

Statistics and Graphs From March 7-June 30, 2024 Covering 98 of 116 Days (Including 55 Days Straight) Where Wind-Water-Solar (WWS) Supply Exceeded 100% of Demand on California's Main Grid for 0.08-10.08 Hours Per Day

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WWS = Wind (onshore here), Water (small and large hydro and geothermal) and Solar (utility PV and CSP).

Rooftop PV (which produces ~12% of California's electricity) is not directly included; however, it reduces demand on the grid during the day by powering buildings directly, so is reflected in the demand curves.

Summary statistics

Min/Max WWS vs demand any time over 116 days and nights: 21.3%/162.3%

Min/Avg/Max 24-hour average WWS: 44.9%/63.6%/83.2%

Avg/Max hours per day over all days with WWS>100% of demand: 4.84 h/10.08 h

Avg/Max percent of demand met by batteries over a 24-h day: 4.1%/5.95%

Data source: <https://www.caiso.com/todays-outlook>

California electricity price information

<https://web.stanford.edu/group/efmh/jacobson/WWSBook/Countries100Pct.pdf>

provides a rank of countries and U.S. states in terms of their annual-average WWS electricity supply as a percent of demand. For states, the table shows that, from April 1, 2023 to March 31, 2024, California was ranked #11 in terms of its annual-average production of WWS electricity versus demand and #49 in terms of its electricity price. However, of the 10 states with higher WWS penetrations, 5 are among the 10 states with the lowest electricity prices and 9 are among the 19 states with the lowest prices. California prices are high because of high fossil gas prices (3rd highest in the U.S.) and the costs of wildfires, undergrounding transmission lines, the San Bruno and Aliso Canyon gas disasters, and retrofitting gas pipelines being passed onto customers. WWS reduces California electricity prices.



