**Water — Conserving California**

**Citizens Beat Gov. Brown’s Mandate in May**

- By Stephanie R. Glidden

In the steepest drop since Governor Jerry Brown called for water conservation measures, the State Water Resources Control Board announced recently that statewide residential water use declined nearly 29 percent in May, four percentage points better than the mandate. June data will not be available until late July.

The city of San Diego cut 26 percent of its water usage from May 2013, 10 percent more than its 16 percent mandate.

State Water Board Chair Felicia Marcus said, “the hot summer months are here. Californians are creative. We [laughed]...”

Currently, California is in the fourth year of what experts agree is the worst drought since at least the 1800s when weather patterns were first recorded. In a recent paper written by Daniel Griffin and Kevin Anchukaitis and published in the Geophysical Research Letters journal, climate experts say the California drought may be the worst the state has experienced in 1200 years.

**Solar Water Heating Offers Energy and Cost Savings for Multitenant Property Owners and Occupants**

- By Chuck Colgan

Owners and managers of multitenant housing developments know that each resident’s shower, load of laundry and sink full of dishes adds to the cost of heating water on their property’s ever-increasing utility bills. Typically, such needs for hot water are met by conventional heating systems using electricity or natural gas, but the value proposition for installing solar water heating has never been better. State rebates and federal tax incentives are at an all-time high, making solar a perfect match for multitenant facilities, such as apartment buildings and dormitories, with centralized water heating systems.

**Conservation**

**Water Wisdom: Before “Sustainability” Was In Fashion**

- By Randy Record

Sometimes the brutality of a drought can be a wake-up call for governments in the business of providing water. The drought of 1991 that gripped all of California taught us that lowering demand is as important as securing reliable water resources. The city of San Diego cut 26 percent of its water usage from May 2013, 10 percent more than its 16 percent mandate.

**Construction**

**Post-Construction Presents Risks and Opportunities for Architects**

- By Bruce Bergman, AIA, LEED AP BD+C

Residential architecture risk mitigation strategies are evolving as the building industry faces an ever-changing regulatory landscape. Architects must be proactive in addressing potential risks and opportunities in the post-construction phase.

**Sustainability**

**San Diego Becomes Center Stage for Global Sustainability Conference**

- By Patti Anderson

San Diego has Comic-Con, one of the most visible and visual entertainment events in the world, but it is also the center of attention for global sustainability conferences and initiatives. The city is leading the way in sustainability and resilience, showcasing its commitment to a brighter future.
Conserving:  

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can fix the leaks, let the lawn go brown, and take shorter showers while using just enough water to save trees and prevent disease.

A few areas in San Diego were highlighted in the report for outstanding results. The city of San Diego cut 26 percent of its water usage from May 2013, 10 percent more than its 16 percent mandate. The Valley Center Municipal Water District cut its water consumption by 48 percent, which included drinking water and agriculture, 12 percent better than its 36 percent mandate. The Santa Fe Irrigation District saved 42 percent, beating its 36 percent mandate. This district includes Rancho Santa Fe that has been excoriated in the local and national news of late for its high per capita water use due to the size of the residential, landscaped properties.

Lately, “well water used for irrigation” signs have been popping up everywhere, Dana Friehauf, water resources manager for the San Diego County Water Authority said, “Private well owners that do not receive water service are, like all Californians, subject to the individual end-user propositions contained in the emergency regulations.” What this translates to is that if you have a private well and are not using a water service, you can just use well water and don’t have to cut back, as long as you comply with the restrictions regarding irrigation. According to Friehauf, “you can’t use well water to wash down your sidewalk or your driveway, you can’t have runoff, there are certain rules that you can find on the State Board website.”

There may be a salvation lurking off the coast for drought-weary Californians. El Niño is a cyclical phase of warm ocean water that often results in heavy rainfall in California. Typically, every 2-7 years a patch of ocean warms for six to 18 months. The National Weather Service’s Climate Prediction Center predicts a 90 percent chance of an El Niño and around an 85 percent chance it will last through the 2015-16 winter. If the climate model is right, this fall could bring the strongest El Niño event in 18 years since the El Niño of 1997-98, or what is known as a Super El Niño.

Some parts of California received more than 20 inches of rain that fall and winter. However, climate experts agree widely that the drought in California will not end in one winter. It will take years to recover from this epic dry spell.

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The key to being able to take advantage of recycled water is to design the home so that the gray water is taken out of the home on its own set of pipes. include water from toilets. While not potable, the end result is water that can be used for other purposes in the home and yard.

“Home water recycling also gives landscape architects more water to work with,” said Bob Hitchner, chief sales and marketing officer of Nexus eWater. “Landscapes in new homes must be designed to work within a water budget that is calculated in California’s Model Water Efficient Landscape Ordinance or MWELO.” Hitchner said new versions of the MWELO give extra water to those landscapes that use nonpotable water sources like recycled home gray water.

The key to being able to take advantage of recycled water is to design the home so that the gray water is taken out of the home on its own set of pipes. “Home Water Recycling gives the owner their own source of water that cannot be taken away, regardless of the severity of the drought,” Hitchner said. “Even if drought restrictions worsen, this water can be used to protect and preserve valuable landscape, which is so important in the California lifestyle.”


Bob Hitchner
Solar Water Heating

Save up to 80%
on your property’swater heating costs

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and large daily hot water loads, according to experts at the Center for Sustainable Energy (CSE).

“Virtually any facility with a need for hot water and a roof exposed to the sun can take advantage of solar water heating.” Sarah Smith, CSE

Sarah Smith, CSE’s solar thermal program manager, stated that solar water heating systems can displace most of the electricity or gas used to heat water and achieve money-saving and sustainable operations. “Virtually any facility with a need for hot water and a roof exposed to the sun can take advantage of solar water heating,” she said.

Good News, Bad News

Smith expresses urgency for property owners to consider adopting solar thermal technologies because the currently available cost-cutting rebates and incentives are set to expire or be reduced over the next two years.

The good news is that earlier this year the California Solar Initiative (CSI) increased solar water heating rebates that knock off 30 to 40 percent of the cost of multitenant system installations and that the federal government offers a 30 percent tax credit for this technology.

The bad news is that the federal tax credit will fall to 10 percent in December 2016 and the state rebates are set to expire at the end of 2017, or sooner if funds are expended.

How it Works

Solar water heating systems use the sun’s energy to preheat water. They absorb the heat in solar thermal collectors installed on a building’s rooftop and transfer it, via water or another liquid, to a storage tank. The facility’s conventional water heater then draws the preheated water out of storage when there is demand for hot water, boosting its temperature only if necessary. Solar water heating systems are simple and can reduce natural gas use for water heating up to 80 percent.

Because sunshine is abundant and free, a solar water heating system can pay for itself over a few years from the utility cost savings.

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Michael Arms Apartment owner William Lamden stands among solar water heating panels.

Because sunshine is abundant and free, a solar water heating system can pay for itself over a few years from the utility cost savings.

Solar Thermal in La Mesa

William Lamden, owner of Lamden Property Management, put a solar water heating system on the nearly 50-year-old, 38-unit Michael Arms Apartments in La Mesa in 2013. Installed by Adroit Solar, the system consists of 40 solar collectors covering about 900 square feet of rooftop.

Solar water heating helps keep our operating costs in control by reducing and stabilizing our annual utility budget,” Lamden said.

The initial system cost was $121,800, but with a $50,000 CSI-Thermal rebate and accelerated depreciation Lamden’s final out of pocket expense was minimal. The system cut the natural gas use at Michael Arms by 42 percent, resulting in a nearly $6,000 utility savings in the first year and will deliver considerable, ongoing utility bill savings for the next 20 to 25 years.

“When you hear the offers and see all of the ads for solar, and you are kind of turned off and think it’s a gimmick, think again,” Lamden said. “Solar water heating really works and it can be very cost-effective.”

Down by the Beach

Property manager Pete Ceccherini of RG Investment Real Estate reports...
Architects:

Practitioners of sustainable design need to be aware of and respond to recent construction case law rulings, new energy code performance mandates, new healthy product transparency credit guidelines in LEED v4, as well as new green products and technical control systems.

landscape, raised expectations and technical innovations. Practitioners of sustainable design need to be aware of and respond to recent construction case law rulings, new energy code performance mandates, new healthy product transparency credit guidelines in LEED v4, as well as new green products and technical control systems.

Standard of Care

It is important to stay up-to-date on the benefits and compatibility challenges for each green building component.

Equally important is implementing services to your client (and building users) with skill, judgment, and attention within your professional standard of care.

The Beacon Case

Building users have always been part of the equation with LEED.

Faced with continuing construction claims and the associated increasing cost of demands, developers look outside their policy coverage of subcontractors at other involved parties to potentially share the burden, including the architect of record.

As current trends have left architects practicing outside of a developer’s insurance protection it’s increasingly important to stay involved with the project into the post-construction phase.

The First Ten Years after Construction:

The ten-year statute of limitations for construction defect claims against a builder has a potential impact on the architect’s liability exposure. The post-construction phase is a critical time for potentially more problems to occur than any other phase. Since most claims are brought against the builder, how can architects safeguard their work to avoid getting dragged in on the builder’s coattails?

By being pro-active in the post-construction phase, architects can reduce their chances of being named in future litigation.

“Building users have always been part of the equation with LEED.

called you after project completion, that there isn’t a problem. Continue to build your successful client relationship, as a trusted professional, to bridge over litigious water. There are pro-active opportunities for architects, after construction, to mitigate issues before a full-blown lawsuit including:

• Seek client feedback early after completion.
• Offer updated news on the success and benefits of the products, systems, and features you designed into their building.
• Keep your client informed of maintenance and operation practices that your other clients found beneficial.
• Assist in conducting a post-occupancy survey and review the results with your client.

Submit by KP4 Associates, Inc.

Bruce Bergman, AIA, LEED AP BD+C, is a local forensic architect and principal architect with KP4 Associates, Inc., Bergman is involved with construction defect litigation on a daily basis. He provides articles and lectures on green building risk mitigation.

Sustainable San Diego

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a new solar water heating system completed in February on the 24-unit Jo-Mar Apartments in Ocean Beach has reduced natural gas use by an average of 200 therms per month for domestic hot water use, equal to about a $250 utility bill savings.

The main system at Jo-Mar, installed by SunUp Solar Systems, has 10 solar collectors covering about 10 square feet of rooftop. It cost $36,000, received a $28,000 CSI-Thermal rebate, the federal tax credit and accelerated depreciation, providing an immediate payback. A second system not connected to the facility’s boiler, directly heats a swimming pool with 12 solar collectors. It also received a generous CSI-Thermal rebate.

Ceccherini said apartment property owners generally are pretty frugal and reluctant to spend on improvements, but if their location and solar roof exposure is correct and the property’s hot water use is at a sufficient level, “solar water heating is a no-brainer.”

“There are misunderstandings out there about solar water heating and its reliability and maintenance, but I can’t say enough about how well it is working at Jo-Mar – I am a true believer,” Ceccherini said.

New Construction Downtown

Owners of newly constructed multitenant facilities also qualify for the same range of rebates, tax incentives, depreciation and long-term energy savings with the added bonus of the solar water heating system counting toward meeting California’s strict energy efficiency building code requirements, known as Title 24 standards.

At the Urbana East Village Rental Flats, a 96-unit luxury apartment complex owned by H.G. Fenton Company and opened in January, California Solar Thermal Inc. installed a system with 45 solar collectors. It cost about $250,000 and received a CSI-Thermal rebate of nearly $120,000.

According to California Solar Thermal owner Matt Traficante, the system offered a very substantial Title 24 credit and was more economical for Fenton Company than installing triple-glaze windows, R50 insulation or almost anything else to meet Title 24 requirements.

“Heating water is one of the highest operating costs for multitenant property owners,” Traficante said. “However, with solar water heating, they have an opportunity to monetize that liability up front while greatly reducing ongoing monthly utility costs.”

Overcoming Misconceptions

Peter Dunbar, vice president of SunUp Solar Systems, said solar water heating works throughout the county, even along the coastline. On a recent overcast day, the Jo-Mar apartment building’s system in Ocean Beach started the morning at 89 degrees Fahrenheit and by midday had climbed to 130 degrees.

“Solar water heating also adds a ‘green’ appeal by lowering greenhouse gas emissions for those seeking to live a more sustainable lifestyle,” Luciana Da Silva said.

Solar water heating also adds a ‘green’ appeal by lowering greenhouse gas emissions for those seeking to live a more sustainable lifestyle, according to Luciana Da Silva, Adroit’s marketing director. She said this is particularly true for millennials who list sustainability among the top five things they are looking for in an apartment.

Get More Information

Commercial and multi-family properties are eligible for CSI-Thermal rebates up to $800,000 per installation. In addition, commercial, municipal and multi-family swimming pools are eligible for solar thermal rebates that can cover up to 50 percent of the cost of the solar pool system.

For more information about installing solar water heating and the available CSI-Thermal rebates, contact CSE at 858-244-1177 or visit www.energycenter.org/hotwater.
Conference:

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confabs in the world. But, this city also hosts one of the world’s more critical gatherings devoted to the planet’s dwindling resources. Sustainable Brands, a pioneering organization in bringing companies, cities, and nonprofits together to reach collaborative solutions to our threatened environment, held its fourth annual international conference in San Diego this June. Nearly 1,500 attendees from 30 countries converged on Paradise Point Resort & Spa and participation grew to approximately 2,500 with those watching the livestream.

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The theme of this year’s SB ’15 San Diego gathering — How Now — focused on how brands can successfully innovate for sustainability now. With more than 80 conference program and workshop sessions, topics ranged from water resource management to supply chain oversight to food production and supply. Quantifiable metrics that support corporation’s bottom line profits were a recurring topic, supporting the push for sustainable business practices.

A sampling of breakouts included an exploration of compelling case studies on designing and implementing consumer-facing water campaigns. Representatives from Waste Management, Stella Artois, Water.org, the National Hockey League, and WhiteWave Foods described their efforts to engage consumers in their water conservation initiatives and offered tips on creating effective partnerships with NGOs. Closing out the session was Deanna Bratter of WhiteWave Foods, who spoke about the necessity of water to the company’s business. “It’s a core material focus and risk to our sustainability,” she said of the company, whose notable brands include Silk, Horizon and Land O’ Lakes. WhiteWave has a goal to reduce water use 15 percent by 2020 through conservation, restoration and protection efforts. The company was the first brand to partner with Change the Course to balance its water use, and to date has facilitated over 125,000 pledges to water conservation and saved 3 billion gallons of water.

Locally headquartered Kashi has been a participant at Sustainable Brands conferences for many years. Kashi’s Jeff Johnson spoke to getting mainstream people involved with organizations and their missions. According to Johnson, positive impact may be the reason that founders start the company in the first place. But it’s unlikely to get the masses onboard. That’s why, Johnson has focused on removing the word “consumer” from Kashi’s vocabulary. Instead, they make healthy and nutritious food for “friends and family.”

The Activation Hub at this year’s event functioned as a thriving marketplace for brands exploring how to transform their innovative ideas into reality.

The Activation Hub at this year’s event functioned as a thriving marketplace for brands exploring how to transform their innovative ideas into reality. This exhibition space housed numerous companies and more than 100 interactive sessions. The Hub featured a collection of eco-friendly companies including successful San Diego entrepreneurs Suja Juice, offering samplings of their cold-pressed, organic & non-GMO juices, and eco-design company, Bottles & Wood, displaying an array of items made from beer, wine, liquor and soda bottles to wine barrels, fence boards and pallets that are transformed into lighting fixtures, barware and even jewelry.

Take your turn.

Every drop we save helps.
Wisdom:  

Supplies. Back then, this emerging water management ethic was not known as "sustainability," but its roots certainly go back that far. Our current drought is taking this sustainability strategy to the next level, with businesses playing a key part in the solution.

The Metropolitan Water District of Southern California was created in 1928 with an original mission to deliver supplies to the Southland. A new source of water was needed for the fast-growing region and for that, we looked to the Colorado River some 240 miles away. Voters in 1931 approved bonds to build the Colorado River aqueduct system. After a spectacular generation of growth that prompted the need for even more supplies, voters in 1960 approved the State Water Project system that now brings supplies all the way from Northern California to San Diego County. Today, about 40 percent of Metropolitan supplies delivered to this region come from Northern California.

A generation later, in 1991, a historic drought prompted a shift in water management that was all about sustainability. That term was nowhere in the vocabulary but it was embedded in Metropolitan’s first long-term water planning strategy, our 1996 Integrated Resources Plan.

Metropolitan built reservoirs and established groundwater banks so water could be captured in wet years to prepare for dry ones. The District created a “portfolio” approach to supplies, diversifying with new local sources such as recycling and groundwater cleanup in a strategy that has been replicated locally and elsewhere, elevating conservation to a water management strategy on par with various supply efforts.

In this current drought cycle, Metropolitan has sold more water than originally budgeted as local agencies have relied more heavily on imported supplies that were held in storage. With this one-time source of revenue from water sales, the District has sought to make conservation in Southern California a permanent way of life by focusing on the outdoors, namely the lawn. The district has invested $450 million in a conservation program featuring a turf removal rebate program that proved more popular than even our most ambitious expectations, with all funds now essentially spoken for. San Diegans have responded in a big way. San Diego Gas & Electric and Sea World are among those that have embraced the water-saving ethic and taken advantage of our conservation programs to lower water uses indoors and outdoors. We appreciate their efforts and the tremendous support of local mayors. Hopefully we will look back on this drought as the one that changed the look of Southern California for the better... and forever.

On the supply side, an historic reinvestment in the statewide system that moves water from Northern California through the Sacramento-San Joaquin Delta to farms, homes and business in central and southern parts of the state is advancing to a final decision next year. Known as California Water Fix and California EcoRestore, plans to restore the Delta ecosystem, modernize the water delivery system with new intakes and a twin-tunnel conveyance system, and prepare for climate change, are undergoing a thorough environmental and public review.

Fixing our aging water delivery system so that we can capture and convey water in a secure and reliable way is essential to our future. So are local projects such as Pure Water San Diego and San Diego County Water Authority’s desalination facility in Carlsbad which will improve water supply reliability and resiliency for the region.

Submitted by San Diego County Water Authority