

# California Drought Update

**For June 23, 2016**  
**by Patrick Ruckert**

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## A Note To Readers

“The Apocalypse Has Arrived, If You Haven't Noticed” is the first item in our report this week, and does set the theme for this report, or at least one of the themes. Triple digit temperatures, a snowpack in the Sierras that is already gone, the shut down of California's last nuclear plant, 66 million dead trees, wildfires breaking out all over southern California--- it is not quite the Hell from Dante's “Inferno,” but as the man said, “things are getting interesting.”

All that and more is covered below.

But, let's look at the bright side; the real nature of mankind. Continuing the discussion of Krafft Ehrlicke from our “Feature” last week, Megan Beets remarks (immediately below) from the *LaRouche PAC Weekly Webcast* on June 17, hone in on the key issue of the nature of what it means to be human. Conquering new scientific frontiers lies at the heart of the nature of mankind. There are no limits to growth and resources are not limited. Thus, all problems are solvable. Here is the link to the program: <https://larouchepac.com/20160617/friday-webcast-june-17-2016>

*Krafft Ehrlicke was completely committed to the idea, and it was a discovery in his own mind, that for human beings there are no limits to growth. There's no such thing as a fixed set of resources, for exactly the reason I cited, of man's potential to always discover a higher principle. Krafft Ehrlicke fought for the idea that man must always progress; and therefore, man cannot be limited merely to the Earth. Man cannot be a species of a single globe. We have to move out into conquering space; becoming a species which is exerting power in an over the Solar System. Reorganizing, shaping, perfecting other planets in the Solar System, beginning with the Moon. Just to put it forward, that's the only legitimate basis for an economic system, is to organize the social activity of man to effect and promote that kind of activity; and to protect and promote that kind of capability which exists in potential in each and every human being.*

*So, you have to re-found a new system upon a newly discovered notion of physical value. And that gets exactly to the principle that is the most fundamental; but is also the least known, and the most contradicted in the United States today. The most fundamental principle of economics; which is that man is not an animal. And that there is a scientifically knowable principle which separates mankind as a species from all other species known to us today. And that's expressed in the fact that as a species, mankind is the only species that is not fixed. We're the only species for whom the new generation can be fundamentally different than the previous generation; as expressed in the powers wielded by the*

*individual. The scientific powers, the powers in and over processes in the Universe, which is expressed in the productive powers of labor of the individual; which reflect knowledge of principle which is completely new to that generation. Which is both more perfect and higher than the knowledge of principles of the Universe possessed by the previous generation.*

To conclude this introduction, we must introduce a reality most wish to ignore, but is becoming inescapable. As the President of Russia Vladimir Putin warned the other day, U.S. policy is pushing the world ever closer to nuclear war. That is becoming clear to some of the European political leaders, as they attack the present NATO military exercises right on Russia's border as “war mongering.” Their warnings are now being echoed by some U.S. political leaders.

While I have always attacked Governor Jerry Brown for his policies on just about everything, especially the governor's water policies as being nothing short of promoting genocide, today I must admit that Brown has said something of importance, and more importantly what he has said is right. In *The New York Review of Books*, dated July 14, 2016, Brown pens a review of former Defense Secretary William Perry's new book, “My Journey at the Nuclear Brink.” Brown not only reports on Perry's current warnings that we are closer to nuclear war than anytime since the 1962 Cuban Missiles Crisis, but also states that the present U.S. policy of provoking Russia is insane. The full review by Brown is here:

<http://www.nybooks.com/articles/2016/07/14/a-stark-nuclear-warning/>

Here is the opening paragraph of Brown's review:

*I know of no person who understands the science and politics of modern weaponry better than William J. Perry, the US Secretary of Defense from 1994 to 1997. When a man of such unquestioned experience and intelligence issues the stark nuclear warning that is central to his recent memoir, we should take heed. Perry is forthright when he says: “Today, the danger of some sort of a nuclear catastrophe is greater than it was during the Cold War and most people are blissfully unaware of this danger.”<sup>1</sup> He also tells us that the nuclear danger is “growing greater every year” and that even a single nuclear detonation “could destroy our way of life.”*

## **The Apocalypse Has Arrived, If You Haven't Noticed**

The *Sacramento Bee*, on June 20 greeted its readers with an editorial titled, “Welcome to another summer apocalypse.” I think this sets the proper tone for most of our report this week. A few excerpts from the editorial follow.

<http://www.sacbee.com/opinion/editorials/article84919257.html>

*Monster heat wave hits California just in time for solstice*

*Summer follows 13 consecutive months of record temperatures, globally*

*As drought persists, another round of reminders on need to respect the heat*

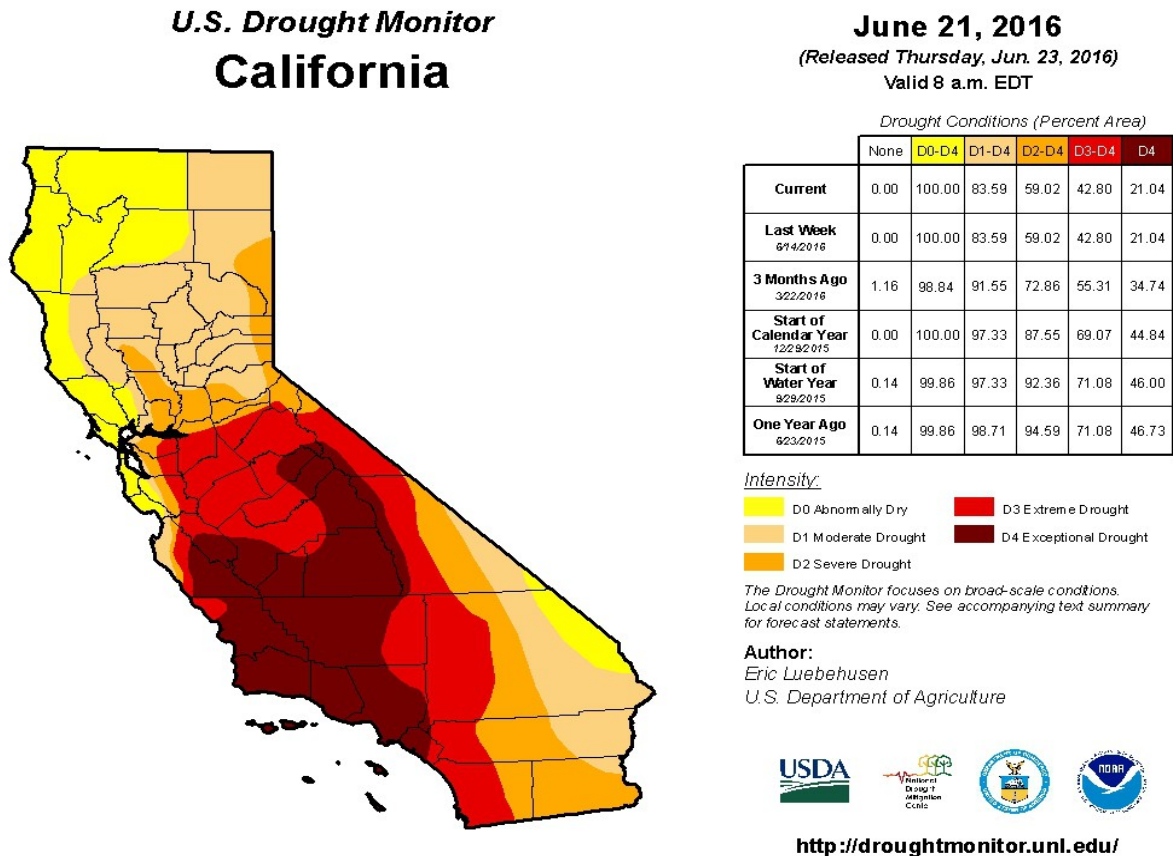
*With triple-digit heat, a [full moon](#) and fires raging from [Santa Barbara County to the Mexican border](#), another summer straight out of end times has arrived.*

*[Cal Fire](#) says it has already responded to more than 1,562 wildfires in 2016, covering more than 28,000 acres. The agency says that is more than twice the amount of acres during the same period in 2015.*

And all this was before the two big fires that broke out this week, adding at least another 10,000 acres to the total.

## U.S. Drought Monitor and Reservoirs

I thought I made a certain point last week, but apparently not. Each week I have been posting here the graphic from the *U.S. Drought Monitor*, which is published every Thursday. For the past four months or so, the Monitor graphic had shown that a little sliver of the state (six percent at maximum) had been drought-free. As of last week that six percent went down to zero, and that is where we are today. The entire state is officially in drought once again. Otherwise, the intensity level has not changed, yet. It will; have no doubts about that.



As for the reservoirs, I'll not post the graphic this week since not much has changed. Though it should be mentioned that San Luis is now down to 22 percent of capacity.

## The Snowpack-- It is Gone

This was announced with headlines like this one from *Discover* magazine, “Going, going, GONE —

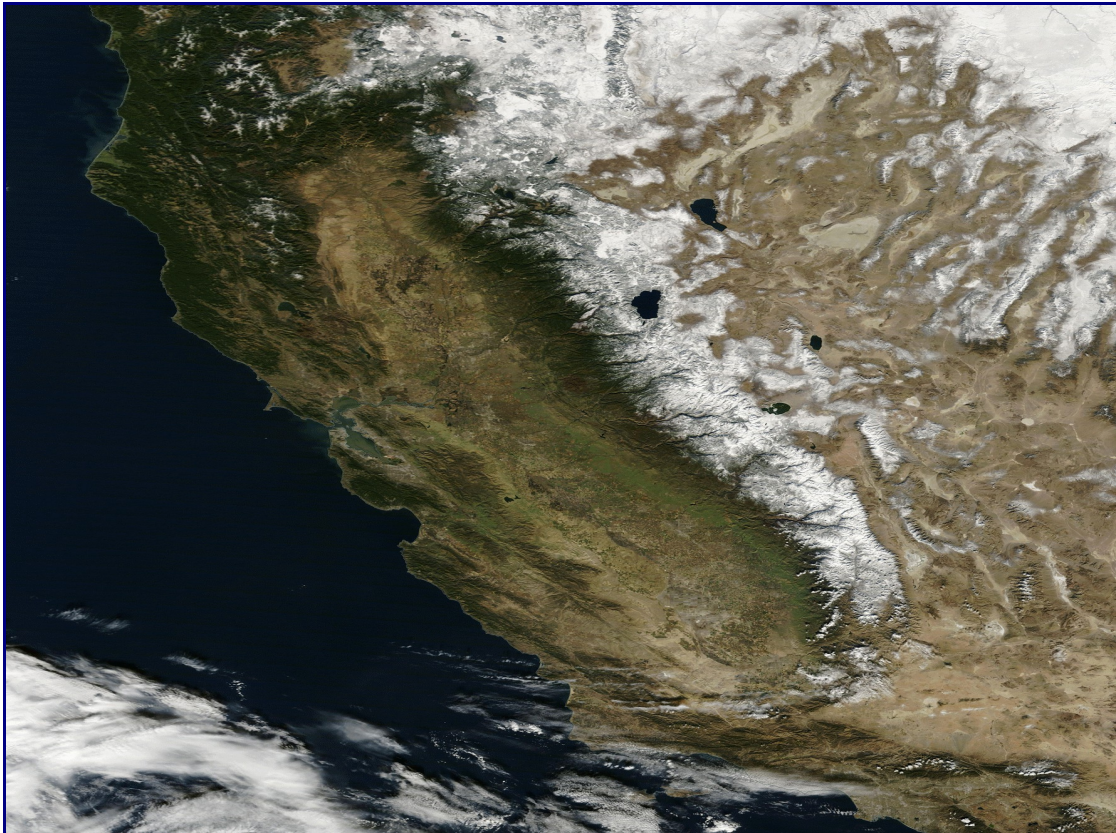


California's snowpack has vanished, published on June 15, and authored by Tom Yulsman. A short excerpt follows. <http://blogs.discovermagazine.com/imageo/2016/06/15/going-going-gone-california-snowpack-has-vanished/#.V2MGUqKGMg5>

*After El Niño failed to deliver salvation from California's epic drought, it has now come to this: Statewide, snowpack is down to just 6 percent of normal for this time of year.*

*A premature melt-out has replenished reservoirs, but with a drying La Niña probably coming, California's water woes are far from over.*

This animated graphic accompanying the article makes visible how fast the snowpack has disappeared this year. The animation function may not work here, so go to the link if so.



*In this animation of images from NASA's Terra satellite, the snowpack in California's Sierra Nevada range all but vanishes between April 2 and June 7, 2016. (Images: NASA Worldview. Animation: Tom Yulsman)*

Deserving mention here is a study released this week and reported on by [news.agu.org](http://news.agu.org) on June 21 under the title, "Sierra Nevada snowpack not likely to recover from drought until 2019."

<http://news.agu.org/press-release/sierra-nevada-snowpack-not-likely-to-recover-from-drought-until-2019/>

I think here we have an excellent example of what is wrong with most science today. Like the global warming computer-based simulations, this study merely extends in a linear manner an existing pattern. Reading the excerpt below may leave one scratching his or her head, I agree, and the entire report (if

you care to read it) does not relieve the itch.

*WASHINGTON, DC — Even with this winter's strong El Niño, the Sierra Nevada snowpack will likely take until 2019 to return to pre-drought levels, according to new research.*

*The [new study](#) was published today in Geophysical Research Letters, a journal of the American Geophysical Union.*

*“With the consecutive years of ongoing drought, the Sierra Nevada snowpack's total water volume is in deficit and our analysis shows it will take a few years for a complete recovery, even if there are above-average precipitation years,” said Steve Margulis, professor of civil and environmental engineering at the UCLA Henry Samueli School of Engineering and Applied Science and the study's lead author.*

So, if the snowpack is gone, what does that mean for the water supply for the summer and beyond? The question is answered by an article in *sfgate.com* by Kurtis Alexander on June 20: “California drought bummer: Sierra water runoff coming up short.” Excerpts follow.

<http://www.sfgate.com/bayarea/article/California-drought-bummer-Sierra-water-runoff-8312202.php#photo-9788892>

*The El Niño-fueled storms that coated the Sierra with nearly normal snow this winter brought blasts of hope to drought-weary California.*

*But after the flurries stopped and the seasons changed, the melt-off from the high country has been swift and disappointingly scant, according to new water supply estimates from the state.*

*The [Department of Water Resources](#) now projects that the mountains will produce about three quarters of normal runoff during the months of heaviest snowmelt, shorting the rivers and reservoirs that typically provide a third of California's water — and cementing a fifth year of historic drought for the Golden State.*

That leads, I believe, to consequences and developments similar to those I reported on last summer: The Department of Water Resources and the other water officials of the state will soon be juggling water resources from one crisis spot to another. Maybe we will see once again this year the Delta-Mendota Canal flow backwards.

Well the juggling has begun, as reported by the *Sacramento Bee* on June 20 in an article by Ryan Sabalow and Phillip Reese, “Melting snow, water releases and La Niña complicate California's drought picture.” Some excerpts from the article are below.

<http://www.sacbee.com/news/state/california/water-and-drought/article84891802.html#storylink=cpy>

Here are the sub-headlines:

*Federal officials have begun releasing more water from Shasta Dam after weeks of farming lobby pressure*

*Meanwhile, scant late-spring snow means Sierra snowpack has all but disappeared*

*Forecasters say California faces 75 percent chance of dry La Niña weather pattern for fall, winter*

And now, some of the text:

*First, the good news: This winter, much of the Sierra had a near-average snowpack. Now, the bad news: It has melted early.*

*Word of the vanishing Sierra snowpack, which usually helps replenish reservoir levels later in the summer, arrives amid uncertainty over how California's dams will be managed in coming months to protect endangered fish. It also comes at a critical juncture for urban water officials across the state. Wednesday is their deadline to submit updated drought conservation plans that lay out projections of how much water will be available to customers over the next three years.*

*Federal officials late last week signed off on a plan that would release more water from Shasta Dam through June. The decision came after nearly two weeks of pressure from California's powerful farming lobby and members of Congress who argued that too much water was being held back to protect endangered fish.*

## **Dead Trees, Once Again**

Last week I reported on an article with the title, "29 Million Trees Have Died in California From Bark Beetles, Drought." Well, this week the number of dead trees has jumped to 66 million as reported by numerous media. While the exact number of dead trees in the state is clearly an estimate, how did the estimate more than double in one week? A new report by the U.S. Forest Service is the basis of these new reports.

An article on this by the *Association of California Water Agencies* on June 22, written by Lisa Lien-Mager, "Forest Service Reports 66 Million Dead Trees in Sierra Nevada," reports on the study. Excerpts follow.

<http://www.acwa.com/news/water-supply-challenges/forest-service-reports-66-million-dead-trees-sierra-nevada>

*The U.S. Forest Service announced Wednesday that at least 26 million trees have died in California since October 2015, bringing the total to at least 66 million trees that have succumbed to drought and insect mortality in what is now a record tree die-off since 2010.*

*The additional 26 million trees are located in six counties across 760,000 acres in the southern Sierra Nevada region of the state. Four consecutive years of severe drought in California, a dramatic rise in bark beetle infestation and warmer temperatures are leading causes.*

*"Tree dies-offs of this magnitude are unprecedented and increase the risk of catastrophic wildfires that puts property and lives at risk," said Agriculture Secretary Tom Vilsack*

A more sensuous report, worth reporting here, comes from *sfgate.com* on June 22, by Kurtis Alexander. "Alarm over fire danger as California tree die-off hits 66 million," is the title. At least the author is excited.

<http://www.sfgate.com/news/article/Alarm-over-wildfire-danger-as-California-tree-8318762.php>



*The California drought is carving an unprecedented path of ruin through Sierra forests, killing trees by the millions and setting the stage for a potentially devastating wildfire season that's already burning homes and closing freeways in the southern half of the state.*

*“Tree die-offs of this magnitude are unprecedented and increase the risk of catastrophic wildfires that puts property and lives at risk,” Agriculture Secretary [Tom Vilsack](#), who oversees the Forest Service, said in a written statement.*

*Rushing to remove trees*

*The race is on to ease the danger as much as possible. The federal government, as part of an emergency task force on tree mortality created last year by Gov. [Jerry Brown](#), is rushing to remove dead and dying trees before the peak of this year's fire season.*



*Photo: Richard Forster*

Since a large part of the tree mortality is an out-of-control bark beetle infestation, the following comments by Bob Golden on the face book group *My Job Depends on Ag* on June 20, provides some insight into why that is so:

*While commenting upon another post upon this page, regarding the dead and dying trees in our forests, the topic of the bark beetle came into play. So, while drought is fresh upon our minds, lets remember that management of our resources often has as great an impact upon our environment as nature does.*

*These are my thoughts that I expressed upon the other post:*

*"The bark beetle infestation began to take root (no pun intended), when logging was stopped due to environmental regulations, and changes in public opinion about harvesting trees from the public forest. Interestingly, the United States Forest Service, comes under the control and direction, of the Department of Agriculture. This is due to the fact that our predecessors recognized timber as an Ag commodity. Anyway, when the most recent drought began to stress the trees, the beetle infestation exploded. The density of tree population allowed the pest to travel rapidly through large swaths of overgrown forests. So in short, while man tried to manage the forest system from a feel good/hands off approach, the fuse was lit to ignite this bomb."*

## **The Colorado River, Hoover Dam and Lake Mead**

We have reported somewhat regularly on the complex of the Colorado River, Hoover Dam, Lake Mead and the Colorado River Aqueduct. At least 19 million California residents depend on this complex for at least a part of their water supply. This year is the 75<sup>th</sup> anniversary of the completion of the Colorado River Aqueduct, and following a report on the falling water levels of Lake Mead, is a link to an article on this anniversary.

Reporting on how and how much California depends on the Colorado River is an article from *Water Deeply* on June 20 by Michael Levitin, "What Lake Mead's Record Low Means for California." I include here some excerpts, but the entire article is worth reading.

<https://www.newsdeeply.com/water/articles/2016/06/20/what-lake-meads-record-low-means-for-california>

*After 16 years of drought in the Colorado River Basin, Lake Mead has hit its lowest point ever. Here's a look at what impact this will have on the 19 million Californians who depend on the water supply.*

*When the U.S. Bureau of Reclamation announced last month that the country's largest reservoir, Lake Mead, had fallen to its lowest-ever level at 1,074ft (327m), the question many asked was: How will it affect one of California's primary drinking sources?*

*After all, some 19 million Californians, nearly half the state's population, receive some part of their water from the Colorado River, which flows into the 80-year-old reservoir created by Hoover Dam outside Las Vegas.*

*By inching below the 1,075ft threshold, the lake's historic low provoked a Level 1 Water Shortage declaration, signaling the start of potential water cuts to Arizona and Nevada. If Lake Mead sinks to 1,025ft (312m), the Department of Interior will seize control of its management and water allocation, and if it falls to 900ft (274m) it will be considered "deadpool," meaning that water is no longer passing through the turbines. Falling water levels are the result of a drought in the Colorado River Basin that has dragged on for 16 years and counting.*

*Unofficial proposals that are being floated include eventual Colorado River cuts to California in the range of 300,000–350,000 acre-feet (370–430 million cubic meters) – a little less than 10 percent of the 4.4 million acre-feet the state currently draws from the river.*

The *Desert Sun* commemorates the 75<sup>th</sup> anniversary of the opening of the Colorado River Aqueduct on



June 15, under the title, “Colorado River Aqueduct marks 75 years of water delivery.” With maps, graphics and photos, it is an article well worth reading.

<http://www.desertsun.com/story/news/2016/06/15/colorado-river-aqueduct-marks-75-years-water-delivery/85723678/>

*The 242-mile Colorado River Aqueduct — constructed from 1933 to 1941 by the Metropolitan Water District of Southern California — stretches from Parker Dam at the Arizona border to Lake Mathews in western Riverside County. Since June 1941, it's provided water to millions of residents of Los Angeles and the surrounding counties.*

*This week marks the 75th anniversary of the first water delivery of Colorado River water to the Los Angeles area — Pasadena received the first flow — and as a bonus, the 13 cities that originally formed the district received free water for two months.*

## **Diablo Canyon Nuclear Plant to Close, in 10 Years, Maybe**

The announcement this week that the Diablo Canyon nuclear power plant will close in 2015, should raise a hue and cry among the still sentient portion of our population. Several items follow, led by one from *Executive Intelligence Review*. Others give further background, including one casting doubt on the ability to replace the plants power production with so-called renewables. The irony here is, of course, that nuclear power produces zero CO2.

### **Malthus Rules in California: Do Without Water, Do Without Power**

June 21 (EIRNS)—A concurrence of two announcements of economic shutdown in California within 48 hours, show the Malthusian regime being imposed there by Gov. Jerry Brown, but also by the national shut-down of nuclear and coal power by the Obama Administration and Wall Street.

First, as reported by Reuters and other news services, California’s Independent System Operator, which has managed electricity flow since the advent of destructive electricity deregulation in 2001, told all electric customers to expect rotating power outages to start during this week’s very hot weather. Moreover, it told all customers to “expect to be without power a total of 14 days ... out of this summer.” That’s roughly one day a week through the Summer. “Some 21 million Californians stand to be directly affected,” said Reuters.

The reason statewide power use is “too high” for the system, is that the system now depends 55% on gas-fired capacity; nuclear power has been phased out. And the largest natural gas storage facility in the state, at Aliso Canyon, has been shut down.

The second agreement issued today was between the utility PG&E and Brown’s state government to close the state’s last operating nuclear station, at Diablo Canyon, by 2025.

But: San Luis Obispo County had just enthusiastically voted to invest nearly \$1 million in fighting the drought, by bringing desalinated water from—Diablo Canyon nuclear! In a two-

year, perhaps \$35 million project, the county and its cities intend to build a pipeline connecting Diablo Canyon's reverse-osmosis desalination unit to Lake Lopez, the county's depleted water supply. Diablo Canyon can then easily produce 1.5-2.0 million gallons of fresh water a day, rather than the 500,000 gallons it now produces for its own cooling and other uses.

So while San Luis Obispo County makes Diablo Canyon a lifeline for population and food production in the intense drought, Governor Jerry Brown and PG&E will be shutting it down.

As should be expected from *sfgate.com* (the *San Francisco Chronicle*), their article, "End of an atomic era: PG&E to close Diablo Canyon nuclear plant," by David R. Baker on June 21, stresses the environmentalist arguments. A short excerpt demonstrates that point.

<http://www.sfgate.com/business/article/End-of-an-atomic-era-PG-E-to-close-Diablo-Canyon-8314258.php>

*As part of an agreement with several environmental groups that have long sought to shutter the plant near San Luis Obispo, PG&E will replace Diablo exclusively with electricity sources that don't pump carbon dioxide into the atmosphere.*

An more comprehensive article posted on *Ans Nuclear Cafe* on June 22, throws some doubt on whether the agreement will actually fly. Written by Will Davis, the piece, "Diablo Canyon: PG&E Cancels License Renewal," questions whether the 18,000 GW-hrs/yr of actual energy production by Diablo Canyon can be replaced by solar panels and windmills. Some excerpts follow.

<http://ansnuclearcafe.org/2016/06/22/diablo-canyon-pge-cancels-license-renewal/#sthash.hbSYeGaE.dpbs>

*At this point, the entire process is not yet finalized. PG&E has not cleared the deal it's working on with California regulators, and there is only the likely prospect that the Diablo Canyon units will shut down in 2024/2025 at the expiration of their original licenses. Some are already calling this into question, and believe that it can be prevented.*

#### **WORKING TO EXPLAIN THE NUMBERS**

*On the now-removed PG&E web page detailing a license extension for the plant, the statement was made that the company that "even when renewable power technologies are fully developed and ready for widespread implementation, Californians will still need an abundant supply of dependable baseload power for meeting increasing demands, minimizing severe rate increases and ensuring the reliability of the state's electric power grid." While the company has walked back that rhetoric and issued a new outlook on how it can meet demands, some in the sector of environmental concern who are pro-nuclear are not convinced.*

[\*Environmental Progress founder Michael Shellenberger did a 'deep dive' into the numbers provided by PG&E and found that there seem to be some discrepancies in the plan. For example, there's really\*](#)

only a hard commitment to about 4,000 GW-hrs/yr of compensation for the loss of Diablo Canyon's roughly 18,000 GW-hrs/yr of actual energy production. This compensation comes mostly, it turns out, from getting people to use less of the product that PG&E sells (that's electricity, folks) voluntarily or else by "demand response," which is a modern euphemism for "we turn off your power remotely when we decide we're short on capacity." This leaves a large amount of energy-per-year to make up for, and the only supposition Shellenberger can make is that it'll be made up for by something that you can dispatch when you need it to run — and that's fossil power. Probably, he suggests (and I'd believe) natural gas fired power, whether in combined cycle plants or reciprocating peakers or both.

#### WHAT HAPPENS NEXT? THE DEAL

PG&E has made clear the fact that this deal needs to clear several hoops in order to become binding. First, as detailed in PG&E's press release, the California State Lands Commission needs to extend PG&E's lease on the site beyond 2018. Second, the California Public Utilities Commission needs to approve PG&E's acquisition of other generating resources, or interchange agreements. A particularly notable quote is contained in this reference:

*"Any resource procurement PG&E makes will be subject to a non-bypassable cost allocation mechanism that ensures all users of PG&E's grid pay a fair share of the costs."*

That phrase is interesting in light of a fresh [Bloomberg article](#) which states that the cost to replace Diablo Canyon with solar energy sources would be on the order of \$15 billion — or, in other words, the cost of building a brand new two unit nuclear plant which instead of replacing 18,000 GW-hr / yr would actually ADD that much energy to the 18,000 GW-hr/ yr already being produced by Diablo Canyon.

"Can Renewables Replace Nuclear Power?," is the title of an article on *Climate Wire* on June 22 by Debra Kahn. She points out that when the San Onofre nuclear plant was closed in 2013, its power production was replaced by natural gas. A couple of paragraphs are excerpted below.

<http://www.scientificamerican.com/article/can-renewables-replace-nuclear-power/>

*Skeptics of the deal argued that Diablo Canyon's closure could increase the use of natural gas, as happened after the unplanned closure of California's other nuclear plant, San Onofre Nuclear Generating Station, in 2013.*

*"[W]hen people understand that the proposal is based on a big lie—that Diablo can be closed without increasing fossil fuel use, methane emissions and carbon emissions—they will reject it, and the leadership of the institutions who negotiated it," the groups Environmental Progress and Mothers for Nuclear said in a statement.*

As reported in the item from *Executive Intelligence Review* above,



*California's Independent System Operator, which has managed electricity flow since the advent of destructive electricity deregulation in 2001, told all electric customers to expect rotating power outages to start during this week's very hot weather. Moreover, it told all customers to "expect to be without power a total of 14 days ... out of this summer." That's roughly one day a week through the Summer. "Some 21 million Californians stand to be directly affected," said Reuters.*

Here is the *Associated Press* article on the topic:

**<http://www.mercedsunstar.com/news/state/article78456937.html>**

*Report: California will have enough power for summer months*

*By ROBERT JABLON Associated Press*

*May 18, 2016*