

California's grid geeks: The keepers of a clean future

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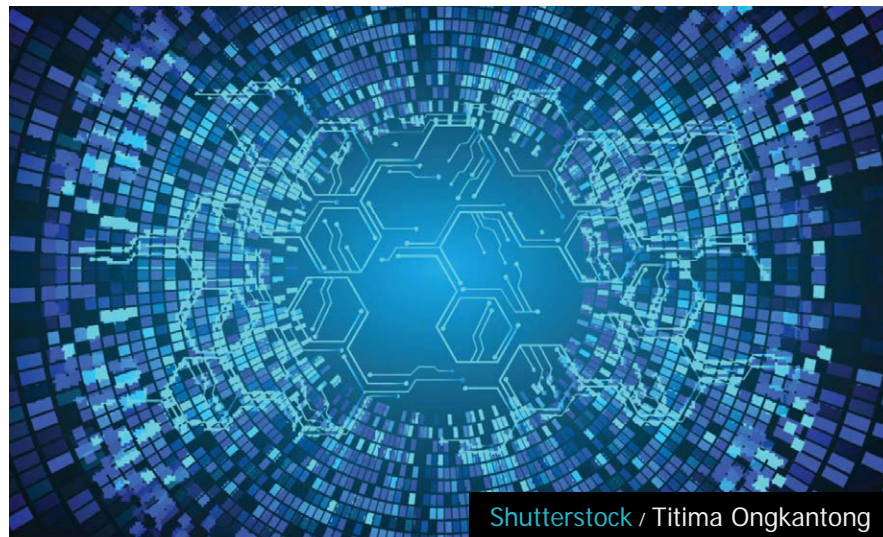


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This exclusive six-part series takes an in-depth look at California's transition to over 50 percent renewable electricity. In the face of President Trump's apparent indifference to global warming, the state has become a beacon of hope for climate activists. The entire series will appear [here](#), with the next piece running Monday. Read [Part I here](#).

The Sacramento-based Center for Energy Efficiency and Renewable Technologies (CEERT) and its allies long have seen themselves as prime keepers of California's clean energy future. To keep the state on track, the center long

has contended that a much more **balanced portfolio** of renewable sources is needed.

The state's rapid growth of rooftop and utility-scale solar installation must be matched by generation with a different daily production profile: more wind, geothermal and biomass resources as well as utility-scale storage (such as pumped-hydro reservoirs).

V. John White, CEERT's executive director, believes that part of this capacity actually could come from one of the state's own agencies, the Department of Water Resources. It largely has been overlooked thus far, said White, despite having the potential to back up the electric grid by developing its existing storage reservoirs and generation.



V. John White, CEERT

"It's clear you can't just have more and more solar photovoltaic, PV solar... When you add supplies to the grid, and this is supply for everyone, you need to make sure the resource provides the best fit for the longer term goal... for the goal of cutting carbon dioxide emissions to the levels we want," he said.

White pointed to California's new 50 percent renewables mandate, adopted by the Clean Energy Pollution Reduction Act of 2015, often referenced simply as Senate Bill 350. It requires the state's electricity regulator, the Public Utility Commission (PUC), headed by Michael Picker, formerly part of the governor's small energy staff, to ensure that future utility purchases of new generation facilities are a "best fit" (taking into account costs) for a much lower carbon grid.

"They haven't really done that yet at the Commission," said White. "We're in the PUC's dockets but you still have people fighting about the details of how to harmonize a bunch of proceedings that impact climate, how to set up a long-term procurement plan for the state and lots of related plans... It's supposed to lead to a so-called

integrated resource plan for each utility but it's being dragged out — it's a mess."

For White, the "best fit" problem is bigger than the PUC. The largest input that the commission oversees — new generation bought by the state's legacy utilities, such as Pacific Gas & Electric (PG&E) and Southern California Edison (SCE) — has become a shrinking part of the overall market for new facilities.

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Much of the recent investment in PV solar has been driven by new corporate buyers (including Apple, Google and Kaiser Permanente), private home-owners and a rising group of competitive municipal energy businesses. The latter aggregate the "100 percent renewable" energy choices of their constituents in the wholesale market but still use the wires of existing retail companies for local power deliveries.

California's New Climate Laws

Three major climate bills were adopted, and later signed into law, during the 2015-2016 California legislature:

SB 350

Requires retail electricity providers to source 50 percent of their energy from renewable generation by 2030 — increasing the 2020 renewable portfolio standard of 33 percent. The bill, also known as "The Clean Energy and Pollution Reduction Act of 2015," requires a doubling of energy efficiency savings in the end-use of electricity and natural gas by retail customers by 2030.

SB 32

Requires California to reduce its GHG emissions 40 percent below 1990 levels by 2030. It builds on AB 32, the California Global Warming Solutions Act of 2006, which committed the state to reduce GHG emissions to 1990 levels by 2020.

AB 197

Gives the legislature additional control over the state's Air Resources Board (ARB), which is primarily tasked with implementing SB 32. When adopting measures to reduce GHG emissions, the bill also requires the ARB to protect the state's most impacted and disadvantaged communities.

These new community choice groups have won growing support since 2013, spreading from liberal enclaves such as Marin County and San Francisco to more than a dozen markets, including San Jose, Los Angeles County and San Diego. Fed by a populist desire for both greener and cheaper energy, community choice is something of a "black swan" for the state's energy policy with unknown future consequences.

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For example, PG&E recently asked the PUC to retire its last nuclear power plant at Diablo Canyon based, in part, on the fact that municipal choice groups may win as much as 40 percent of its market by 2025. Some choice advocates say their statewide market share could top 50 percent by then.

I put this to Jan McFarland, who co-founded CEERT in 1989 and brought the idea of a business-backed environmental coalition to White. McFarland, a born organizer with strong management skills, has represented energy companies for most of her career, with stints at the U.S. Environmental Protection Agency (when Mary Nichols was a senior official) and the state's energy commission. She now works as program manager for Sonoma Clean Power, one of the leading community choice providers with over 200,000 customers.

Yes, she acknowledged, buying new generation is fragmented in California. However, McFarland noted that the first wave of community choice buyers, based in Sonoma County and Marin, have contracted for a more

diverse mix of renewables than now exists on average.



*Jan McFarland, co-founder of
CEERT*

"They are buying in mostly wind, geo-thermal and hydro rather than solar," she said. She agreed, however, that there is no grid-wide standard for renewable facilities contracted by choice companies, and low cost solar PV may only get more

attractive.

As with community choice, the state's climate initiatives also have been affected by the rising Latino power base in Sacramento (both state Sen. Kevin DeLeon and Assembly Speaker Anthony Rendon are Latinos, some 40 percent of the state's population). One result is that environmental and social justice issues have become much more closely linked. The impact of any new carbon cuts on poor and middle income consumers is also getting much closer scrutiny, as is the distribution of clean energy jobs.

Notably, a 50 percent cut in gasoline use by 2030 had to be dropped from climate legislation in 2015 because the measure did not adequately deal with the likely economic hit for commuters. The state's oil industry tirelessly messaged this shortcoming.

White is acutely aware of these trends and has used his longtime support for progressive causes to build bridges to new legislators. He also has used his expertise to help new members leave a mark by, for example, suggesting bills they could introduce, following up with technical support and quietly working behind the scenes to get a bill passed.

In the last legislative session, for example, White helped Eduardo Garcia, a first-term Assembly member from Coachella, sponsor a key bill



Huron, California, Mayor Rey Leon

giving the legislature greater oversight of the air resources board and its plans for implementing deep carbon cuts. Garcia's measure, Assembly Bill 197, also

prioritizes climate action for the state's "most disadvantaged communities." They "are affected first, and most frequently by adverse aspects of climate change, including... drought, heat and flooding," stated the bill; they also suffer the "deleterious effects of climate change on public health."

When Garcia was mentioned at the retreat, Rey Leon, an energetic young mayor from the state's Central Valley, was polite but direct: "We want natural gas plant emissions to go down where these plants are located as much as the people do who live there." Leon, who also founded a state-wide action group known as Latino Environment and Advancement Policy, had people's attention: "I really need to take you to the ground where I live... You will not be able to read a book and understand it the same way."

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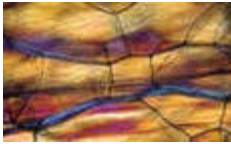
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