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California breaks record for renewable electricity

Newsom cheers new battery factory on Richmond waterfront, as hydropower boost reduces risk of summer shortfalls



California Gov. Gavin Newsom speaks during a news conference, Thursday, May 25, 2023, in Richmond, California. Newsom updated his plan for the state to move away from fossil fuels. State regulators say California is unlikely to have an electricity shortage this summer. (AP Photo/Adam Beam)

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PUBLISHED: May 25, 2023 at 3:15 p.m. | UPDATED: May 30, 2023 at 8:59 a.m.

California has hit a new milestone in clean energy as the state continues to move away from fossil fuels in its decades-long effort to reduce air pollution and greenhouse gas emissions.

In 2021, 37% of the state's electricity was generated by renewable sources such as solar and wind — more than double the 16% total in 2012, according to new numbers released Thursday by the California Energy Commission.

More broadly, when nuclear power and hydroelectricity from large dams are included, 59% of California's electricity now comes from carbon-free sources. The state has a goal of 90% by 2035 and 100% by 2045.

Highlighting the trend, Gov. Gavin Newsom appeared in Richmond on Thursday to cheer the announcement that Moxion Power, a company founded three years ago to build zero-emission electric batteries to replace diesel generators, will open a new manufacturing facility at the site of the former Richmond Ford Point Assembly Plant on Harbour Way. Moxion employs 250 people.

During World War II, the Ford plant built Jeeps, armored personal carriers and other vehicles for the Pacific Theater before closing in the 1950s. The new factory will create about 800 jobs, the company said.

"The future happens here first," Newsom said. "We are America's coming attraction. It is our responsibility to lead. And we do. No other state has more scientists, engineers, more researchers, more Nobel laureates, more patents emanating out of one state than the state of California."

Over the past 20 years, California has been steadily increasing the amount of solar and wind power it requires utilities to purchase to reduce smog and greenhouse gas emissions.

But the greener power grid has come at a cost: Less reliability.

During severe heat waves, millions of Californians turn on their air conditioners, spiking demand for electricity. At night when the sun begins to set, solar farms go off line, even as demand remains sky high.

That's what happened last September, when all-time heat records tumbled across California, including 118 degrees in Calistoga, 116 in Livermore and 109 in San Jose.

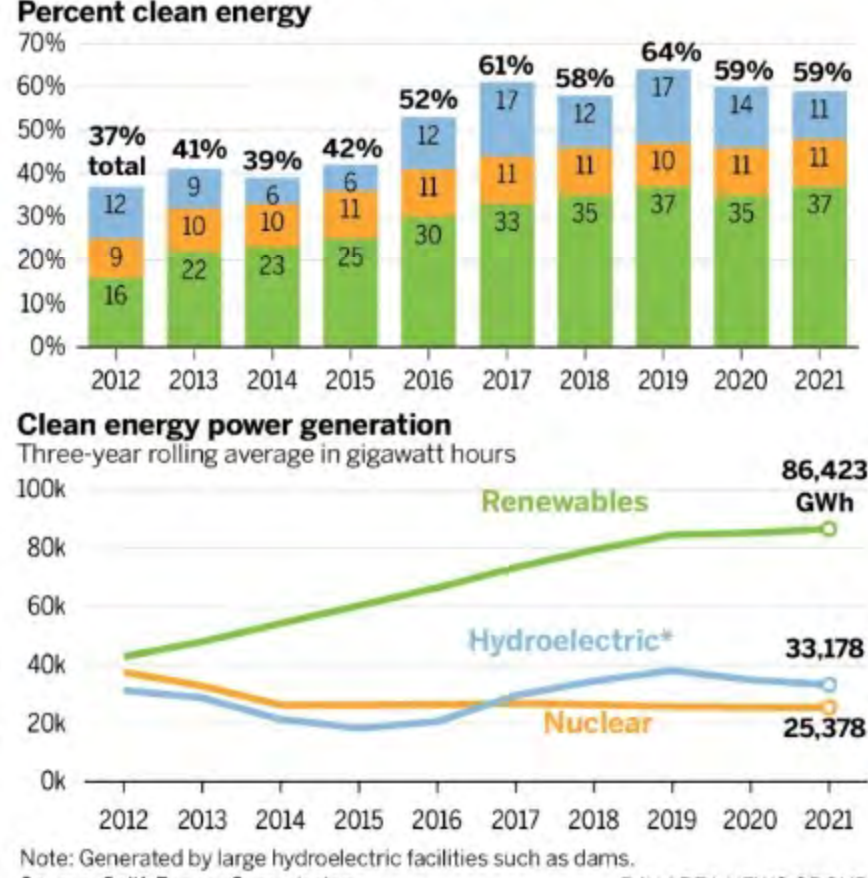
Blackouts were narrowly averted but only after Newsom urged Californians to curb electricity use between 4 and 9 p.m. and relaxed air pollution rules to allow temporary natural gas-fired "peaker" plants and other generators to fire up.

To help improve reliability, state regulators have ordered utilities to put in place huge battery systems to store solar power on sunny days, then let it out on the grid at night. In 2019, California had 250 megawatts of battery storage. It has 5,000 megawatts now — roughly the same as 10 natural-gas-fired power plants.

Newsom also signed a bill in September, over the objections of some activists, to keep PG&E's Diablo Canyon nuclear power plant — the only one left in the state — open for another five years after its 2025 planned closure date.

RENEWABLE ENERGY GROWTH

For the past decade, renewable energy (solar, wind, biomass, etc.) in California has been increasing and is the largest source of the state's clean energy production.



FILE — Wind turbines stand in fields near Palm Springs, Calif., March 22, 2023. Electricity generated from renewables surpassed coal in the United States for the first time in 2022, the U.S. Energy Information Administration announced Monday, March 27, 2023. (AP Photo/Ashley Landis, File) Ashley Landis/Associated Press

Meanwhile, the drenching storms that California received this winter filled most of the state's largest reservoirs. The water is expected to deliver a banner year for hydroelectric power.

Those factors caused state energy officials this week to announce they do not expect to have the kind of tight issues between supply and demand this summer that raised the risk of blackouts in recent years. A major wildfire that damages transmission lines could change that, they said, but overall, conditions are better than in recent years.

"The summer outlook is looking much better than we anticipated," said Siva Gunda, an engineer who sits on the board of the California Energy Commission.

Frank Wolak, a Stanford University economist who specializes in energy, said the state should consider more nuclear power to meet its climate goals and energy reliability. He also said battery storage has challenges.

"The battery investments are certainly good news," Wolak said, "but very expensive, and you need a lot of batteries to really make a dent in terms of storing renewable energy for use later."

Newsom on Thursday also released a 20-page document laying out the state's goals and challenges as it moves toward 100% renewable energy.

The report, "[Building the Electricity Grid of the Future: California's Clean Energy Transition Plan](#)," notes the state has already hit many of its early goals for electric vehicles and renewable energy. But it cautions that to have 100% carbon-free electricity by 2045, "we need to build more clean energy, faster."

Over the next 20 years, the report calls for expanding transmission lines, building offshore wind farms, making heat pumps widespread in homes, embracing new technology that allows homes to be run by plugging into electric car batteries, building more battery storage for the grid, and providing incentives for residents to run dishwashers, dryers and washing machines during non-peak times of the day.

Newsom said that the state must do more to cut red tape so solar farms, wind farms and other green energy projects can be built more quickly. Last week, he introduced 11 bills in Sacramento that would curb the California Environmental Quality Act, a powerful law that requires environmental studies of major projects.

The law, which was passed 50 years ago, is often the basis of lawsuits by opponents of projects, including neighbors, environmental groups and labor unions. Prior governors, including Arnold Schwarzenegger and Jerry Brown, have attempted reforms, without much success.

Newsom's CEQA reforms would require lawsuits to be resolved within 270 days not only for renewable energy projects but for major water projects like new reservoirs. "We need to build. We need to get things done," he said. "We are running against time."

"We don't have time to hold hands and talk about the way the world should be," he said, citing the increased heat waves, forest fires and other disruptions from climate change. "We've got to go."



Water flows through the Oroville Spillway at Lake Oroville on Saturday, March 25, 2023, in Butte County, Calif. Summer electricity supplies are getting a boost due to significant amounts of hydroelectric power. (AP Photo/Noah Berger)

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