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BETTER ENERGY • MORE CASH

Q2 2025: Energy Markets Insights for DER Owners

July 2025

Introduction & Executive Summary

A perfect storm of change is sweeping across wholesale energy markets, creating both risk and financial opportunities for businesses.

The growth of renewables, increasing data center demand, and the electrification of everything are driving up two things: (1) energy costs and (2) the value of grid-balancing services—meaning more money is on the table for energy users.

Unmanaged, these costs can cripple businesses. Yet companies who manage energy best create competitive advantages. In this report, you'll find a guide to unlocking the most profitable, least disruptive path to new revenue and savings for your organization.

Key market highlights and opportunities:

- AESO (Alberta): A market restructuring (2026-2027) will unlock significant new value. A shift to a more flexible hourly market and a tripling of the energy price cap to $3,000 CAD/MWh will dramatically increase revenue potential. Also, new reliability products are being introduced, creating additional earning opportunities.
- CAISO (California): The primary challenges are high retail electricity rates and program volatility. Participation in demand response remains a vital strategy for offsetting high energy costs and demonstrating the value of distributed energy resources to policymakers.
- ERCOT (Texas): The new SB6 bill introduces two demand response programs for large energy users (>75 MW) and calls for a reevaluation of the 4 Coincident Peak model. Concurrently, ERCOT is launching a new real-time balancing market in December, which is expected to reverse the recent decline in ancillary service prices and enable facilities with less predictable loads to participate and earn revenue.
- MISO (Midwest): High capacity prices are the new norm, with the latest auction clearing at $79,000/MW-yr due to tighter supply and a new auction structure. This creates a strong financial incentive for businesses to earn revenue by helping balance the MISO grid.
- PJM (Mid-Atlantic): PJM released its auction results for 2026/2027 - pricing cleared at the newly approved pricing cap of approximately $120,000/MW-yr. This represents a 22% increase from the historically high 2025/2026 RTO price.

Continue reading for the full report.

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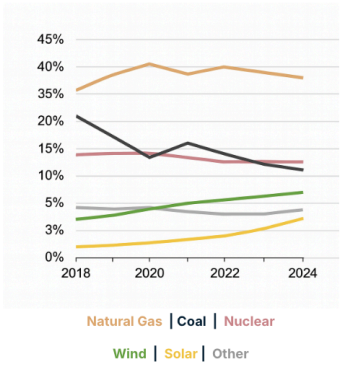
Key market trends

The growth of intermittent renewable energy resources, such as wind and solar, is increasing the need for grid balancing resources. As a result, prices for both capacity and ancillary services are rising. Simultaneously, demand is growing from data centers, and energy consumption patterns are shifting due to the electrification of everything.

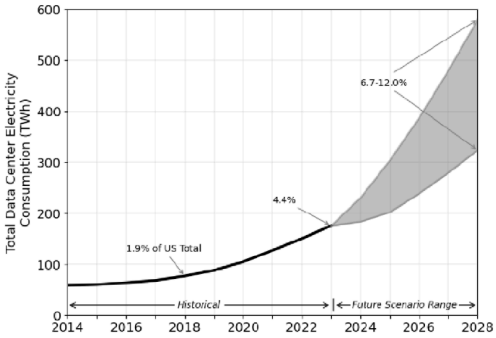
These combined pressures make contributing toward grid stability more valuable, creating more opportunities for energy users to earn money through demand response programs by reducing or shifting their energy use.

U.S. electricity generation by source



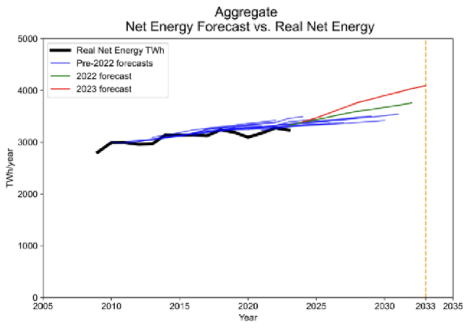
Source: EIA

Total data center electricity use from 2014 to 2028



Source: LBNL

Aggregate electricity generation for large sample of U.S. utilities



Source: BPC

Grid operators across the U.S. and Canada are pursuing market reforms to adapt to these shifting supply and demand patterns - and opportunity emerges from change. That's why it's more critical than ever before to work with an agile and proactive demand response provider that advocates on your behalf and creates the most profitable and the least disruptive revenue opportunities for your business.

Here's how these broad themes are playing out across the U.S. and Canada.

AESO (Alberta Electric System Operator)

Restructured Energy Market = more customized DR participation

AESO is preparing for a restructured energy market that will allow for more customized demand response participation. Significant changes are anticipated between 2026 and 2027. For demand response, one of the biggest changes will be that Operating Reserves (OR) will start to clear in an hourly market.

Historically, customers would have to be available for the entire on-peak or off-peak period to participate. This meant that Voltus could only serve a limited number of customers who have load available from 7 am to 11 pm. The new hourly structure will allow loads with all types of schedules to offer into the market whenever they have load, and opt out when they don't. **This opens an opportunity for more customers to participate.**

We also expect that with an hourly market it will be easier to predict pricing, and to predict the hedge that OR provides to your exposure to energy prices. Voltus will be able to more easily serve customers who want to shut down their operations when pool prices are high and participate in OR in other hours.

Now, what's the impact on pricing? In Alberta, OR pricing is set as an index to the energy price, which they call the "pool price." Pool prices have historically been capped at $1,000/MWh, but the cap is increasing to $3,000/MWh. OR revenue comes very disproportionately from the small share of hours that clear in extreme conditions, and therefore this change should meaningfully increase the upside of OR participation.

New reliability products in Alberta

AESO is exploring more products to address growing demand.

First is the **Emergency Demand Response program,** a demand response capacity product currently under consideration, with stakeholder sessions scheduled for Q4. In this program, customers will get paid for being available during the summer or winter seasons and will get called for a few emergency curtailments.

Next, is **R30** – a real-time procurement 30-minute response product that could include DR loads. Final rules will be released at the end of August. We have low certainty of the potential earnings, because this product may only be available to generators, but we are advocating for the inclusion of DR loads. It will likely be delivered by June 2026.

Lastly, **Fast Frequency Response Plus (FFR+)**, not to be confused with the existing Fast Frequency Response product. FFR+ is designed to be a highly available ancillary service that combines rapid frequency response capabilities with additional layered reliability services. This new product is expected to bring stable, long-term revenue potential for DR participation and enhanced grid support. An initial industry engagement session for FFR+ is planned for the end of this month.

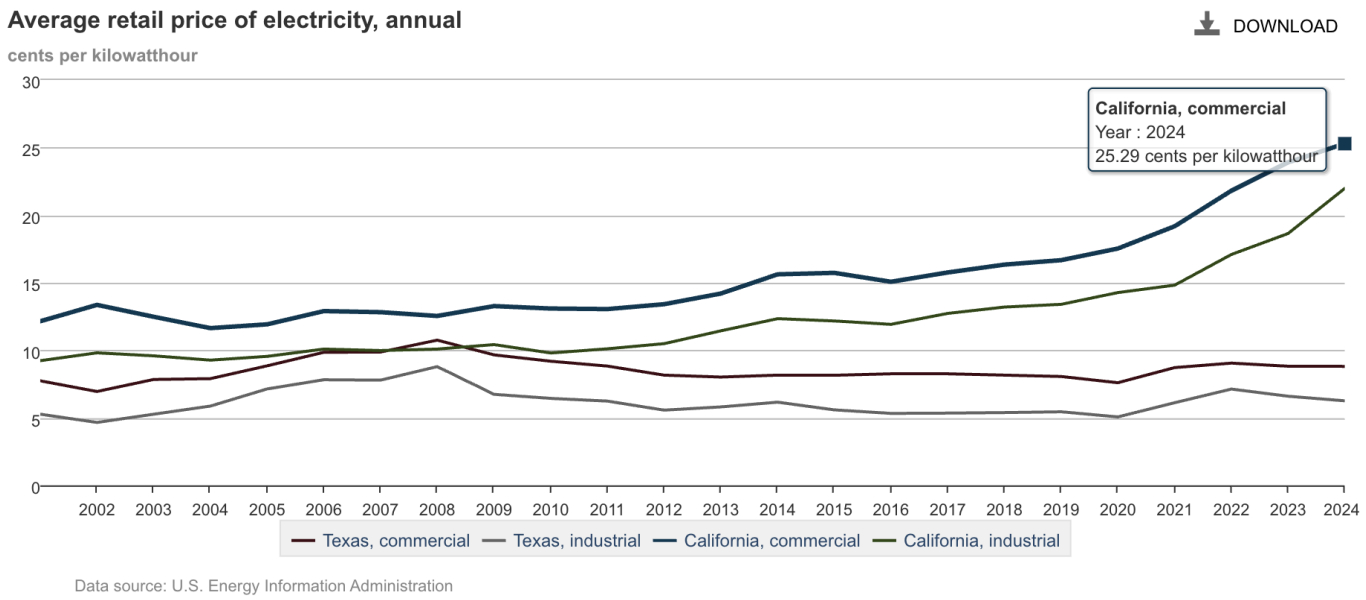
CAISO (California Independent System Operator)

Policymakers in California have been focused on reducing the high cost of electricity for ratepayers. Meanwhile, the regulatory landscape has been challenging for DR aggregators, as each year, new

programs are being launched while old programs are retired. This creates a lot of volatility for demand response participants.

Retail electricity costs in California continue to climb

In CAISO, Voltus is seeing wholesale prices swing between negative prices caused by oversupply, and high prices during the evening spike in demand after solar drops off for the day. Additionally, retail rates continue to rise due to wildfire mitigation, decarbonization programs, and infrastructure investment costs.



We have seen the high pricing in CAISO push many industrial loads out of the market; they are closing or relocating operations to other geographies. The pricing is also putting a pinch on residential customers. Because of these challenges, policymakers are hyper-focused on reducing retail rates, and the budget and policy environment for demand response programs is constantly changing.

Program volatility

If you look at the demand response programs that were offered in 2022 compared to the ones available in 2025, you'll see they are quite different.

2022
Emergency Load Response Program (ELRP)
Demand Response Auction Mechanism (DRAM)
Base Interruptible Program (BIP)
Capacity Bidding Program (CBP)
Resource Adequacy (RA) PG&E

2025
Market Aware Batteries (DSGS 3)
Day-Ahead Emergency Response (DSGS 2)
Base Interruptible Program (BIP)
Capacity Bidding Program (CBP)
Resource Adequacy (RA) PG&E

California has recently focused its DR investments into the Demand Side Grid Support (DSGS) program, which has a variety of options for different DER types like load, batteries, and electric vehicles. Voltus continues to advocate for the continuation of this program, but its budget is now being threatened. **We encourage energy users to continue to participate in this program for its economic and reliability benefits - and to demonstrate the power of distributed energy resources to the ISO so they will continue funding the program.**

ERCOT (Electric Reliability Council of Texas)

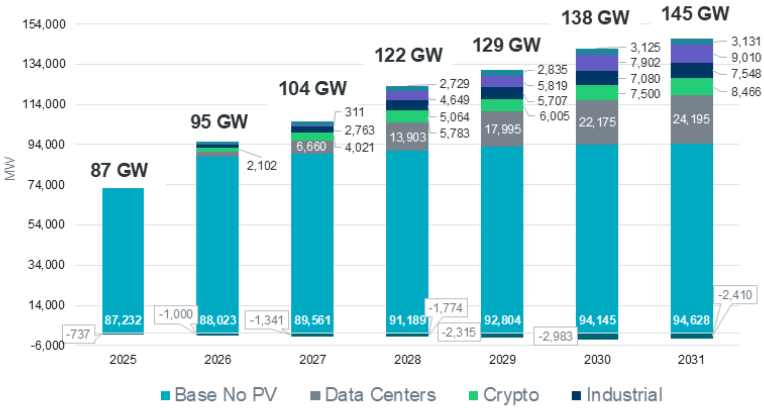
The rapid growth of data center demand and the increasing integration of battery storage resources are driving a number of market reforms in Texas.

SB6: Large loads bill

The Texas SB6 bill, which was recently passed by the state legislature, aims to regulate large electricity users driving load growth in the state, namely data centers, cryptominers, and large manufacturers.

ERCOT defines large loads as any site above 75 MW of energy usage. ERCOT forecasts 138 GW of large loads on its grid by 2030, up from 87 GW this year.

There are two changes related to distributed energy resource programs.



	2025	2026	2027	2028	2029	2030	2031
Data Centers	0	2,433	6,660	13903.35	17,995	22,175	24,195
Crypto	0	2,102	4,021	5782.964	6,005	7,500	8,466
Industrial	0	1,387	2,763	5064.178	5,707	7,080	7,548
Hydrogen	0	5	311	4649.1	5,819	7,902	9,010
Oil and Gas	0	1,699	2,320	2728.529	2,835	3,125	3,131
PV	-737	-1,000	-1,341	-1773.73	-2,315	-2,983	-2,410

(Source: ERCOT)

First, the bill introduces two new demand response programs for large loads aimed at ensuring that large, non-critical loads support, rather than strain, grid reliability.

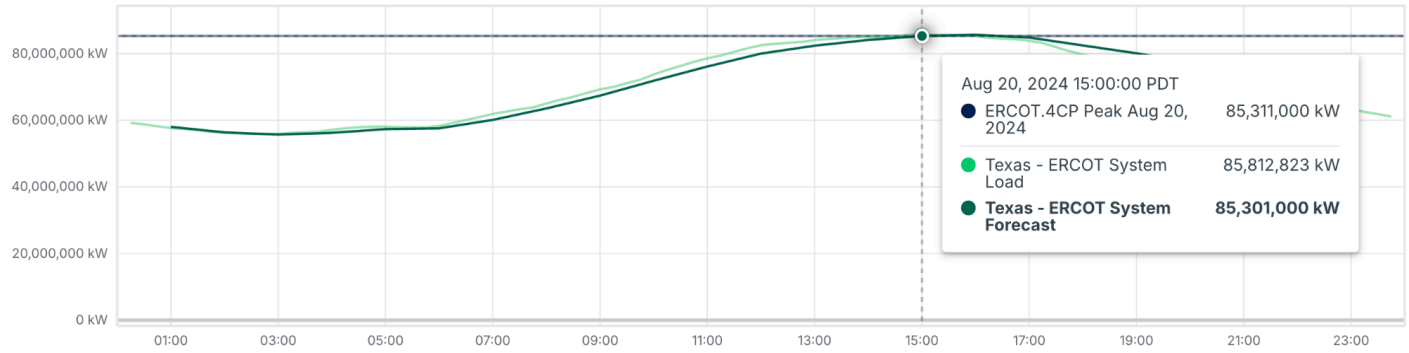
Program 1

Requires mandatory curtailment during load shed events. It also allows the disconnection of eligible loads and requires the installation of shut-off equipment as a precondition for grid interconnection.

Program 2

Voluntary curtailment during tight supply conditions. This program is competitively procured, similar to ERCOT's capacity program - Emergency Reserve Service, or "ERS."

The second change is related to avoiding peak demand charges. Currently, electricity consumers are charged transmission charges based on their usage during peak demand periods. This is what's known as the 4 Coincident Peak (or 4CP) model, and Voltus's program to avoid these charges is called "Peak Saver." The challenge is that Texas-based data centers are so effective at avoiding the peaks, demand charges are disproportionately passed on to smaller commercial and industrial energy users.



[Actual vs. forecasted system load in Voltus's platform]

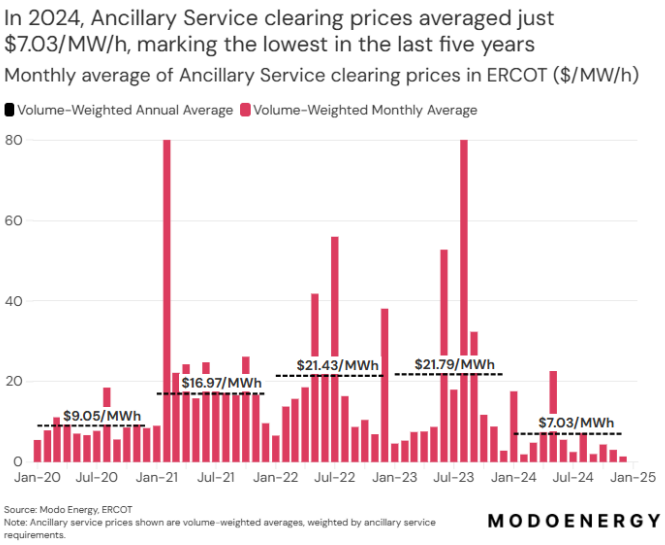
The SB6 bill doesn't immediately scrap the 4CP model—but it directs the Public Utilities Commission of Texas to assess its fairness and effectiveness in light of evolving demand patterns. If 4CP is found lacking, the commission will have to develop and adopt a replacement or revised approach to charging customers for capacity by the end of 2026. The goal will be to ensure long-term cost share equity and grid stability.

Voltus is actively monitoring the PUC's assessment and will provide our customers with a strategy that best fits their operational and savings needs once any changes are made.

Expected rise in ancillary services pricing due to increasing demand and addition of a real-time balancing market

In ERCOT, the growth of batteries on the grid has caused ancillary services pricing to decline, while most other markets are seeing rising prices for their ancillary service programs.

We expect this price decline to reverse when ERCOT introduces a new market structure that co-optimizes market clearing between energy and ancillary services, and introduces a new real-time market to balance day-ahead positions. These changes are slated to take effect in December.



In addition to pricing increase, there is another piece of good news here for demand response participants. In the past, it was difficult for unpredictable loads to participate in ancillary services programs because there was no compliant way to change day-ahead offers if a customer's load unexpectedly changed. **With the new real-time market, less predictable loads can now participate in ancillary services, thanks to innovation from the Voltus team.**

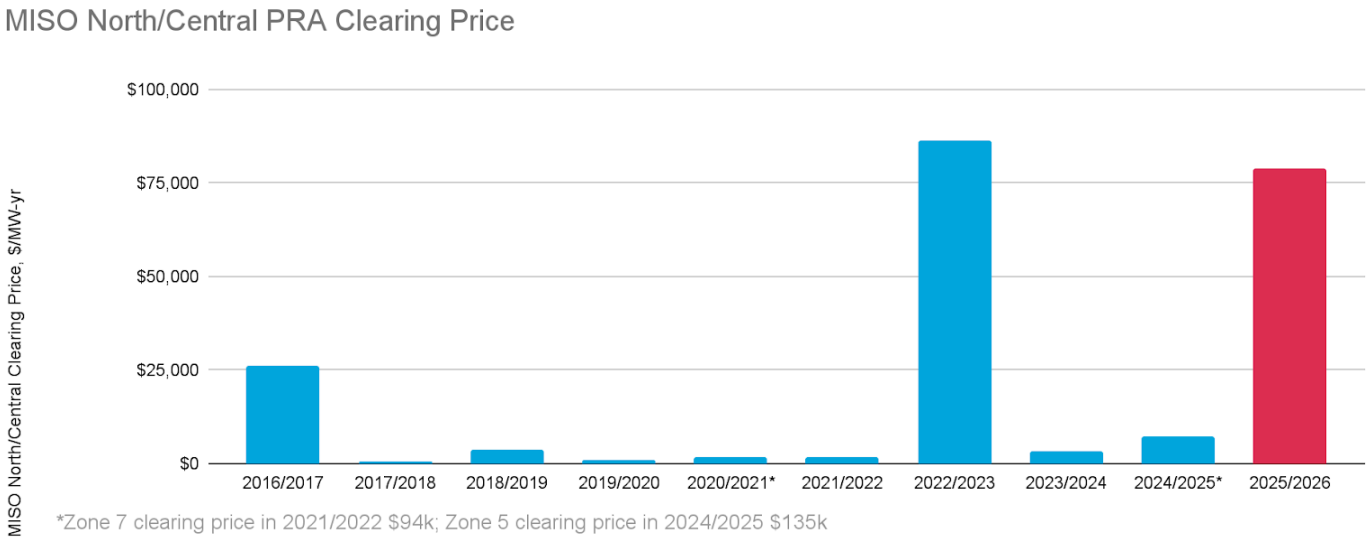
Voltus's AI Adjuster tool monitors loads and relays real-time load availability and reduction potential to the market. The visual below demonstrates how Voltus's AI Adjuster updates a customer's nomination in response to real-time load predictions.

Voltus's AI Adjuster

If you have opted out of ancillary services in ERCOT in the past because of low prices or a variable load pattern, please reach out so we can evaluate your potential earnings.

MISO (Midcontinent Independent System Operator)

In our last report, we also discussed our predictions for MISO's capacity auction shortly before their release. The auction results released in late April are the first that used the new demand curve, and we predicted that the new auction structure would cause prices to clear high... and we were right.

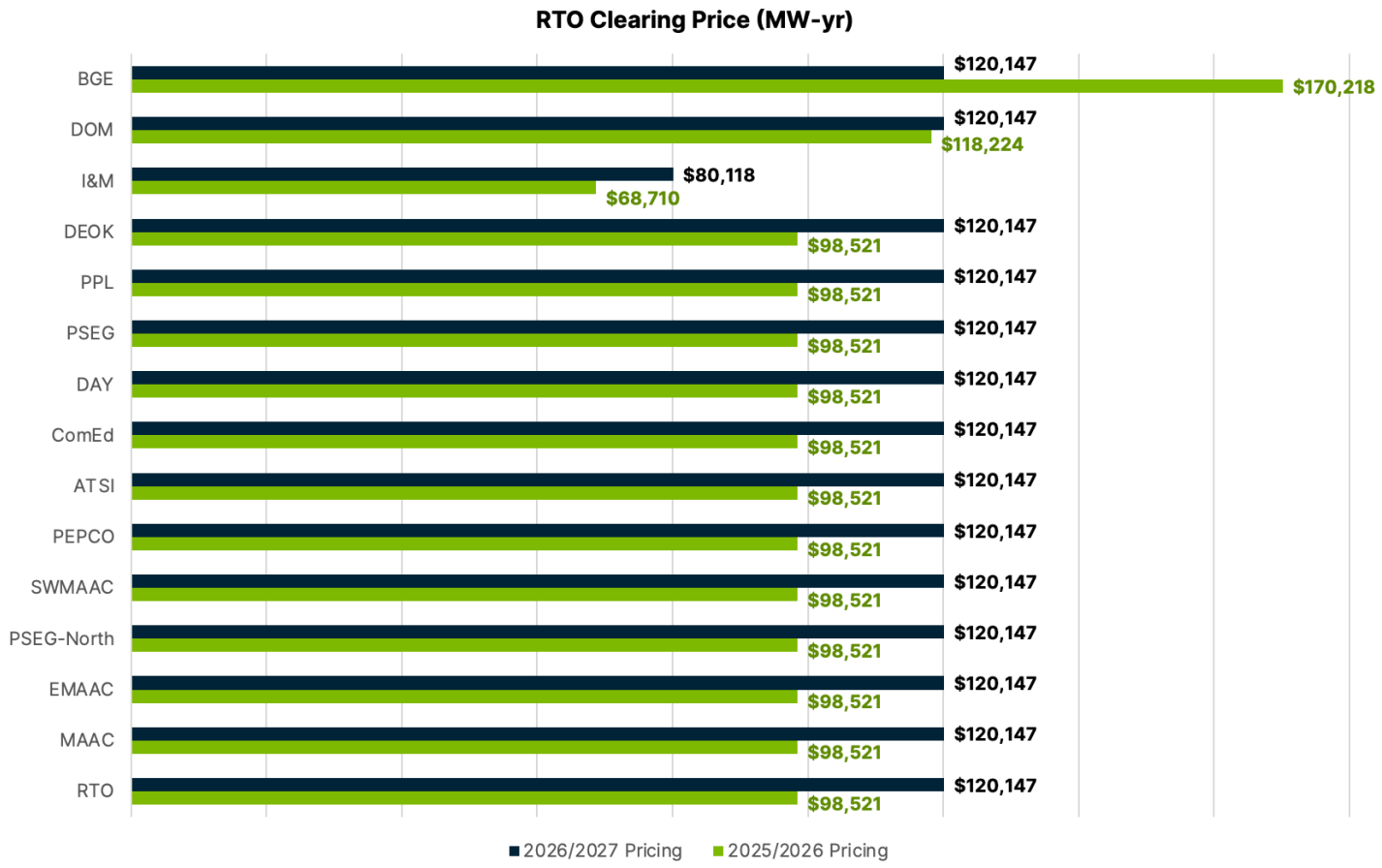


MISO's Planning Resource Action cleared at roughly $79,000/MW-yr in North/Central and $77,000/MW-yr in the South. Overall, while MISO expects to have sufficient supply to meet system needs this year, decreased accreditation for existing capacity resources and retirement of coal and natural gas units drove the supply stack to be tighter than in previous years.

Again, enrolling in DR programs is one of the easiest ways to turn this high pricing from a cost to a source of revenue.

PJM (Pennsylvania Jersey Maryland Interconnection)

On July 22, 2025, PJM released its Base Residual Auction results for 2026/2027, with pricing cleared at the FERC-approved cap of approximately $120,000/MW-yr, representing a 22% increase from the 2025/2026 RTO price.



In our last Energy Markets Insights Report, we explained what led PJM's capacity prices to spike in 2024 and continue to climb in 2025: regulatory uncertainty over subsidized resources, underperforming generators during extreme weather, declining auction prices, stalled investments, and a worsening supply-demand imbalance fueled by rapid electrification and a clogged interconnection queue.

These auction results set the price for the program year starting on June 1, 2026. These prices will also set the value of peak demand reduction efforts *this* year and the value of capacity program participation *next* year. **The good news is that demand response and peak demand charge avoidance with Voltus remains a proven way to offset high capacity prices.**

Conclusion

The ongoing evolution of the grid is driving significant changes in pricing, legislation, and available DR programs, thereby creating new revenue opportunities. To capitalize on these changes, it is crucial to partner with an expert who can navigate the complexities of the market, advocate on yourr behalf, and identify the most profitable demand response solutions.

To learn more, visit www.voltus.co or reach out to info@voltus.co.