of using more local water is that it would reduce the region’s demand for energy. Angelenos could lower the city’s greenhouse gas emissions from water supplies by up to 70 percent by reducing the use of imported water and increasing conservation rates, the study found.

The city has already taken some steps in that direction: In 2014, Los Angeles Mayor Eric Garcetti issued an executive directive to purchase half as much imported water by 2025, obtain half the city’s water from local sources and have the city use local water by 2035 and reduce water consumption by 25 percent by 2035.

Among the report’s policy and research recommendations for Los Angeles:

- By 2035, require roads and alleys to become “green streets” with stormwater treatment or infiltration devices, and by requiring all parcels to be retrofitted to be able to better capture water from a 3/4-inch rainstorm when the property is sold. Retrofit requirements and programs will need financial incentives to ensure a rapid and successful city landscape transformation.

- Develop policies that aim for 100 percent reuse of recycled water (except for the brine removed during advanced wastewater treatment) while maintaining flows in rivers and creeks to protect water needed for aquatic life, recreation and other beneficial purposes.
- Create a new temporary position of water director, based in the mayor’s office, and empower that person to lead the transformation of the city’s water infrastructure and local water programs.
- Commission a new study of the Los Angeles River to better understand the flows needed to create and support a healthy ecosystem, support the river’s other beneficial uses, and augment local water supplies.

“We need more data to understand and more accurately model potential outcomes,” Mika said. “That also needs to be coupled with increased funding, which would be critical for making these projects happen.”

The research team also included professor Stephanie Pincetl and associate research director Erik Porse, both of UCLA, and researcher Elizabeth Gallo of Colorado School of Mines. The Los Angeles Bureau of Sanitation and Department of Water and Power provided data and reviewed the report before the findings were final, and the research was funded by the sanitation bureau.

The study is part of the Sustainable LA Grand Challenge, a UCLA research initiative that aims to transition Los Angeles County through cutting-edge research, technologies, policies, and strategies to 100 percent renewable energy and 100 percent locally sourced water, while enhancing ecosystem and human health, by 2050. 

