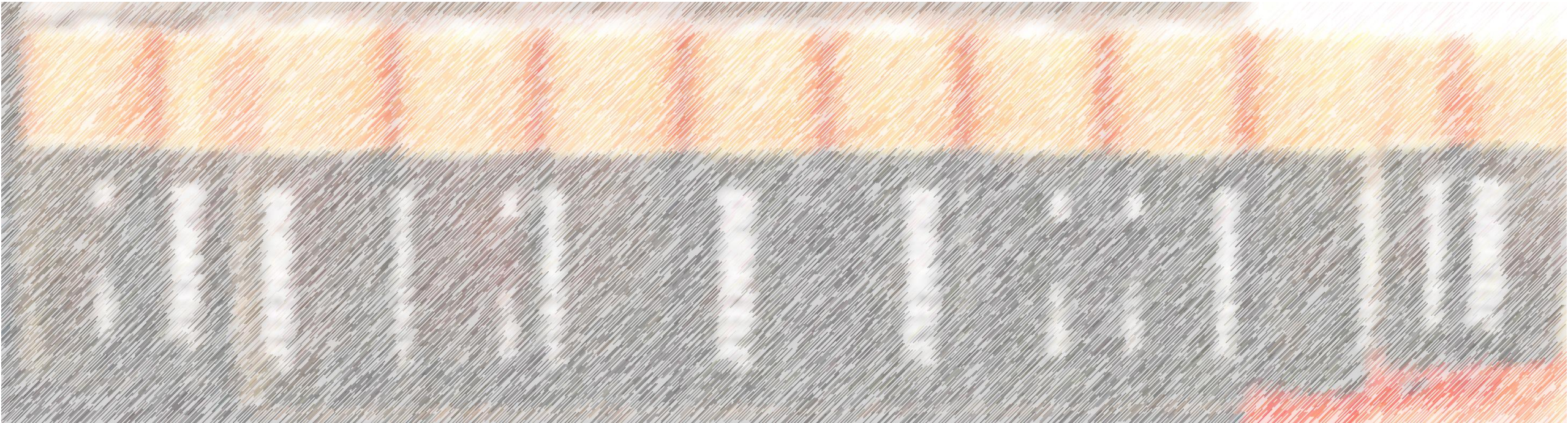


Chart of the Week #2024-44

U.S. Utility-Scale Battery Storage Developments

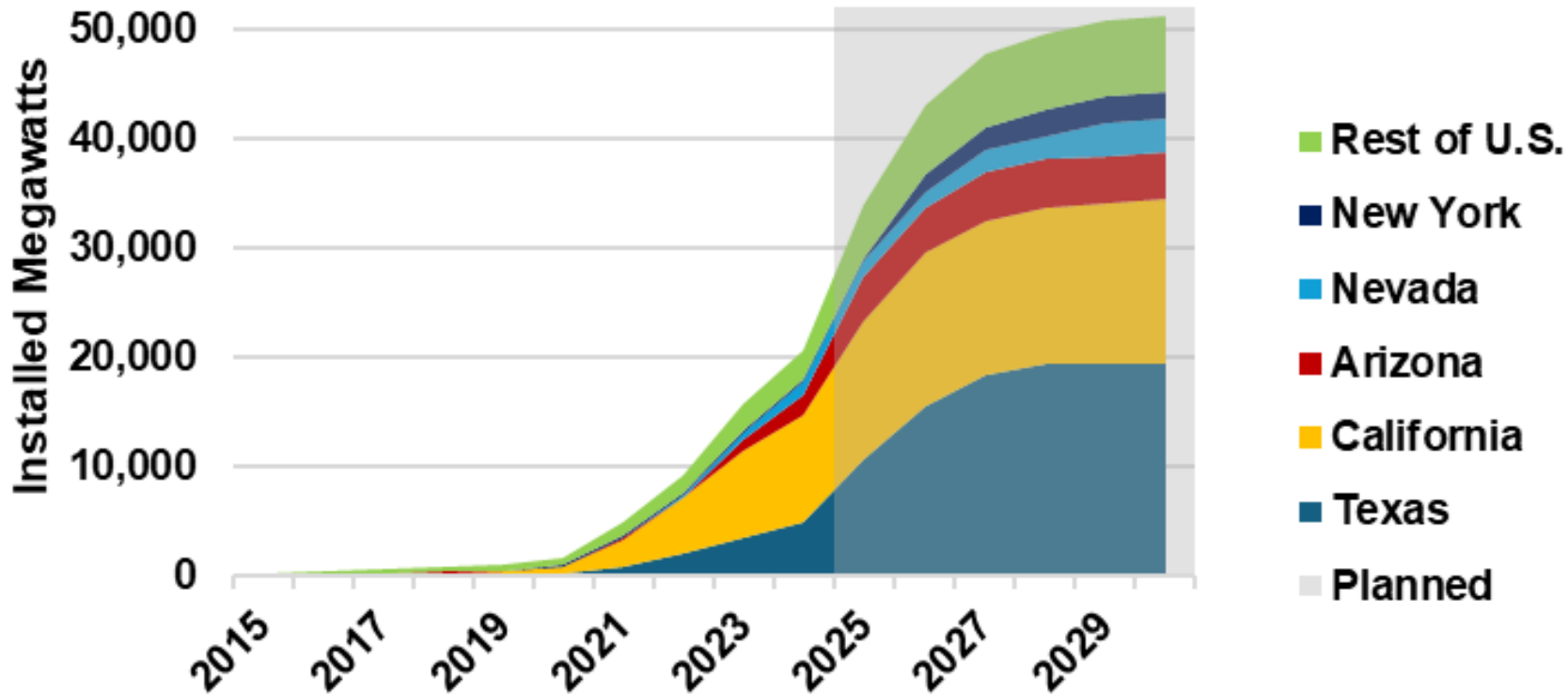


Max Pyziur
November 6, 2024
Washington, DC



U.S. Utility-Scale Battery Storage Developments

Battery Storage Growth by State



Analysis Based on 2024 EIA Data

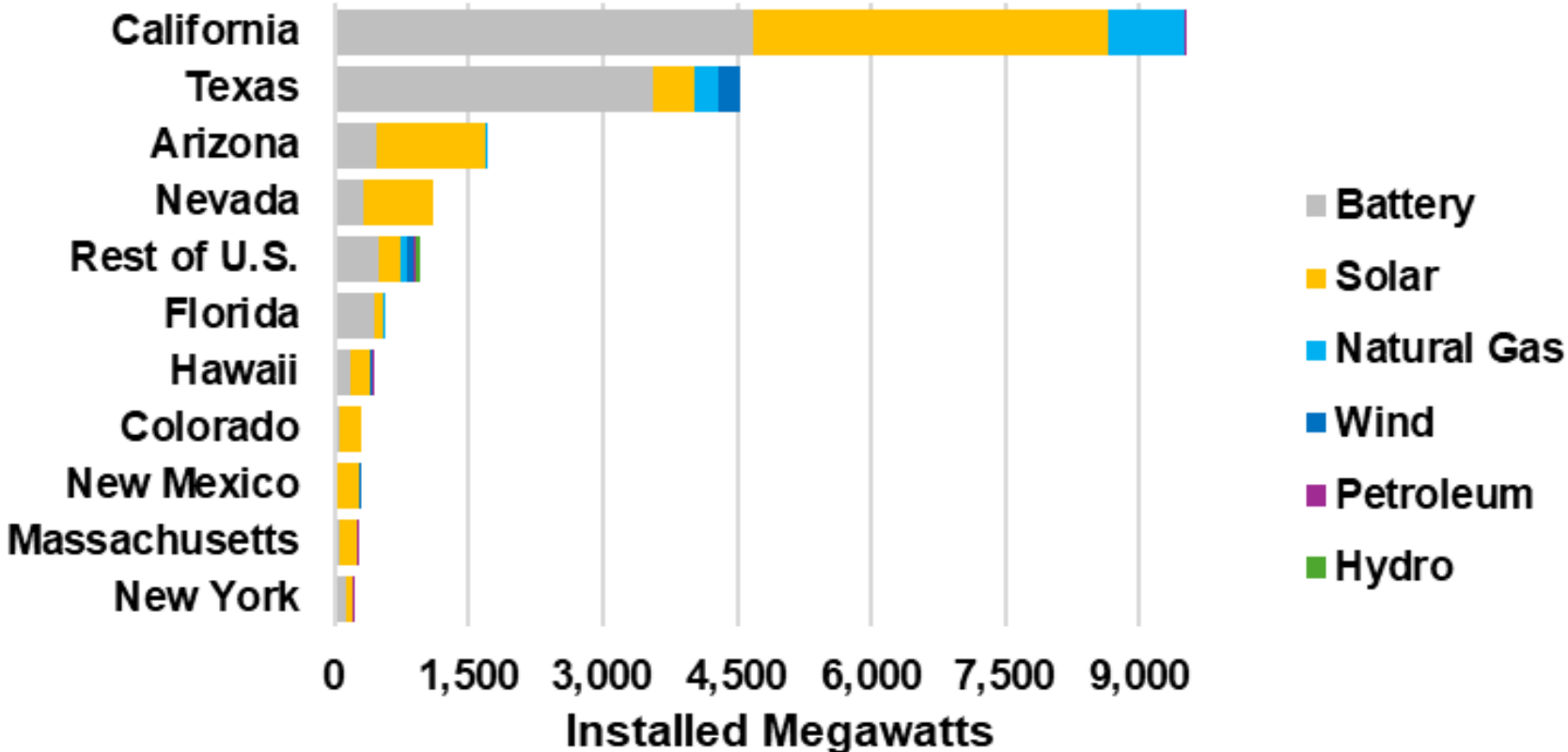
EPRINC

U.S. utility-scale battery storage systems have grown rapidly to 20,710 megawatts (MWs) in 2024 from 1,570 MWs in 2020; annualized, this is a rate of 90.6%. Through 2030, plans are in place for U.S. utility-scale battery systems to expand to 30,500 MWs (16.3% yearly).

California and Texas dominate battery adoption accounting for 47.9% (9,900 MWs) and 23.3% (4,800 MWs), respectively. However, if current system expansion plans are executed, Texas will increase its installed capacity to 19,350 MWs in 2030, surpassing California's projected increase to 15,110 MWs. In addition, Arizona and Nevada have developed significant battery storage systems of 1,700 MWs and 1,100 MWs, respectively.

U.S. Utility-Scale Battery Storage Developments

Battery Storage by State Standalone & Colocated



Analysis Based on 2024 EIA Data

EPRINC

California distinguishes itself with having over 50% of its battery systems collocated (sited) adjacent to other power systems, primarily solar facilities (42%) and to a lesser degree natural gas-fired generators (8.3%). Battery systems in Texas are primarily standalone (78.7%) with the balance collocated with solar, natural gas, and wind systems.

According to the EIA (<https://www.eia.gov/todayinenergy/detail.php?id=50176>), frequency regulation (maintaining load/generation balance) was the primary application for battery systems. Two other rationales were: storage of excess wind and solar generation; and arbitrage (buying electricity from the grid at low prices and selling it back during more expensive times).

U.S. Utility-Scale Battery Storage Developments



This slide deck is available at: <https://eprinc.org/chart-of-the-week/>

For more information on these charts, please contact Max Pyziur (maxp@eprinc.org).