# Analysis reveals dramatic shifts in energy storage revenues in Texas and California



In recent analyses focusing on the trends in energy storage amid the evolving landscape of American power markets, significant insights have emerged particularly from the reports by GridBeyond. Their recent white paper delves into the key market trends affecting battery storage in ERCOT (Electric Reliability Council of Texas) and CAISO (California Independent System Operator), which are instrumental for understanding the current and future financial dynamics for power storage solutions.

The white paper reveals that battery storage revenues within ERCOT have experienced a drastic decline, attributed to several interlinked factors. Notably, increased installations of batteries, a surge in renewable energy generation—most prominently from solar—and alterations in the operational modalities of the ERCOT system, specifically regarding the ancillary service known as the ECRS (ERCOT Contingency Reserve Service), have all contributed to this decline. Speaking to Energy-Storage.News, representatives from GridBeyond noted that “battery storage revenues in ERCOT have dropped significantly—down to just 5%-10% of the 2023 levels during peak months in 2024.” This finding underscores the competitive pressures arising from a landscape dominated by renewed energy sources.

Furthermore, data shared by GridBeyond indicates that prices for Responsive Reserve Service (RRS) within ERCOT have fallen steeply—from US$120/MWh in 2023 to a mere US$8/MWh in 2024—a staggering fifteen-fold decrease. This revenue decline is observed despite the operational challenges presented by mild weather conditions. Market analysts highlight a simultaneous increase in solar generation capacity as a crucial factor, as renewable providers frequently offer their services at zero or negative pricing, which subsequently undermines the pricing power of conventional energy sources.

The paper elaborates on the complexities that are influencing these market dynamics. Rapid advancements in battery installations enhance flexibility within the grid, consequently reducing dependence on costly resources that traditionally manipulate energy prices. Changing regulations, such as NPR 1224 introduced in ERCOT, have also adjusted ECRS dispatch strategies, further dampening price volatility in a market struggling with supply and demand imbalances, particularly during marked transitions from solar generation to thermal resources—and vice versa. Such fluctuations can sometimes lead to supply constraints, accentuating the "duck curve" phenomenon, which shows the uneven demand and supply balance at various times of the day.

The evaluation does not shy away from discussing the broader socioeconomic forces at play in Texas. Increased baseline demand driven by a growing population, alongside the rise of data centres, cryptocurrency operations, and AI server farms, are intensifying pressure on supply margins. Coupled with the retirement of coal facilities—which historically offered stable baseload generation—this trend complicates the operational landscape, driving up costs and price volatility.

On a more strategic front, the white paper posits that effective bid optimisation is essential for players in the market to navigate these emerging challenges successfully. The analysis suggests that a robust approach to profit and loss (P&L) strategies requires not only technical aptitude in bid strategies but also a keen understanding of market trends and regulatory changes.

Competitive operators are encouraged to diversify their market participation by engaging in both Day-Ahead (DA) and Real-Time (RT) energy markets. Such a dual-approach allows for better exploitation of pricing spreads, leading to potential revenue enhancements. Reports indicate some entities have recognised P&L improvements reaching up to 23% through maintaining a balanced portfolio that accommodates both physical and financial energy products.

Moreover, critical to these strategies is the alignment of bidding tactics with the capabilities of battery storage assets, especially in highly volatile markets like ERCOT. The ability to store energy when prices are low and to discharge when demand—and prices—are high becomes increasingly strategic, allowing operators to adapt pragmatically to ongoing market conditions.

Understanding the nuanced regulatory environments and structural changes within ERCOT and CAISO continues to be indispensable. Each market has its operational constraints and regulations that directly dictate market behavior. Maintaining an informed perspective on these parameters, as seen with changes under ERCOT’s NPR1224, allows market participants to hone their strategies effectively.

The implications of these findings from GridBeyond signal that both ERCOT and CAISO are poised for transformative changes. Successful navigation of these transforming landscapes will require sophisticated tools and an adept understanding of market dynamics. Thus, the landscape of energy storage continues to evolve, with stakeholders seeking innovative bidding and operational strategies to optimise their revenue streams and enhance their market positions. Notably, GridBeyond is set to discuss these insights in greater detail during an upcoming sponsored webinar in November 2024.

Source: [Noah Wire Services](https://www.noahwire.com)

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