

Energy Storage Is Key to Grid Reliability and Energy Cost Savings in the Central United States

A [new report](#) by Aurora Research, commissioned by the American Clean Power Association, demonstrates a significant opportunity to strengthen grid reliability and lower energy system costs by deploying energy storage at scale across the Southern Power Pool (SPP) territory, which spans parts of the South and Center United States.

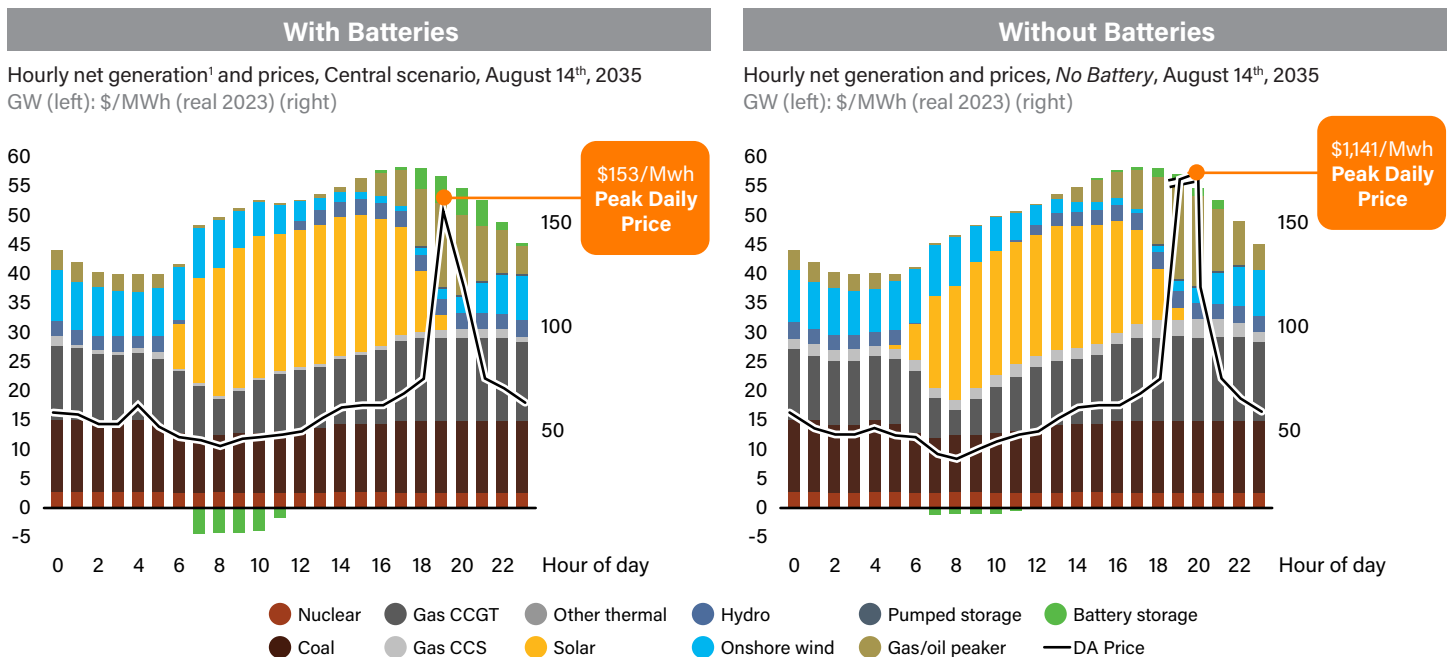
5+ GW of batteries could deliver billions of energy cost savings

A modest deployment of 5 GW of energy storage between 2025 and 2035 would help ensure reliable power for the Southern and Central states, particularly as electricity demand continues to rise. While reliability investments often increase energy costs, deploying storage could save the region more than \$2.2 billion by 2035.

Without Storage, peak prices could be 7 times higher in ten years

Without battery storage, modeling shows that peak electricity prices during high-demand hours could increase by \$988 per megawatt-hour (MWh) by 2035. The analysis also estimates that overreliance on a single type of legacy energy infrastructure could add \$7 billion in total system costs. In a future without storage, daily electricity prices could spike almost sixfold compared to a scenario with even a modest storage buildout.

Additional battery capacity significantly lowers price spikes during peak demand, resulting in \$2.2bn in electricity cost savings in SPP from 2025–2035



Battery storage charges during the day when prices are low and supplies energy as demand increases in the late afternoon, **reducing peak pricing and complementing the capabilities of solar generation.**

With fewer batteries to discharge during the evening, prices spike at higher levels during the tightest hours. On a peak summer day in 2035, increased system scarcity pushes peak prices to **\$1,141/MWh (\$988/MWh compared to Central scenario) during the evening price peak.**

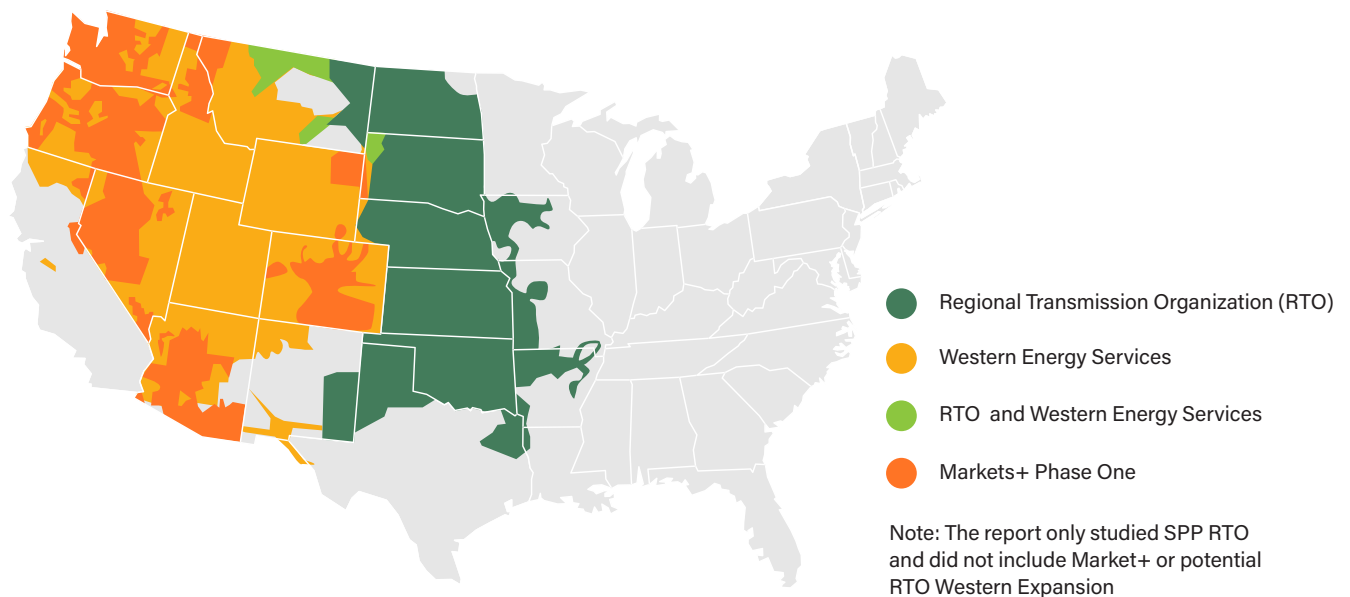
¹ Net generation is the sum of charge and discharge

Deploying 5+ GW of energy storage over the next decade is critical to reliability

As electricity demand grows at a historic pace, energy storage will be essential to meet new load requirements and keep the lights, air conditioning, and other essential services running for households, hospitals, schools, and businesses. Modeling shows that even moderate storage deployment can make the regional power grid more flexible and efficient. Storage allows the grid to function during periods of high stress — such as heatwaves and winter storms — while delivering reliable, low-cost power. Energy storage is unique in its ability to both firm and balance renewable generation like wind and solar, while also optimizing and boosting the efficiency of thermal power plants and legacy grid infrastructure. Failure to deploy energy storage could risk regional grid reliability, including dangerous blackouts and brownouts, and significantly hamper economic growth.

More than 25 GW of batteries entered the SPP interconnection queue in 2024

Hundreds of battery storage projects are currently in the SPP interconnection queue, working through lengthy permitting and regulatory reviews. These projects represent billions of dollars in economic investment, grid infrastructure upgrades, and energy cost savings, as well as thousands of local jobs. Grid-scale batteries can be deployed quickly to meet growing reliability needs, but several barriers continue to delay development. Historically, 58% of projects that entered the SPP queue have ultimately withdrawn. To realize the full benefits of storage, both SPP and state policymakers must act to streamline approval processes and advance supportive policies.



Policy & regulatory changes to deliver a reliable & low-cost power grid

Accelerate interconnection to eliminate unnecessary delays in connecting new energy storage resources to the grid. Batteries are available now and can be built and brought online quickly, but lengthy bureaucratic process can force shovel-ready projects to wait years just to connect to the grid.

Reform market rules to generate price signals that adequately incentivize storage development. At present, existing signals are insufficient to underwrite the costs of new entry. Additionally, market rules and accreditation should value storage's reliability contribution comparably to other resources, avoiding structural disadvantages.

Remove ambiguity on when storage must register as a transmission customer and how associated transmission charges are applied.

Streamline and clarify permitting at the state and local level to ensure that new energy infrastructure can be built safely, responsibly, and quickly. Consistent rules for permitting energy storage projects can help lower project costs, enforce uniform standards, and create more certainty for all stakeholders. Moreover, the fragmented state processes within SPP for defining and treating storage have required reviews by state commissions and imposed unnecessary oversight.