

ERCOT MONTHLY

OCTOBER 2025

A RECAP OF KEY INFORMATION
FROM THE PREVIOUS MONTH,
A LOOK AT THE UPCOMING
MONTH, AND A SNAPSHOT OF
ADDITIONAL KEY ITEMS

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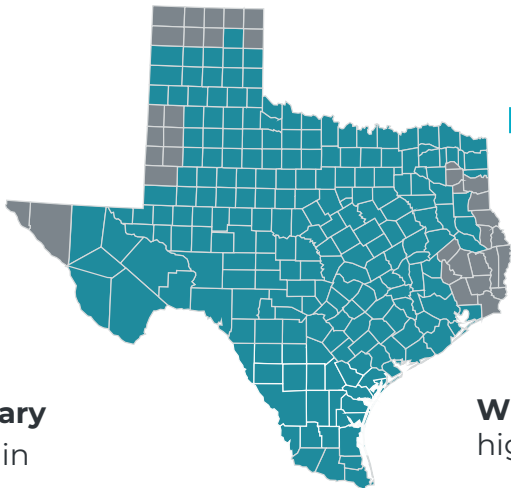


September 2025 Look Back

83,679* MW

September 2025
peak demand
(September 4, 2025)

ERCOT procured
\$6.24 million in **Ancillary
Services** for grid reliability in
September 2025



84,470 MW

September record
for comparison
(September 8, 2023)

Wholesale pricing was slightly
higher than this time last year

*unofficial until final settlements



29,887 MW

September solar generation
record



24,984 MW

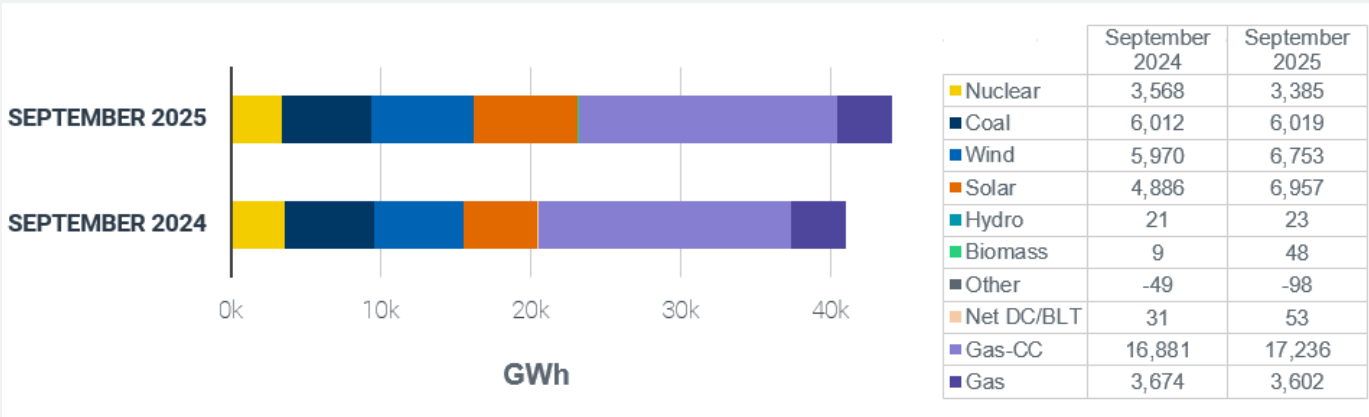
September wind
generation peak



7,741 MW

September discharge record

September 2025 vs. 2024 Energy Generation Comparison



November Outlook

Monthly Outlook for Resource Adequacy (MORA) Report

The probabilistic modeling supporting the November MORA [report](#) shows a less than 1% chance of having to declare an Energy Emergency Alert (EEA). Reserve shortage risks are the highest during the evening hours from 6 p.m. through 9 p.m. CST, when daily loads are typically near their highest levels and solar production is ramping down. There is also a slight risk in the morning hours reflecting cold snaps that increase electric heating demand. Under typical grid conditions, there should be sufficient generating capacity available. The full report can be found on the Resource Adequacy [page](#) of ERCOT's website.

Additional Items of Note

GE Vernova to Help Drive Innovation in Distributed Energy Resources

As part of our [Grid Research, Innovation, and Transformation \(GRIT\)](#) efforts, ERCOT is partnering with GE Vernova in a Proof-of-Concept (POC) implementation of the ERCOT Distribution Awareness Platform (EDAP).

EDAP technology is designed to 'talk to' Distributed Energy Resources (DERs) like small-scale power generation (rooftop solar panels) or energy storage (batteries) at the distribution or behind-the-customer-meter level to provide real-time enhanced situational awareness to ERCOT's operations and planning teams. With more than six gigawatts of installed capacity, which can serve over 1.5 million Texas households, DERs offer significant potential to support grid reliability across the ERCOT region. EDAP will deliver the tools needed to improve visibility into DERs, strengthen reliability, and ensure the Texas grid evolves to meet growing demand and increased DER penetration. Read more in our [news release](#).

ERCOT's Energy-Only Wholesale Market

The ERCOT Region operates one of the most distinctive electricity markets in the United States, a system known as the energy-only wholesale market. In this market, electricity generation resources are paid solely for the electricity they deliver to the grid, not for simply being available. This design encourages competition and efficiency with prices determined by supply and demand.

The foundation for the energy-only wholesale market was laid in 1999, when the Texas Legislature passed Senate Bill 7, deregulating electricity and tasking the Public Utility Commission of Texas (PUCT) with developing the rules. ERCOT's role is to facilitate the wholesale market, settle financial transactions, and develop pricing mechanisms and

demand response programs that benefit all stakeholders, including generators, electric cooperatives, municipalities, and residential consumers.

ERCOT uses two main tools to manage electricity transactions:

1. Day-Ahead Market (DAM)

Each day, the ERCOT Market Participants submit voluntary bids to buy or sell electricity for the following day. ERCOT matches supply and demand, selecting the lowest cost offers to meet anticipated needs. The DAM sets market-clearing prices for energy and reliability products known as Ancillary Services. This market is financial, allowing participants to hedge against price volatility that may occur in real time.

2. Real-Time Market (RTM)

Forecasts aren't always perfect, and ERCOT operates the RTM to adjust for actual supply and demand every five minutes. Prices fluctuate in real time, rising and falling when demand surges or supply drops. Generators submit offers showing how much electricity they can produce and at what price, and ERCOT's Security Constrained Economic Dispatch (SCED) engine selects the cheapest available offers to meet current demand, also factoring in grid reliability and transmission constraints.

Scarcity Pricing and Reliability

When electricity demand approaches or exceeds available supply, ERCOT employs scarcity pricing mechanisms to maintain grid reliability. The Operating Reserve Demand Curve (ORDC) is a key tool that adjusts real-time prices based on the amount of energy reserves. As reserves decrease, prices rise to signal generators to stay online and attract fast-responding resources like batteries. As technology has improved, a growing number of customers are able to reduce their energy consumption to help balance the grid via demand response.

Locational Marginal Pricing (LMP)

Electricity prices can vary by location due to transmission constraints, similar to traffic jams on a highway. LMP reflects the cost of delivering electricity to specific locations at specific times, providing economic signals for both short- and long-term grid investments.

Ancillary Services

[Ancillary Services](#) are reserves purchased in the DAM to ensure enough capacity is available for the next day and can be deployed quickly to balance the grid during emergencies or rapid changes in supply and demand. ERCOT aims to generally maintain reserves at or above 6,500 MW for reliable grid operation. When reserves fall below this margin, ERCOT deploys additional reliability tools, including Ancillary Services, to keep the grid stable.

ERCOT's intricate market mechanisms and proactive approaches are crucial in maintaining grid reliability and efficiency amidst evolving energy demands and advancements in technology. For a more comprehensive understanding of these market operations and other topics, visit [ERCOT Grid Insights](#).

The Evolving Dynamics of Large Load Interconnections

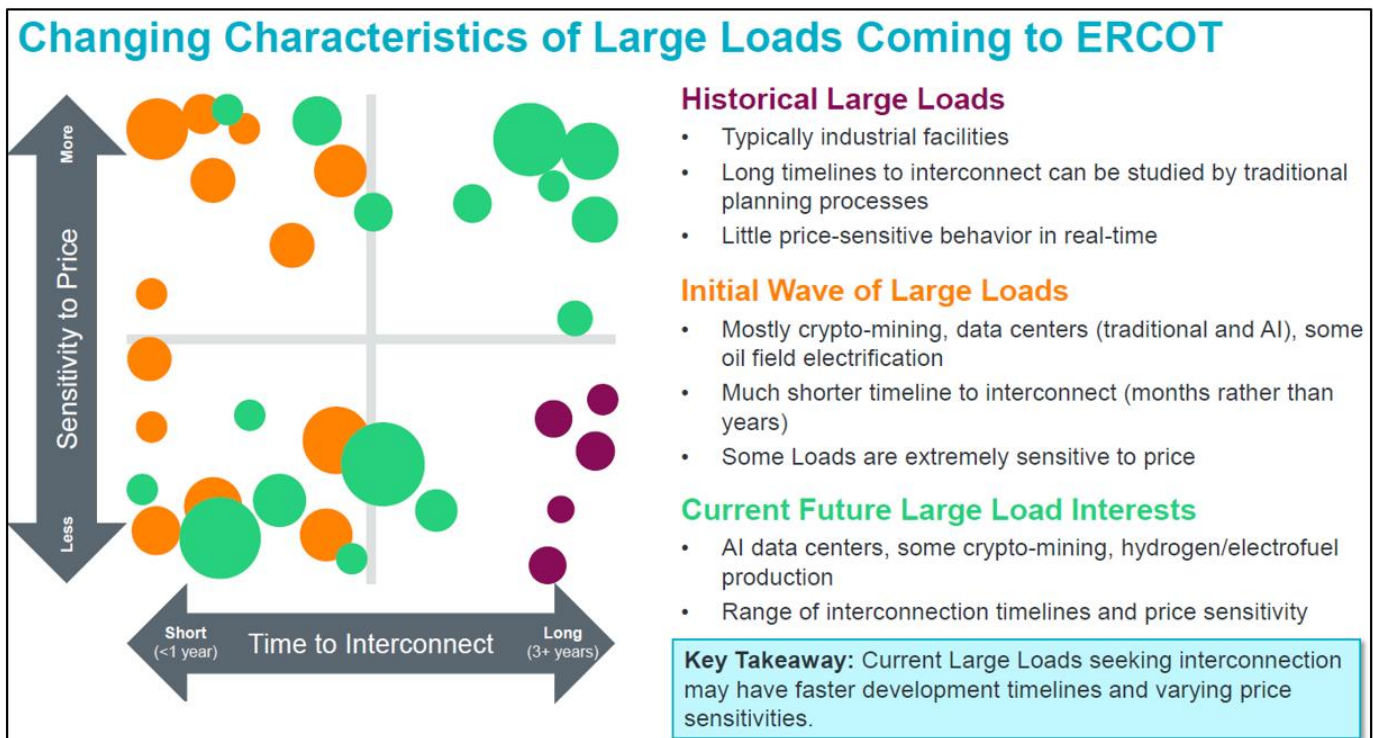
As Texas continues to attract energy-intensive industries, the state's electric grid planners are facing a new kind of challenge that demands not just more physical infrastructure, but more efficient and flexible planning.

In a recent [presentation](#) to the PUCT, ERCOT Vice President of System Planning and Weatherization Kristi Hobbs outlined how ERCOT is addressing its large load interconnection process to meet the demands of a rapidly changing energy landscape.

For stakeholders across government, industry, and the energy sector, this presents challenges and opportunities for how to ensure that Texas remains a magnet for economic development while maintaining the reliability and affordability of its electric grid.

Historically, grid planning in Texas was built around steady, predictable growth. Industrial facilities (the traditional “large loads”) took years to develop, allowing ERCOT and Transmission Service Providers (TSPs) to plan and build infrastructure accordingly. A modest transmission capacity margin was sufficient to absorb forecast variances, balancing reliability with cost efficiency.

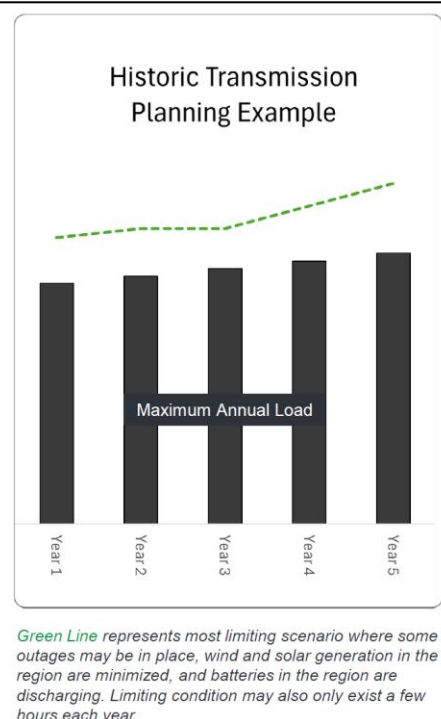
Today's large loads are different. The rise of crypto mining, AI data centers, hydrogen production, and other energy-intensive operations has introduced a new class of customers that can be built in a substantially shorter timeframe than traditional large loads.



ERCOT's Role in Grid Planning

- ERCOT, in coordination with Transmission Service Providers (TSPs), analyzes future grid conditions to ensure both existing and future Load can be reliably served at all times.
- Historic demand growth was fairly predictable. Traditional Large Loads were slower to construct and consume power. Increased demand could be accommodated via longer term transmission planning processes.
- As more Inverter Based Resources are integrated into the system and Large Loads can develop on faster timelines, historical transmission capacity margins can no longer absorb planning forecast variances.
- Transmission limits associated with serving Load vary according to system conditions (i.e., generation and transmission outages, variability of wind and solar output, Energy Storage Resource charging status, level of demand).
- ERCOT's role is to recommend transmission improvements to ensure Load never exceeds the region's ability to supply that Load *at any time*.

Key Takeaway: Historic transmission planning rules allowed for timely transmission build to meet consistent demand growth. It allowed for a minimal transmission capacity margin which was sufficient to absorb forecast variances and balanced transmission costs to consumers.



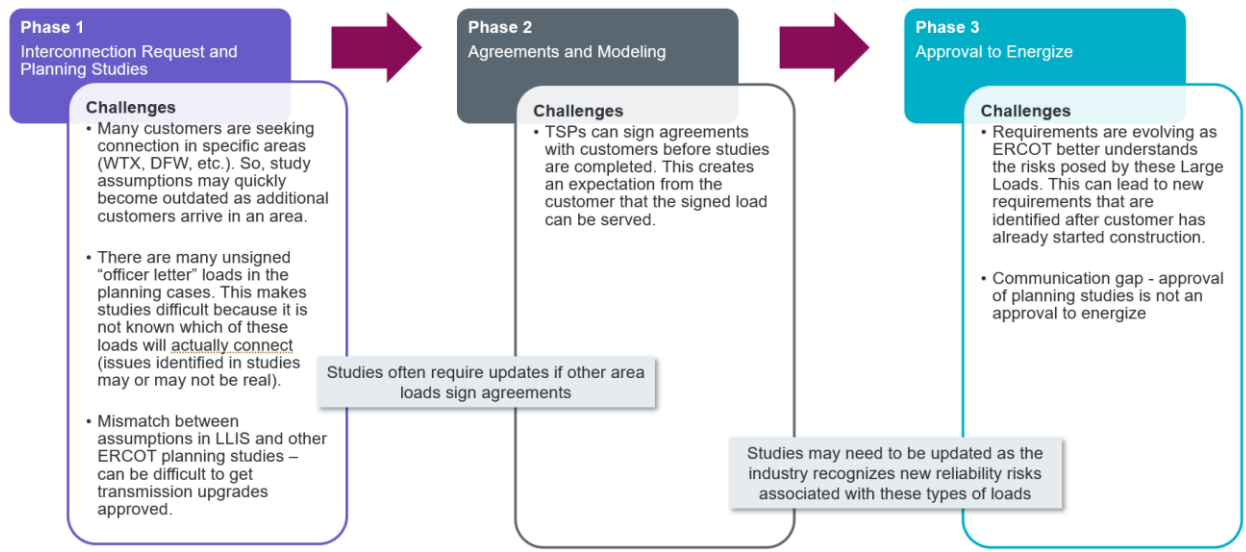
As of October 2025, ERCOT is tracking approximately 205 GW of large load interconnection requests, up from just 56 GW a year ago. Roughly 70% of these requests are classified as data centers, with many individual sites exceeding 1 GW in demand, and the pace of new large load interconnection requests continues to add more projects that ERCOT and TSPs must study. To manage the interconnection of large loads, ERCOT has implemented a three-phase interim process:

- **Planning Studies:** TSPs and ERCOT assess how much load can be reliably served and what upgrades are needed.
- **Agreements and Modeling:** Customers sign binding agreements with TSPs, and their loads are modeled into ERCOT's systems.
- **Approval to Energize:** ERCOT validates telemetry and modeling before allowing the load to consume energy.

While this process was originally designed for 40 to 50 large loads, it is now being tested by hundreds of applications, presenting scalability, coordination, and visibility challenges. These core challenges can lead to additional downstream issues that grid planners, TSPs, and large loads may face during the interconnection process:

- **Restudies and Uncertainty:** With many large loads targeting the same regions such as West Texas or the Dallas-Fort Worth area, assumptions in planning studies can quickly become outdated. This can lead to additional restudies and uncertainty for developers seeking interconnection.
- **Ride-Through Behavior:** Some of these large loads can rapidly disconnect from the grid during minor voltage dips, posing a new reliability risk. Current models don't fully capture this behavior, making it difficult to plan for and mitigate.
- **Lack of Standardization:** Variability in how TSPs handle interconnection requests adds complexity and slows down the process.

Challenges Manifesting in Each Phase of the Current Process



This evolution is closely aligned with the legislative direction set forth in [Senate Bill 6 \(SB 6\)](#), passed during the 89th Texas Legislative Session. Together, SB 6, PUCT implementation of SB6, and ERCOT's processes represent an effort to modernize Texas' grid planning in a way that supports economic growth without compromising reliability. To address the growing challenge set, ERCOT's discussion with the PUCT considered potential options for addressing the evolving large load interconnection landscape:

- **Regional and Systemwide Studies:** Moving from individual to regional studies could reduce the need for constant restudies and provide a clearer picture of grid capacity.
- **Flexible Load Integration:** Loads that are willing to curtail during peak conditions could be prioritized for interconnection, helping to balance reliability with economic growth.
- **Controllable Load Resources (CLRs):** Incentivizing loads that can support grid stability—such as through participation in demand response programs—could improve both transmission and resource adequacy.
- **Standardized Data Submission:** A single-source portal for submitting large load information would streamline coordination between ERCOT, TSPs, and customers.
- **Direct ERCOT-Customer Relationships:** Re-evaluating whether ERCOT should have a more direct relationship with large load customers could improve transparency and efficiency.

By embracing innovation, flexibility, and collaboration, stakeholders can ensure that Texas continues to lead, not just in energy production, but in energy planning and economic development.