



2024



# ERCOT MONTHLY

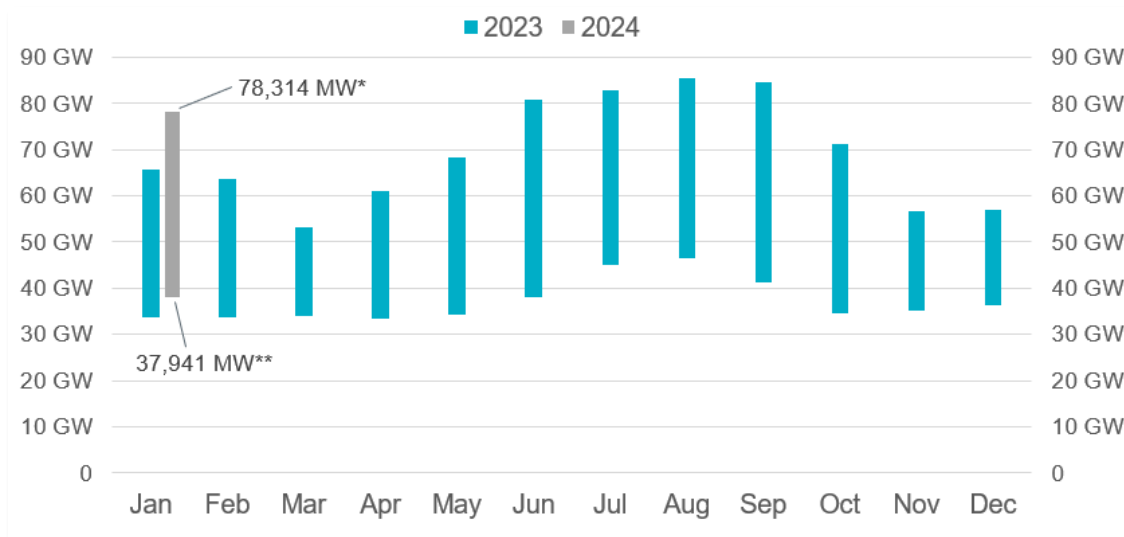
Issued February 2024

# January 2024 Look Back

## GRID OVERVIEW

### January Peak Demand

ERCOT set five new all-time winter peak demand records and six new January peak demand records during Winter Storm Heather, culminating with 78,314 MW in the 7-8 a.m. hour on January 16 (passing the previous winter record of 74,525 MW set December 2022 during W.S. Elliott). ERCOT had adequate supply to meet demand and did not enter emergency operations during W.S. Heather.



\*Based on the maximum net system hourly value from the 2024 January Demand and Energy report.

\*\*Based on the minimum net system 15-minute interval value from the 2024 January Demand and Energy report.  
Data for latest two months is based on preliminary settlements.

### Recent January Peaks

ERCOT peak demand records can be found on our website or by navigating to *About Us > Helpful Resources > Peak Demand*.

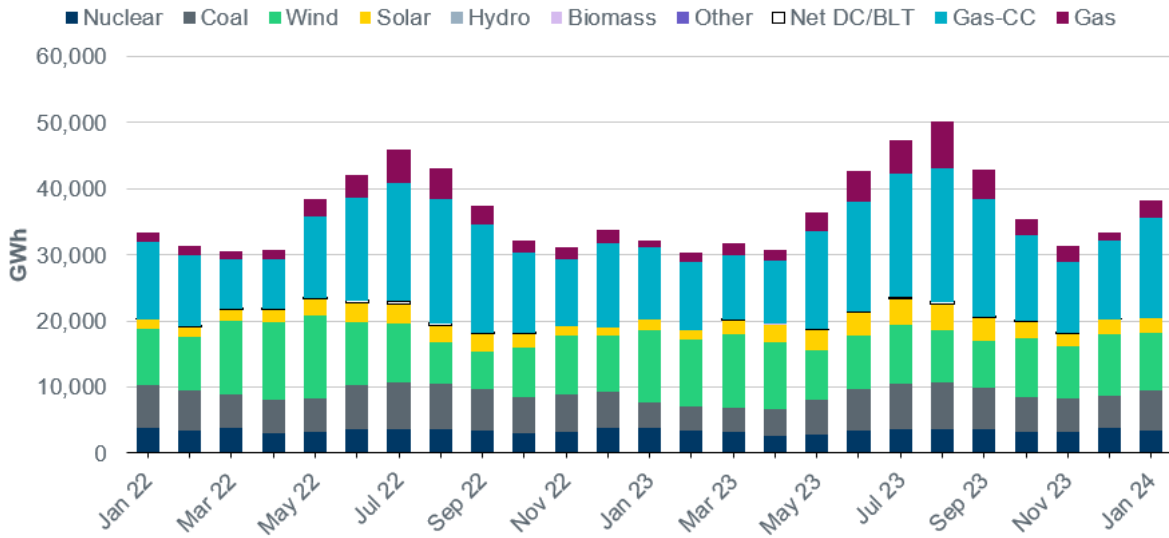
- The previous January record of 65,915 MW was set January 17, 2018.
- January 2023 peak demand: 65,632 MW in the 6-7 p.m. hour on January 31
- January 2022 peak demand: 63,541 MW in the 7-8 a.m. hour on January 21
- January 2021 peak demand: 58,606 MW in the 7-8 a.m. hour on January 12
- January 2020 peak demand: 49,072 MW in the 7-8 a.m. hour on January 8
- View ERCOT's [peak demand records](#).

### New Solar and Wind Records

- January saw two new solar generation records: 14,837 MW on January 16 during W.S. Heather, which was then broken January 28 with 15,222 MW. The previous record was 12,639 MW set April 30, 2022.
- ERCOT set a new Wind Generation Record with 27,548 MW on January 7. The old record of 27,044 MW was set May 29, 2022.
- These records and other grid facts can be found on our [Fact Sheet](#).

## MONTHLY ENERGY GENERATION MIX

The monthly energy generation increased by 18.7% year-over-year to 38,180 GWh in January 2024, compared to 32,164 GWh in January 2023. The chart below shows the generation type fueling the grid each month.

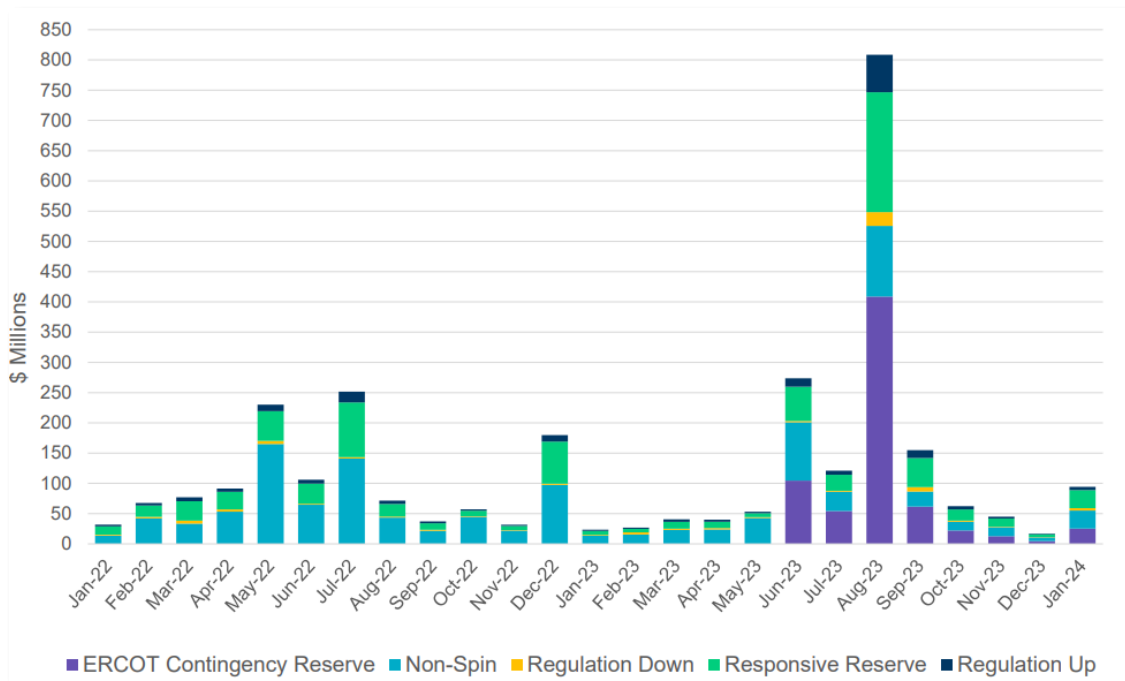


Data for the last two months is based on preliminary settlements.

## ANCILLARY SERVICES

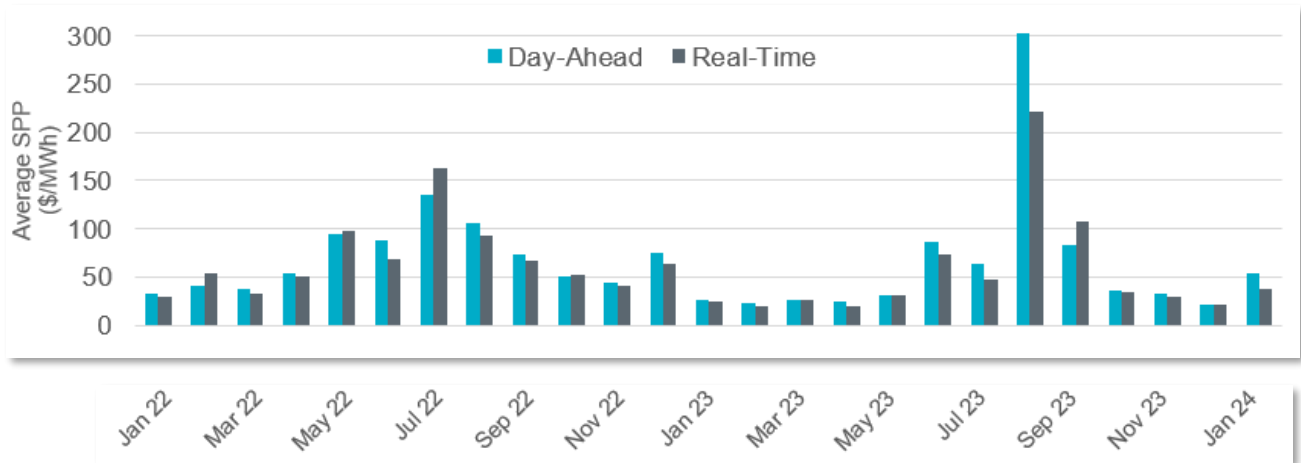
ERCOT uses [Ancillary Services \(AS\)](#) to balance the next day's supply and demand of electricity on the grid and mitigate real-time operational issues. Real-time AS deployment is viewable on our [dashboards](#).

**ERCOT procured \$94.21 million in Ancillary Services (AS) for grid reliability in January.**



## WHOLESALE PRICES

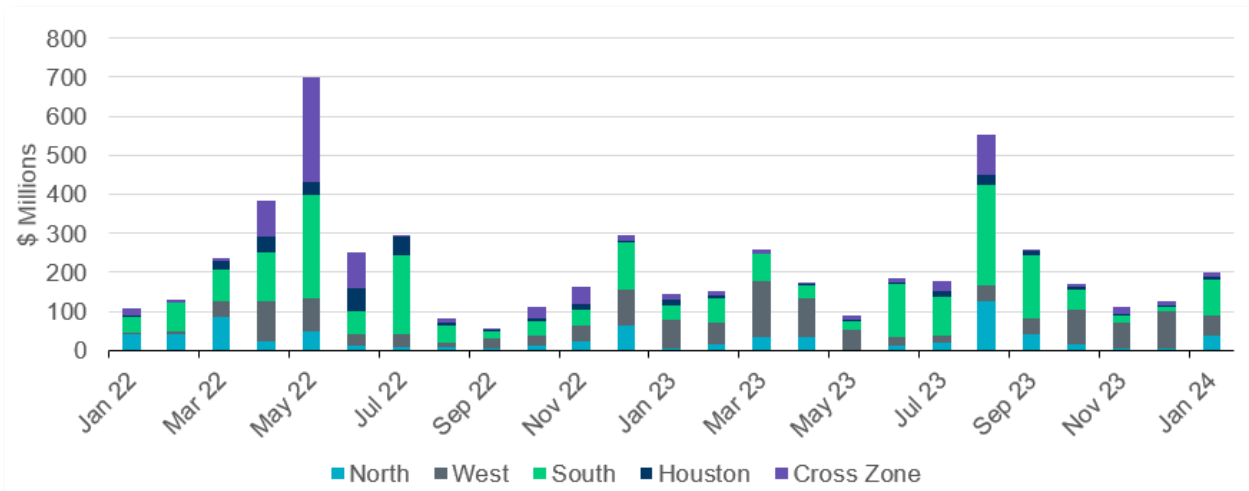
Average prices for January were somewhat higher than what has been observed in the last few months. Major contributors to this were elevated prices on days in the middle of the month during W.S. Heather. The demand for electricity increased as cold weather came through the state. ERCOT issued Operating Condition Notices, Advisories, and Watches related to the cold weather and saw a new winter record for electric demand on January 16.



\*Averages are weighted by Real-Time Market Load

## TRANSMISSION CONGESTION COSTS

Total Real-Time congestion rent increased in January 2024 compared to December 2023 with the highest congestion rent in the South and West Zones.

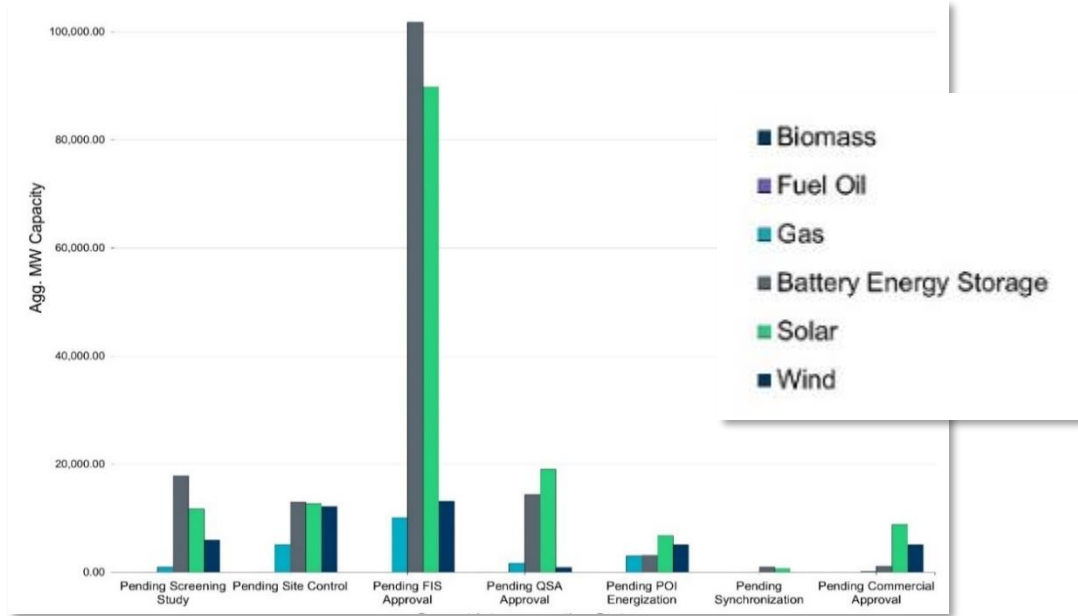


\*Averages are weighted by Real-Time Market Load

\*\*Security Constrained Economic Dispatch (SCED) is the real-time market evaluation of offers to produce a least-cost dispatch of online resources. SCED calculates Locational Marginal Prices (LMPs) using a two-step methodology that applies mitigation to resolve non-competitive constraints. More information is on our [website](#).

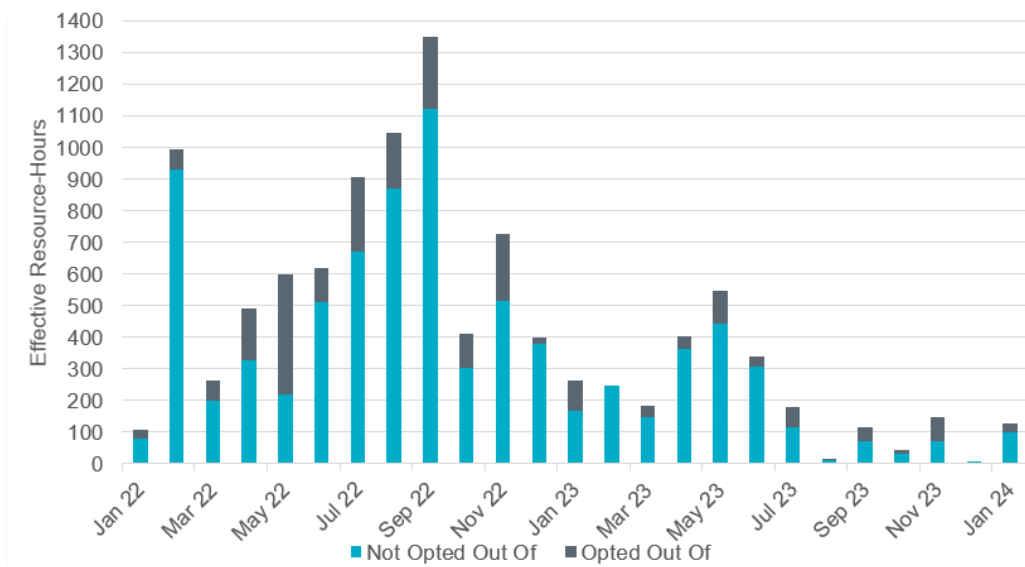
## GENERATION INTERCONNECTION QUEUE BY PHASE

ERCOT is currently tracking in the interconnection queue more than 335,000 MW of new generation seeking studies to determine the feasibility of connecting to the ERCOT transmission system. While solar and battery energy storage projects account for approximately 84% of the amount of generation seeking interconnection, natural gas interest has increased. Since April 2023, over 7,800 MW of natural gas projects have entered the queue. For comparison, approximately 2,900 MW of dispatchable generation projects applied to the interconnection queue in 2022.



## RELIABILITY UNIT COMMITMENT

Reliability Unit Commitment (RUC) activity for January included 13 Resources committed due to capacity or congestion.



“Effective Resource-Hours” excludes any period during a Reliability Unit Commitment hour when the RUC-committed Resource was starting up, shutting down, off-line, or otherwise not available for dispatch by SCED.

# March Look Forward

## March Monthly Outlook for Resource Adequacy (MORA) Scenarios

For the first half of March, the risk of experiencing very low temperatures means that reserve shortage risks can be the highest during the morning hours, particularly for the expected 8 a.m. peak load hour. For the second half of the month, with temperatures transitioning to spring-like levels, reserve shortage risks are highest during the early evening hours when daily loads are typically at or near their highest and solar production begins to ramp down.

Under typical grid conditions, the deterministic scenario indicates that there should be sufficient generating capacity available to serve the expected peak load. Scenario modeling results indicate a low risk of ERCOT having to declare an Energy Emergency Alert (EEA) during typical weather conditions (less than 1%) as well as during potential extreme low temperature conditions (6.7%). **For the typical peak load day in mid to late March, the highest risk hours extend from 5 p.m. to 9 p.m. Given a less probable early March peak load day, the highest risk hour is the 7-8 a.m. hour.** The table at right represents an extreme low wind generation scenario for which all hourly wind generation values are reduced by 95%. (Please note, the MORA is not an expected forecast).

Hour Ending	EMERGENCY LEVEL		
	Chance of Normal System Conditions	Chance of an Energy Emergency Alert	Chance of Ordering Controlled Outages
	Probability of CAFOR being above 3,000 MW	Probability of CAFOR being less than 2,500 MW	Probability of CAFOR being less than 1,500 MW
1 a.m.	99.99%	0.00%	0.00%
2 a.m.	99.99%	0.00%	0.00%
3 a.m.	100.00%	0.00%	0.00%
4 a.m.	100.00%	0.00%	0.00%
5 a.m.	99.99%	0.00%	0.00%
6 a.m.	100.00%	0.00%	0.00%
7 a.m.	99.97%	0.00%	0.00%
8 a.m.	99.96%	0.03%	0.03%
9 a.m.	99.98%	0.00%	0.00%
10 a.m.	100.00%	0.00%	0.00%
11 a.m.	100.00%	0.00%	0.00%
12 p.m.	100.00%	0.00%	0.00%
1 p.m.	100.00%	0.00%	0.00%
2 p.m.	100.00%	0.00%	0.00%
3 p.m.	100.00%	0.00%	0.00%
4 p.m.	100.00%	0.00%	0.00%
5 p.m.	100.00%	0.00%	0.00%
6 p.m.	99.89%	0.03%	0.02%
7 p.m.	98.97%	0.26%	0.12%
8 p.m.	99.45%	0.12%	0.05%
9 p.m.	99.85%	0.03%	0.00%
10 p.m.	99.98%	0.00%	0.00%
11 p.m.	100.00%	0.00%	0.00%
12 a.m.	99.99%	0.00%	0.00%

Note: Probabilities are not additive.

Scenario Assuming Extreme Low Wind Generation

Hour Ending	EMERGENCY LEVEL		
	Chance of Normal System Conditions	Chance of an Energy Emergency Alert	Chance of Ordering Controlled Outages
	Probability of CAFOR being above 3,000 MW	Probability of CAFOR being less than 2,500 MW	Probability of CAFOR being less than 1,500 MW
1 a.m.	99.79%	0.08%	0.06%
2 a.m.	99.79%	0.08%	0.06%
3 a.m.	99.80%	0.09%	0.05%
4 a.m.	99.83%	0.09%	0.05%
5 a.m.	99.79%	0.08%	0.07%
6 a.m.	99.75%	0.12%	0.09%
7 a.m.	99.69%	0.19%	0.14%
8 a.m.	99.70%	0.16%	0.11%
9 a.m.	99.93%	0.04%	0.04%
10 a.m.	99.96%	0.03%	0.03%
11 a.m.	99.97%	0.02%	0.00%
12 p.m.	99.99%	0.00%	0.00%
1 p.m.	100.00%	0.00%	0.00%
2 p.m.	100.00%	0.00%	0.00%
3 p.m.	99.98%	0.00%	0.00%
4 p.m.	99.87%	0.00%	0.00%
5 p.m.	99.58%	0.06%	0.02%
6 p.m.	97.90%	0.33%	0.17%
7 p.m.	80.66%	6.67%	3.80%
8 p.m.	85.43%	3.73%	1.53%
9 p.m.	87.15%	3.12%	1.13%
10 p.m.	97.04%	0.11%	0.00%
11 p.m.	99.97%	0.00%	0.00%
12 a.m.	99.99%	0.00%	0.00%

Note: Probabilities are not additive.

Links to the March MORA:  
[MORA\\_March2024.pdf \(ercot.com\)](#)  
[MORA\\_March2024.xlsx \(live.com\)](#)

# Board of Directors Update

## Highlights from the February 27 Board of Directors Meeting

- The ERCOT Board voted to approve the Pecos County Transmission Improvement Project, a \$114.8 million, Tier 1 project with an expected in-service date of August 2026. The Board designated the project as critical to the reliability of the ERCOT System pursuant to Public Utility Commission of Texas (PUCT) Substantive Rule § 25.101(b)(3)(D).

The project was proposed by Texas New Mexico Power to address 52.2 miles of 138-kV transmission line thermal overloads and voltage violations in the Reeves and Ward Counties in the Far West Weather Zone. The Pecos County Transmission Improvement Project will require PUCT approval of a Certificate of Convenience and Necessity (CCN) before construction can commence. The critical designation allows the PUCT to consider the project on an expedited basis.

- ERCOT presented its [2024 Objectives and Key Results](#) (OKRs) at the Human Resources and Governance (HR&G) Committee Meeting. The OKRs were created to establish corporate priorities in alignment with ERCOT's [2024-2028 Strategic Plan](#) and focus on three key objectives:
  1. Be an industry leader for grid reliability and resilience
  2. Enhance the ERCOT region's economic competitiveness with respect to trends in wholesale power rates and retail electricity prices to consumers
  3. Advance ERCOT, Inc. as an independent leading industry expert and employer of choice by fostering innovation, investing in our people, and emphasizing the importance of our mission
- The Board of Directors approved 11 revisions to the ERCOT Nodal Protocols along with seven revisions to Market Guides. These revisions are now pending final approval at the PUCT for consideration at the April 11, 2024, Open Meeting. Information regarding recently approved rules and the revision request process are available on the Market Rules section of the ERCOT [website](#).
- The Board also took up the PUCT remand of [NPRR 1186, Improvements Prior to the RTC+B Project for Better ESR State of Charge Awareness, Accounting and Monitoring](#), ultimately approving ERCOT's comments seeking to address PUCT concerns. NPRR 1186 was initially approved by the Board in the October 2023 meeting, but concerns were raised at the PUCT regarding the proposed State of Charge (SOC) compliance requirements. At a January 2024 Open Meeting, the PUCT voted to remand NPRR 1186 back to the ERCOT Board with suggested modifications. This is the first remand of an ERCOT revision request since Senate Bill 2 (87R) amended PURA to require all rules adopted by ERCOT to receive Commission approval before taking effect.



- The Board confirmed the Technical Advisory Committee's (TAC) 2024 leadership slate. TAC is comprised of stakeholders, including consumer representatives, and makes recommendations to the Board regarding ERCOT policies and procedures. Caitlin Smith, Jupiter Power LLC, and Collin Martin, Oncor Electric Delivery LLC, will serve as TAC Chair and Vice Chair, respectively, for the 2024 year.
- The Board approved Phase 2 of the Aggregated Distributed Energy Resources (ADER) [Pilot Project](#). Changes for Phase 2 include expanding the Ancillary Services for which ADERs are eligible to include ERCOT Contingency Reserve Service (ECRS), enhancements to rules for validating telemetry, and other process improvements. Many of the policy questions and goals for the Pilot Project remain the same.

Two ADERs have been participating in the energy and Ancillary Service market through the Pilot Project since August 2023. Seven additional ADERs have been proposed by Market Participants, as of the beginning of February, and are in various stages of registration and qualification. All combined, these nine ADERs would account for up to 12.7 MW of capability being available to the energy market.

## Additional Items of Note

### LUBBOCK POWER & LIGHT UPDATE

Lubbock Power & Light (LP&L) is scheduled to begin their planned switch to Retail Choice from March 4 through April 2 based on meter read cycles. LP&L will retain responsibility for maintaining and delivering electric power to customer's homes and businesses. Customers in the competitive area are encouraged to select a plan for electric service from the [Power to Choose website](#).

Customers that do not proactively select an electric service provider prior to their March/April meter read cycle date will have one assigned from a list of default providers. As of February 15, approximately 66% of customers had selected a retail electric provider. There is not an option to remain with LP&L for the purchase of retail electric power. Those customers assigned a default provider are still able to select an available retail electric service provider prior to their scheduled meter read cycle date. Interested parties can visit the [LP&L website](#) for more information on the move to retail competition. The LP&L load transitioned into the ERCOT System in two phases (May 2021 and December 2023).

### LEGISLATIVE UPDATE

ERCOT continues to work on the implementation of the various provisions from legislation that the Texas Legislature recently passed into law. On February 15, ERCOT Vice President, System Planning & Weatherization Kristi Hobbs presented an [update on the Permian Basin Reliability Plan Study as required under House Bill 5066](#) of the 88<sup>th</sup> Texas Legislature to the PUCT. (More on the study can be found on the following page). A full listing of the of legislative provisions currently undergoing the implementation process can be found in the February 2024 edition of the [ERCOT Legislative Status Report](#).

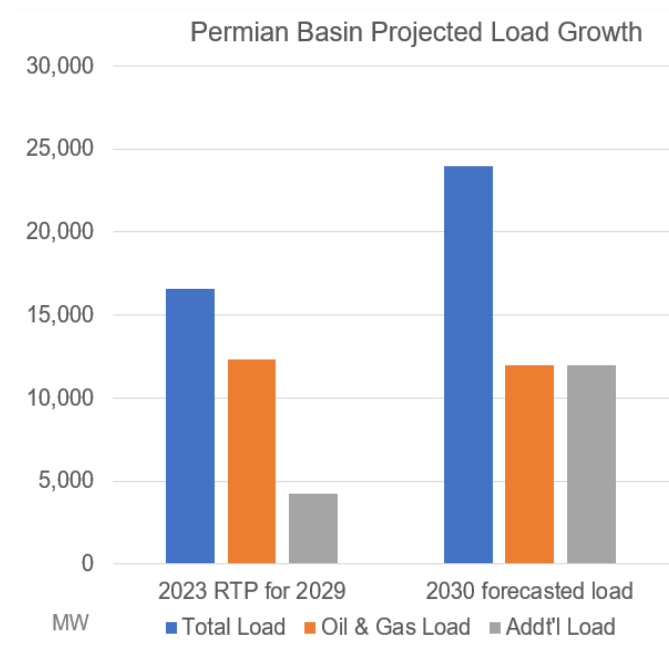


## PERMIAN BASIN RELIABILITY PLAN STUDY

In December 2023, the PUCT directed ERCOT to develop the Permian Basin Reliability Plan and file a final reliability plan no later than July 2024.

ERCOT has worked with the regional Transmission Service Providers (TSPs) to obtain the S&P Global Permian Basin load forecast data as well as the updated additional non-oil and gas load data. The total load in the Permian Basin is extremely high. For reference, the total non-coincident peak load modeled in the 2023 Regional Transmission Plan (RTP) case for 2029 was 29.8 GW for the Coast Weather Zone (includes Houston) and 32.5 GW for the North Central Weather Zone (includes Dallas/Ft Worth).

The Permian Basin lacks local conventional generation compared to the Coast and North Central Weather Zones. During Q1-2024, ERCOT will identify the reliability need in the Permian Basin and begin to identify the transmission projects to address the identified need.



## ERCOT'S RESPONSE TO SUBCOMMITTEE ON ENERGY, CLIMATE, & GRID SECURITY

In January 2024, ERCOT responded to a series of questions from several Members of Congress on the Subcommittee on Energy, Climate, and Grid Security of the House Committee on Energy and Commerce. These questions were a follow-up to testimony by ERCOT Senior Vice President and Chief Operating Officer Woody Rickerson at a hearing of the Subcommittee in September 2023 regarding the state of grid reliability.

The follow-up questions sought information about a variety of topics, including:

- The impact of federal subsidies for renewable generation on generation development and market outcomes
- ERCOT's authority to retain generation to address reliability concerns
- ERCOT's ability to maintain reliability in the face of growing load and impending retirements of dispatchable generation resources

ERCOT's response noted that federal subsidies had encouraged significant development of wind, solar, and battery generation in the ERCOT region, and that wind generators were often offered at negative prices, impacting real-time market outcomes. ERCOT noted that, while lower prices are good for consumers, the cost of transmission necessary to transfer that generation to load centers offsets that value, and renewable generators introduce operational complexities that would not exist with dispatchable generation.

With respect to ERCOT's authority to retain generation that has proposed to retire, ERCOT explained that its Reliability Must-Run (RMR) authority is limited to addressing anticipated transmission security violations and does not extend to addressing system capacity issues. ERCOT noted that it has authority to issue a Request for Proposal (RFP) seeking offers to provide capacity, as it did in October 2023, although that RFP did not result in the procurement of any additional capacity.

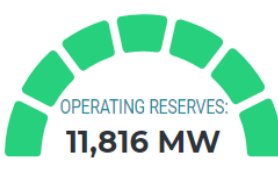
ERCOT expressed its concern that the declining amount of dispatchable generation in the region, coupled with an increase in load growth, including growth due to increasing electrification, already poses a reliability concern in the ERCOT Region. ERCOT noted that the Texas Legislature had created the Texas Energy Fund and Dispatchable Reliability Reserve Service (DRRS) to help incentivize the growth of dispatchable generation in Texas, and that the Performance Credits Mechanism (PCM) favored by the PUCT would also support this incentive. However, ERCOT also emphasized that regulations recently proposed by the U.S. Environmental Protection Agency to restrict NOx and greenhouse gas emissions could restrict the impact of these incentives, limiting the development of dispatchable generation in the ERCOT region and introducing a reliability risk. ERCOT also explained that many of the newest types of load to interconnect in the ERCOT Region are responsive to prices, which introduces a possibility that these loads will curtail when prices get higher, offsetting some of the reliability concern associated with recent load growth.

## GRID METER COLOR UPDATES

ERCOT has updated the [grid meter dashboard](#) to better reflect changes in grid conditions. The Conservation Appeal will now be shown in orange while EEA 1 and 2 will be red. The Grid Condition Levels can be found by clicking on the arrow in the top right corner of the Grid Conditions dashboard from the ERCOT.com homepage or through this [link](#). Additional information on each level can be found on the expandable page. This document replaces our old EEA matrix. You can also find more on grid conditions on our [TXANS webpage](#).

### Grid Conditions

Last Updated: Feb 12, 2024 16:58 CT



**OPERATING RESERVES:  
11,816 MW**

NORMAL CONDITIONS

There is enough power to meet the current demand.

Operating Reserves | [Daily PRC](#)

### ERCOT Grid Condition Levels

Texas Advisory and Notification System (TXANS)		Energy Emergency Alert (EEA)	
<b>Normal Conditions</b>	The grid is operating normally. Supply and demand are balanced. No action needed. <a href="#">Learn more</a>	<b>Weather Watch</b>	The grid is operating normally. Supply and demand are balanced, but reserves are dropping. No action needed. <a href="#">Learn more</a>
<b>Voluntary Conservation Notice</b>	Forecasted high demand and lower reserves. Reduce electric use, if safe to do so. <a href="#">Learn more</a>	<b>Energy Emergency Level 1</b>	Reserves are below 2,500 MW and expected to remain below for 30 minutes. We have entered into emergency operations. No controlled outages. Conservation is critical. <a href="#">Learn more</a>
<b>Conservation Appeal</b>	Demand is higher, reserves are lower with the potential to enter emergency operations. Conserve electric use. <a href="#">Learn more</a>	<b>Energy Emergency Level 2</b>	Reserves are below 2,000 MW and expected to remain below for 30 minutes, or frequency has dropped below 59.91 Hz for 15 minutes. No controlled outages at this time, but they are possible. Conservation is very critical. <a href="#">Learn more</a>
		<b>Energy Emergency Level 3</b>	Reserves are below 1,500 MW and expected to remain below for 30 minutes, or frequency has dropped below 59.8 Hz for any period of time. Controlled outages are occurring, which impact all customer classes, including residential, commercial, and industrial. Conservation is very critical. Please continue to conserve electricity when you have power during these controlled outages. <a href="#">Learn more</a>

## IEEE FELLOW, PENGWEI DU

ERCOT's Pengwei Du, supervisor, Economic Analysis & Long-Term Planning Studies, was selected into the IEEE Fellow class of 2024. [IEEE](#) is the world's largest technical professional organization dedicated to advancing technology. Their acclaimed Fellow program recognizes members with extraordinary accomplishments. Pengwei was acknowledged for his work in load resource integration and smart grid planning.



## Upcoming Activities

### BOARD OF DIRECTORS MEETINGS\*

ERCOT Board of Directors meetings are livestreamed from [ercot.com](#), where you can also find links, additional information, agendas, and supporting documents.

April 23    June 18    August 20    October 10    December 3

### RELIABILITY & MARKETS COMMITTEE MEETINGS\*

ERCOT Reliability & Markets meetings are livestreamed from [ercot.com](#), where you can also find links, additional information, agendas, and supporting documents.

April 22    June 17    August 19    October 9    December 2

### TECHNICAL ADVISORY COMMITTEE (TAC) MEETINGS\*

ERCOT TAC meetings are livestreamed from [ercot.com](#), where you can also find links, additional information, agendas, and supporting documents.

March 27    April 15    May 22    June 24    July 31  
August 7 & 28    September 25    October 30    November 20

ERCOT has additional working groups and committees. Visit our [Meeting Calendar](#) for more on the various groups, committees, dates, agendas, and meeting materials. \*Meetings dates are subject to change, so please check the meetings [page](#) for the latest.