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Solar and battery storage are strengthening the Texas grid

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Despite scorching heat and rising demand, the system is as reliable as ever.

Opinion|Commentary *By Daniel Giese Aug. 26, 2025*

Sheep graze on a solar farm owned by SB Energy on Tuesday, Dec. 17, 2024, in Buckholts, Texas.

Texas' diverse mix of energy resources continues to deliver results, and the entire country should take note.

Texas is leading the creation of a smart and flexible grid, which is meeting record demand, keeping the lights on, and helping prevent price spikes, writes Daniel Giese

Ashley Landis / AP

Solar and storage make for a more reliable, affordable power grid, and Texas — the energy capital — is a shining example.

Texas has installed more solar and storage than any state over the past three years, and because of the state's free market energy policies, the Lone Star State is expected to continue to lead on solar and storage deployment for the foreseeable future. That's a good thing for Texas' grid, ratepayers and economy.

The Electric Reliability Council of Texas, the electric grid operator serving 90% of the state, projects that Texas' energy demand will double by the end of the decade. This summer, the state will break load demand records due to a combination of forces: an already large and growing population, an influx of power-hungry data centers and manufacturing plants, and hotter summer temperatures that force Texans to crank the air-conditioning.

And yet, despite these challenges, ERCOT says that the grid is as reliable as ever, putting the chances of a power outage this summer at just 0.5% — compared to a 16% risk as recently as the summer of 2024.

Texas owes its strong position to the nearly 10,000 megawatts of solar and battery storage added to the grid since last summer, even as the state has *lost* 366 MW of natural gas capacity over the same time frame, according to ERCOT.

On July 29, as a heatwave draped Texas and the Dallas-Fort Worth metro region hit 100 degrees for the first time this year, peak demand on the grid approached summer records. But ERCOT sailed through the peak with no problem, setting a new solar generation record of 29,337 MW *and* a new energy storage record with 6,769 MW discharged in the evening.

No power outages. No calls by the utilities urging Texans to turn their thermostats up to conserve energy. All because of robust solar and storage deployment.

A similar story happened earlier this year. In May, when an unseasonably severe heat wave swept across the state at the same time that many natural gas plants were down for maintenance, solar and storage carried the day.
This wasn't always the case.

Throughout the brutal Texas weather of 2022 and 2023, ERCOT issued multiple conservation requests due to high demand for energy and a potential shortfall in operating reserves. Since then, Texas has gone all in on solar and storage, and in 2024 — the sixth hottest Texas summer on record — ERCOT issued no conservation requests.

Importantly, this increase in reliability has also led to a decrease in prices for all Texans. Let's compare a hot, high load day in mid-July 2022 to a mid-July day this year. The strong additions of solar and storage allowed ERCOT to serve 8% more energy demand at one-tenth the wholesale price, going from spending $516 million for the day's energy on July 18, 2022, to $51 million for all of July 22, 2025.

The Texas Comptroller's office agrees that battery storage is instrumental in stabilizing the grid, saying that battery systems "have proven their value to the Texas market by increasing reliability and reducing costs."

And according to a January 2025 report by the Federal Reserve Bank of Dallas, "rising solar and battery output in ERCOT clearly enabled a summer of triple-digit heat without the close calls of previous summers and with lower prices to boot."

Solar and storage are helping drive down electricity costs in Texas — both for energy and the services that keep the grid running smoothly. In summer 2024, costs for these "ancillary services" were 95% lower than the year before, thanks to battery storage now supporting the entire ERCOT market.

Texas' diverse mix of energy resources continues to deliver results, and the entire country should take note. Texas is leading the creation of a smart and flexible grid which is meeting record demand, keeping the lights on, and helping prevent price spikes. Policymakers nationwide should do everything in their power to encourage solar and storage development and reject proposals to obstruct or hinder the growth of the fastest and most affordable forms of energy to add to the grid.

Because of solar and storage, we do not have to choose between reliable energy and affordable energy. We can have it all. Texas is proof.

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