



Report on the Capacity, Demand and Reserves (CDR) in the ERCOT Region, 2025-2029

Revised

February 13, 2025

This revised CDR reflects corrections to formulas on the "Load-Resource Scenarios" tab impacting the Texas Energy Fund scenarios.

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Disclaimer

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CDR - Findings & Discussion

Overview

- This CDR reflects a December 2024 snapshot of expected resource availability and peak Load and peak net Load hours based on prescriptive rules (ERCOT Protocols) and information from resource developers/owners and transmission companies. While the CDR provides a deterministic view of resource adequacy, this is forecasted information, and it will change over time. For example, state/federal policy changes, economic developments, market design initiatives, evolving grid management practices, and technology improvements, can significantly alter the long-term resource adequacy outcome in this CDR. Nevertheless, the CDR signals an indicative trend of eroding resource adequacy (planning reserve margins) in the absence of major mitigating factors.

A description of the most significant load and resource uncertainties, and how they are addressed through supplementary deterministic scenarios, is provided in the Load/Resource Forecast Uncertainty section below.

- One scenario in this CDR indicates that Planning Reserve Margins for 2025 through 2029 decrease significantly from year to year, and cross over to negative values in 2026 or 2027 depending on the season. The summer Margins for the peak Net Load hours are lower than for the peak Load hours due mainly to decreasing solar generation availability in the early evening when loads are still high. The decreases are mainly due to:
 - The addition of new forecasted loads reported by Transmission Service Providers (TSPs), dominated by large consumers such as data centers, industrial/oil & gas production facilities, and cryptocurrency mining operations.
 - A change to the methodology for characterizing the availability of Inverter Based Resources (wind and solar) to reflect their anticipated reliability benefits during the hours with the greatest risk of capacity reserve shortages. (Some of the decreased wind and solar availability is offset by battery energy storage availability that is included in the Reserve Margin calculations for the first time.)
 - Including new eligibility criteria for including planned resources in the Planning Reserve Margin to more accurately account for project delay trends.

CDR Methodology Changes

- This CDR reflects significant modifications to resource capacity availability and load forecast reporting methodologies used for Planning Reserve Margin calculation.

These changes are summarized in the [Background tab](#).

CDR Load Forecast

- This CDR is based on the peak load forecast developed as a mid-year 2024 update. The mid-year update includes new Loads associated with a signed interconnection agreement and "officer letter" Loads reported by Transmission Service Providers. The 2024 mid-year forecast retains the base peak load forecast originally prepared in November 2023 since there is not enough of a change to the forecast modeling results to warrant a switch. The mid-year forecast update is available on ercot.com at: <https://www.ercot.com/gridinfo/load/forecast>
- The peak load forecast is the sum of the forecast components in the following formula:
$$\text{Peak Load Forecast} = \text{Base Load Forecast} + \text{Electric Vehicle Forecast} - \text{Rooftop PV Forecast} + \text{Existing LFL Forecast} + \text{New}$$
where,
Existing Large Flexible Load forecast is the expected load from interconnected facilities that can come online quickly and are responsive to real time prices (nearly all the load comprises crypto-currency mining),
New Contracted Loads are all planned loads with signed interconnection agreements reported to ERCOT by the loads' Transmission Service Providers as of March 2024,
New TSP Officer Letter Loads are all planned loads documented in a TSP officer letter as of March 2024. (An officer letter is an attestation indicating confidence that loads are expected to be interconnected even though the interconnection agreement has not been signed yet.)
- ERCOT assumes all Loads other than Large Flexible Loads (i.e., crypto-currency mining) are considered firm Loads. Firm Loads are Loads that will remain on when entering emergency conditions. On the other hand, Large Flexible Loads are responsive to real time prices and can reduce consumption or turn off quickly before emergency conditions. With an expectation of increasing Large Loads (75 MW or more), like data centers, connecting to the ERCOT grid, there is discussion among policymakers and the industry regarding requirements for Large Loads to be demand-flexible during periods of grid scarcity. A demand flexibility requirement would change the assumption for Large Loads to align more similarly to Large Flexible Loads and would improve planning reserve margins in the future. This outcome is represented in the Load-Resource Scenarios tab where 50% or no TSP Officer Letter Load is assumed across the years.

- The following table shows the amount of new planned loads, by type, included in the mid-year load forecast update for summer 2025-2029. The last column indicates the average annual growth rate.

	New Loads Added to the November 2023 Load Forecast					
	Cumulative MW					
Large Load Type*	Summer 2025	Summer 2026	Summer 2027	Summer 2028	Summer 2029	Ave. Annual Growth
Contracted Loads (non-LFL)	4,017	8,106	12,901	16,533	17,493	44%
Contracted LFLs	1,565	3,443	3,543	3,543	3,543	23%
TSP Officer Letter Loads (non-	900	8,350	17,400	28,284	29,359	139%
TSP Officer Letter LFLs	700	2,335	2,335	2,335	2,335	35%
Total	7,182	22,233	36,178	50,695	52,731	65%

* See the definitions in the previous bullet.

- The following table shows the summer peak Load and peak Net Load forecasts for 2025-2029, along with the associated peak load

Year	Load for the peak Load hour		Load for the peak Net Load hour (Load minus wind and solar generation)	
	Summer Forecast	Summer Peak Load Hour (Hour Ending)	Summer Forecast	Summer Peak Net Load Hour (Hour Ending)
2025	90,472	5:00 p.m.	86,699	9:00 p.m.
2026	106,405	5:00 p.m.	104,594	10:00 p.m.
2027	121,140	5:00 p.m.	121,140	10:00 p.m.
2028	137,319	10:00 p.m.	137,319	10:00 p.m.
2029	140,872	10:00 p.m.	140,872	10:00 p.m.

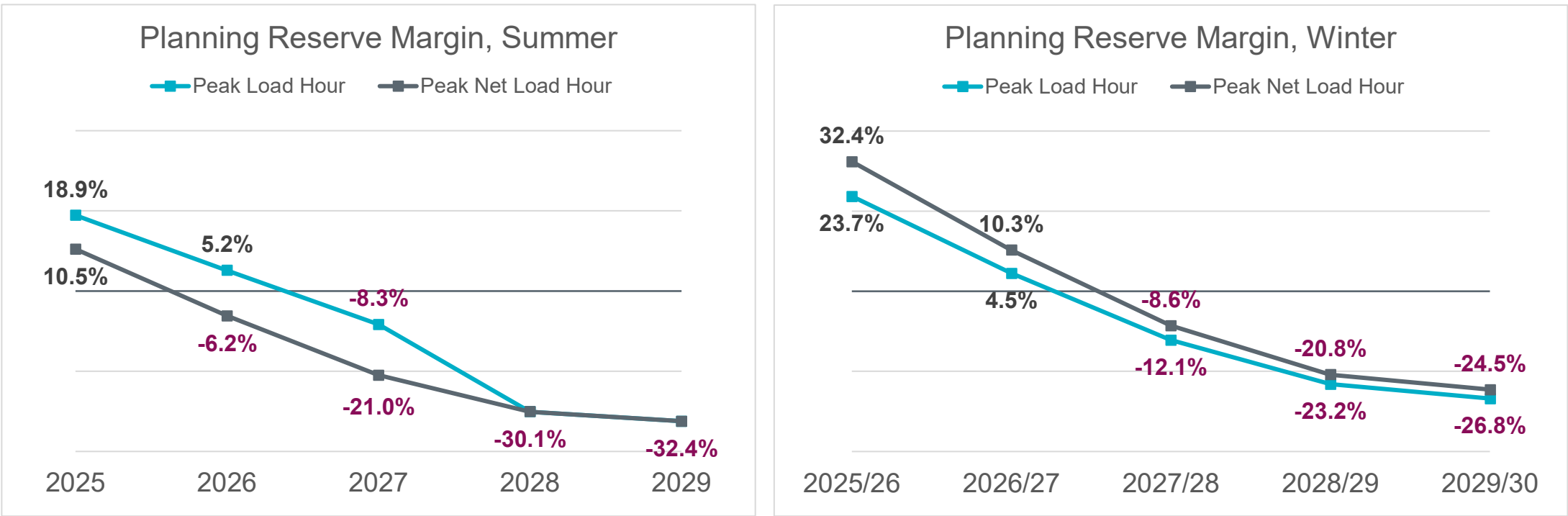
The shift in the peak load hour to 10:00 p.m. beginning in summer 2028 is mainly due to the growth in price-driven demand response. Price-responsive Loads, such as crypto-currency miners, are expected to interconnect at roughly the same time prior to summer 2028. These price-responsive loads are anticipated to curtail their consumption through the early evening hours when net loads are typically at their highest and then ramp back up thereafter. This causes the peak load hour and peak net load hour to converge in 2028. The growth in rooftop solar also contributes to the peak hour shift.

Planning Reserve Margins for the Peak Load and Peak Net Load Hours

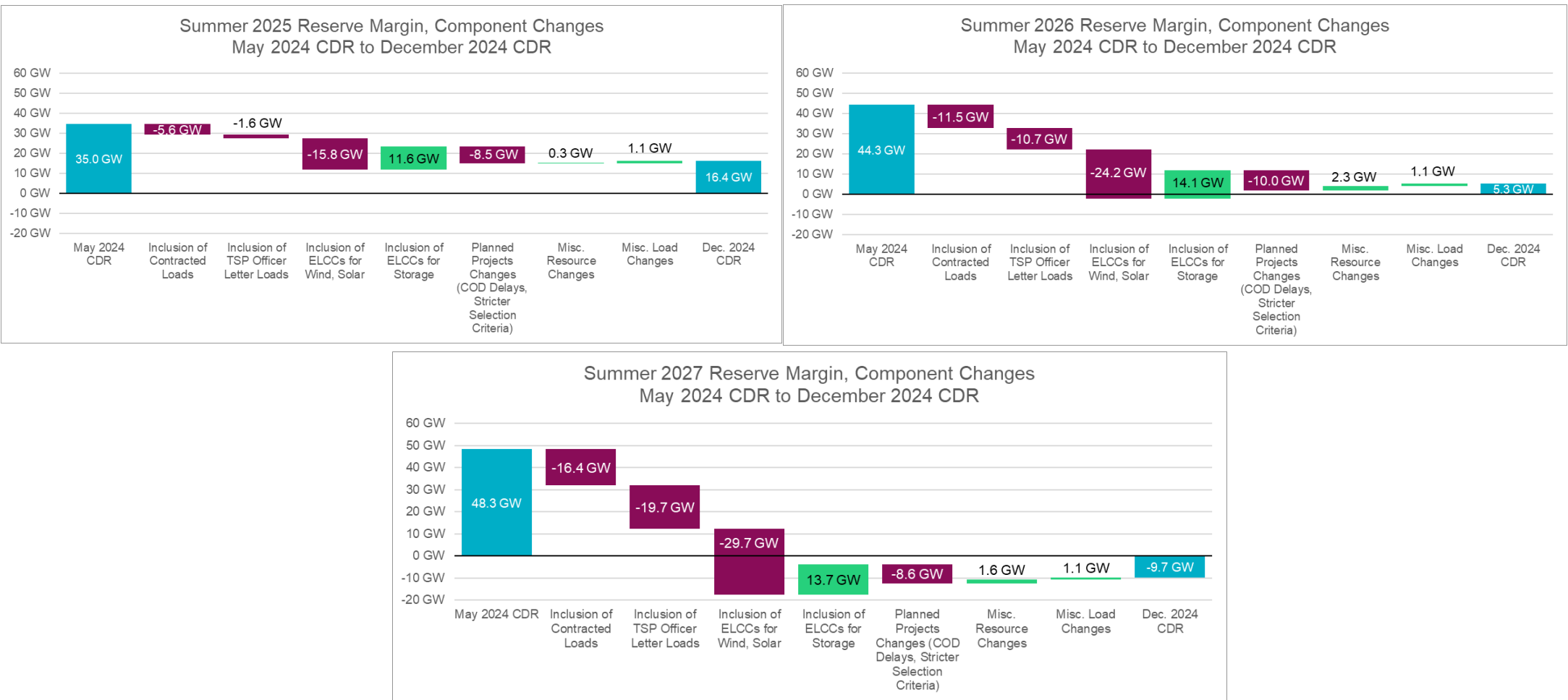
- The following charts show the trends in one scenario of summer and winter Planning Reserve Margins for the next five years. Trends are shown for the peak Load and peak Net Load hours.

The summer peak Net Load hour Margin enters negative territory beginning summer 2026, while the peak Load hour Margin enters negative territory beginning summer 2027. The lower Margins for the peak Net Load hour relative to those for the peak Load hour mainly reflect the lower reliability contribution of solar generation during the evening hours when the peak Net Load occurs. For winter 2027/28, both peak Load and peak Net Load Margins enter negative territory beginning winter 2027/28. Unlike summer, the peak Net Load hour Margins are higher than the peak Load hour Margins. This flip stems from a larger drop-off in early evening loads relative to those experienced during the summer.

The lower and sharply downward trajectory of the Margins is due to (1) high load growth largely driven by new Loads reported by Transmission Service Providers, (2) a lower capacity contribution from wind and solar resources due to the switch to Effective Load Carrying Capabilities, (3) fewer planned resources that result from applying additional eligibility criteria to be included in Planning Reserve Margins, and (4) inclusion of planned unit retirements publicly announced but not officially reported as a planned retirement to ERCOT ("Unconfirmed Retirements"). The impact of these changes and others are described below.



- The following three waterfall charts show the Reserve Margin capacity components for summer 2025 through 2027 that contribute to the differences in Planning Reserve Margins reported in the May 2024 CDR versus the December 2024 CDR. (Red bars signify components that reduce Reserve Margin capacity whereas green bars signify components that increase Reserve Margin capacity.)



Notes: ELCC is Effective Load Carrying Capability. COD is Commercial Operations Date. Miscellaneous resource changes include rating changes to operational and planned resources, updates to unavailable Switchable Generation Resource (SWGR) capacity, and changes to Private-Use Network (PUN) Capacity Contributions. Miscellaneous load changes include updates to Load Resource categories shown in the Summer Summary tab (LRs providing Responsive Reserve Service, Non-spin Reserve Service, and ERCOT Contingency Reserve Service; Controllable Load Resources; Emergency Responsive Service; and TDSP load management programs).

Resource Impacts due to new ERCOT Protocol Changes for the CDR

- The CDR now uses Effective Load Carrying Capabilities (ELCCs) for wind and solar instead of using peak average capacity contributions, the prior method. ELCCs reflect the expected future reliability value of resources during those hours with the highest risk of capacity reserve shortages. In contrast, the peak average capacity contribution captures the historical generation during peak load hours, which is often no longer when the risk of capacity shortfalls is at its highest. For a summer afternoon in 2025, the aggregate ELCC of wind and solar resources is 17,732 MW, reflecting the resource reliability benefit during the hours with the highest loads. In contrast, the value based on the peak average capacity contribution method is higher at 35,995 MW. The aggregate ELCC drops to 6,189 MW for the evening hours, largely reflecting the decrease in solar generation and continued high loads (i.e., hours with the highest Net Loads). Note that ELCCs are estimated by all other Regional Transmission Organizations (RTO) and Independent System Operators (ISOs) in the U.S. (PJM Interconnection, Midcontinent Independent System Operator, Southwest Power Pool, California ISO, ISO New England, and New York ISO).

More ELCC information is available on the [ELCCs tab](#).

- Capacity contributions for Energy Storage Resources are now included in the Reserve Margin calculations. Relative to the May 2024 CDR, this results in 11,597 MW of additional summer 2025 capacity availability for the Peak Load and Net Peak load hours.
- The Protocol changes include two additional criteria that planned projects must meet to be included in the CDR report: proof that the required financial security for interconnection construction has been received, and that a notice to proceed with construction has been received by the Transmission/Distribution Service Provider. These additional criteria resulted in a 1,054 MW decrease in planned capacity for summer 2025 (1,054 MW of solar, and 50 MW of battery energy storage).
- The CDR now accounts for "Unconfirmed Retirements" in the Reserve Margin calculations. An Unconfirmed Retirement is a generating unit associated with a publicly announced retirement plan, but its owner hasn't yet submitted a formal Notification of Suspension of Operations (NSO) to ERCOT. This CDR reflects 1,100 MW of installed capacity planned for retirement by summer 2027, and an additional 1,917 MW planned for retirement by summer 2029. The five units include Spruce U1/U2 (CPS Energy), Coletto Creek (Vistra Energy), and O W Sommers STG1/STG2 (CPS Energy). CPS Energy is expecting to convert Spruce U2 from coal-fired to natural gas-fired based on their current Resource Plan.

Planned Resource Trends

- The addition of six newly CDR-eligible natural gas projects and three diesel projects has doubled the Summer 2029 planned thermal capacity forecast relative to the May 2024 CDR forecast (from 972 MW to 1,909 MW). Note that the CDR eligibility criteria for this scenario does not allow including most new planned TEF generation resources. Those resources are included in subsequent scenarios on the Load-Resource Scenario Tab. Note that CDR-eligible TEF projects in the Unit Details tab have "TEF" as a suffix in the project name.

- The table below shows the changes in resource capacity additions for summer 2025-2029 by resource category. Only those projects that have met the CDR eligibility criteria are included. Solar is expected to continue out-pacing the other resource types in terms of installed capacity growth, followed by Energy Storage Resources (battery energy storage).

Planned Generation Installed Capacity Additions by Summer Season (Projects that meet CDR-Eligibility Criteria)						
	Summer 2025	Summer 2026	Summer 2027	Summer 2028	Summer 2029	Trend
Thermal (Natural Gas and Diesel)	267	1,473	1,473	2,147	2,147	
Battery Energy Storage	4,236	11,672	14,912	17,003	17,559	
Dispatchable Total	4,503	13,145	16,384	19,149	19,705	
Solar	5,176	17,259	24,871	28,157	29,543	
Wind	242	1,980	3,268	3,494	3,493	
Non-Dispatchable Total	5,418	19,239	28,138	31,651	33,036	
Total	9,921	32,384	44,522	50,800	52,741	

Significant Resource Status Changes

- On December 3, 2024, the ERCOT Board of Directors approved moving forward with a Reliability Must Run (RMR) contract for CPS Energy's Braunig 3 unit. ERCOT assumes that an RMR contract is executed, and the unit provides RMR service for summer 2025 through winter 2026-2027 and then is retired. RMR decisions on Braunig units 1 and 2 have been deferred to February 2025 to consider CenterPoint Energy's Mobile Generation Solution. More information is available at:

<https://www.ercot.com/files/docs/2024/11/27/9-ercot-staff-recommendation-regarding-ercot-board-approval-of-reliability-must-run-rmr-and-must-run-alternative-mra-agreements-related-to-cps-energy-braunig-resources-revised.pdf>

Load/Resource Forecast Uncertainty

- Peak Load Forecast:** In addition to the typical sources of peak load forecast uncertainty (weather, demand response, economic growth changes, electrification trends), the forecast used for this CDR presumes that the Loads seeking interconnection with the ERCOT grid materialize as currently forecasted by their TSPs. The size and ramp rates of Loads may deviate significantly from current TSP expectations. To provide an alternate view of load growth, this CDR includes a load/resource scenario that assumes that load growth is capped at levels and ramp rates associated with just the new contracted Loads identified by the TSPs. (i.e., exclusion of TSP officer letter Loads). This assumption serves as a proxy for a future with slower load growth growth, significant mitigation of the reliability risks for Loads, or both conditions.
- Planned Resource Forecast:** CDR planned resource accounting has become more conservative than for past CDRs due to the inclusion of additional eligibility criteria via NPRR1219. In recognition of the impact of Texas Energy Fund (TEF) financial incentives, ERCOT has developed summer and winter planned resource scenarios that include TEF project capacity that is in ERCOT's interconnection queue but does not currently meet all the CDR eligibility criteria. Crucially, the scenario assumes that the TEF capacity experiences no Commercial Operations Date delays as is typical of many other planned projects.

The load and scenarios are provided in the ["Load-Resource Scenarios" tab](#).

The summer and winter peak-load-hour scenarios below (Tables 1 and 2, respectively) show the Planning Reserve Margin impacts of making the following two changes to the original Firm Peak Load and Total Capacity estimates:

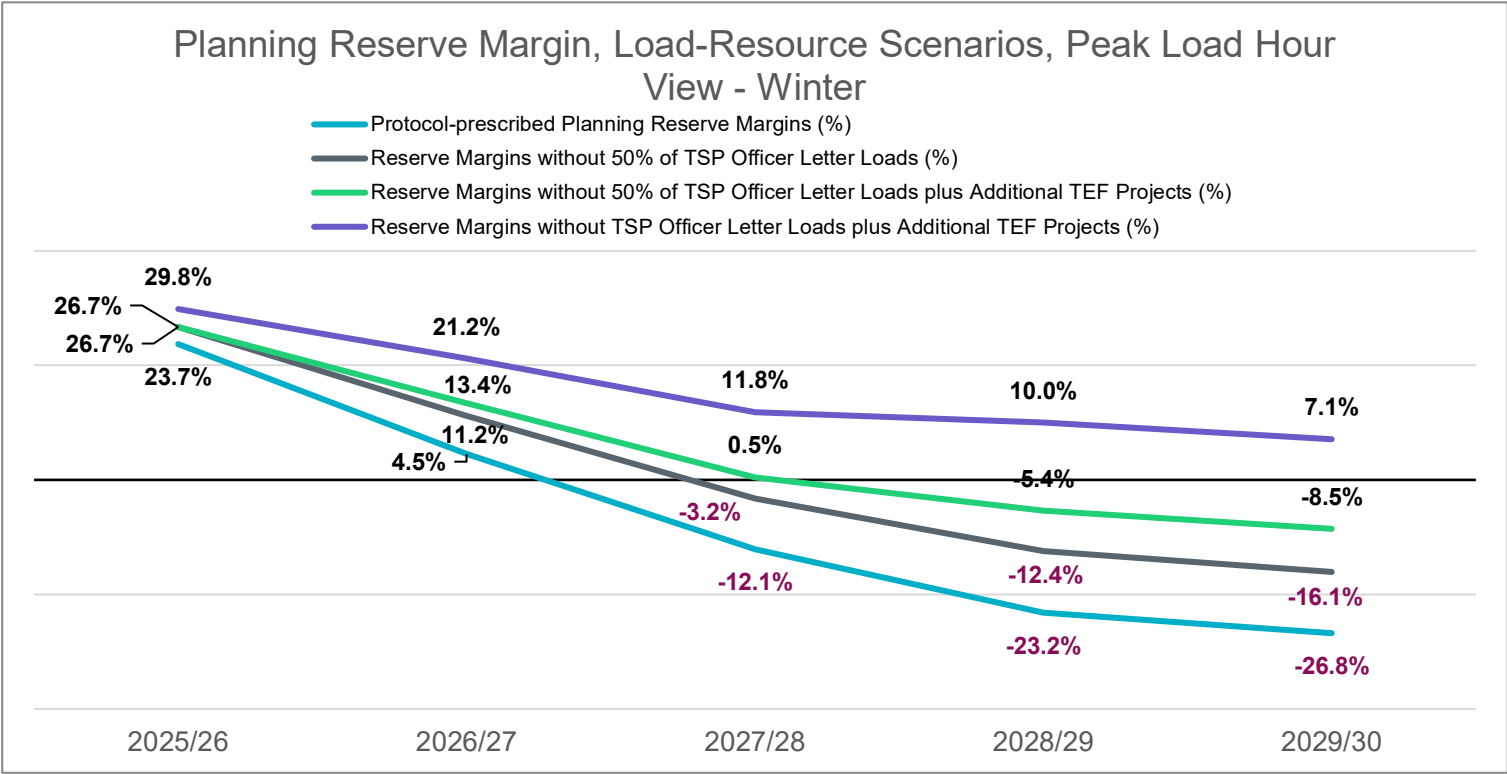
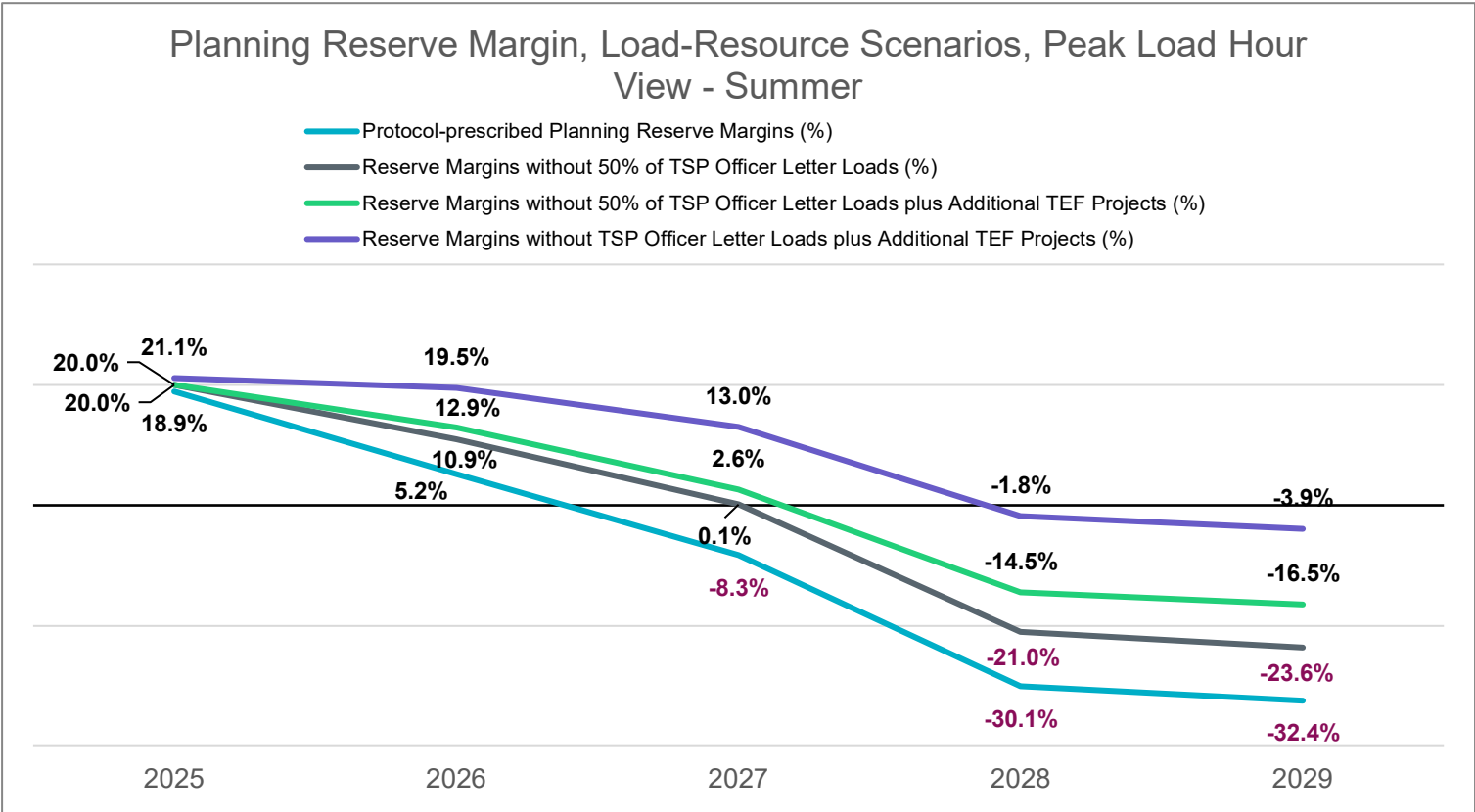
(1) Remove portions of the TSP Officer Letter Loads from the Firm Peak Load forecast.

(2) Add Texas Energy Fund project capacity to the Total Capacity estimates for those projects that are currently in the ERCOT interconnection queue but not yet eligible to be included as planned resources in the CDR. (Note that there is 915 MW of TEF project capacity already reflected in the resource forecast.)

Peak Load Hour Scenarios: Summer and Winter

Peak Load Hour					
Table 1: Summer Load and Resource Scenarios	2025	2026	2027	2028	2029
Original Firm Peak Load, MW	86,717	102,624	117,359	133,558	137,111
TSP Officer Letter Loads Reported by Transmission Service Providers	(1,600)	(10,685)	(19,735)	(30,619)	(31,694)
50% of TSP Officer Letter Loads Reported by Transmission Service Providers	(800)	(5,343)	(9,868)	(15,310)	(15,847)
Firm Peak Load, excluding 50% of TSP Officer Letter Loads, MW	85,917	97,281	107,492	118,248	121,264
Firm Peak Load, excluding TSP Officer Letter Loads, MW	85,117	91,939	97,624	102,939	105,417
Total Capacity, MW	103,105	107,921	107,628	93,370	92,623
Texas Energy Fund (TEF) Projects not already included in the CDR	-	1,920	2,668	7,740	8,670
Total Capacity with TEF Projects, MW	103,105	109,841	110,296	101,110	101,293
Protocol-prescribed Planning Reserve Margins (%)	18.9%	5.2%	-8.3%	-30.1%	-32.4%
Reserve Margins without 50% of TSP Officer Letter Loads (%)	20.0%	10.9%	0.1%	-21.0%	-23.6%
Reserve Margins without 50% of TSP Officer Letter Loads plus Additional TEF Projects (%)	20.0%	12.9%	2.6%	-14.5%	-16.5%
Reserve Margins without TSP Officer Letter Loads plus Additional TEF Projects (%)	21.1%	19.5%	13.0%	-1.8%	-3.9%

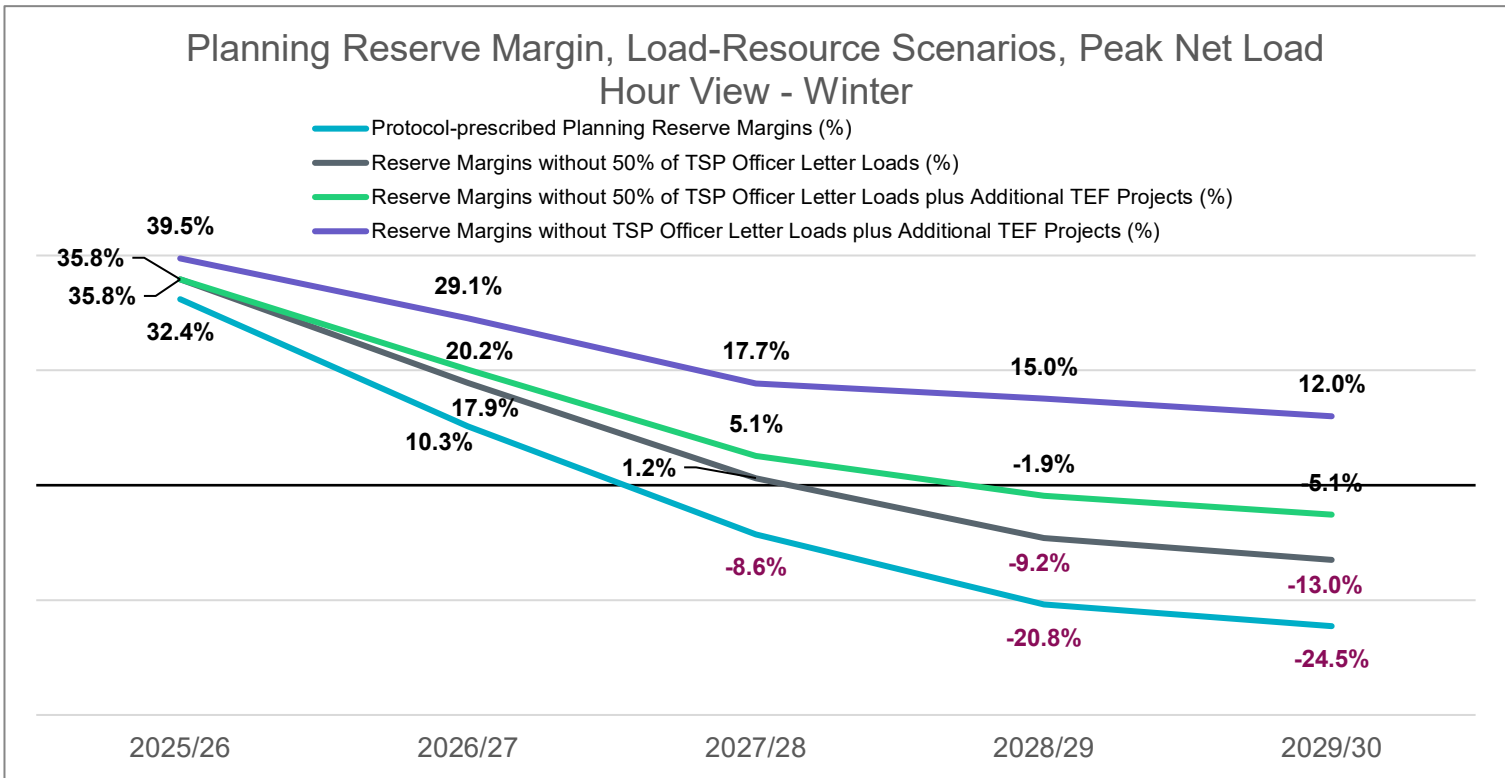
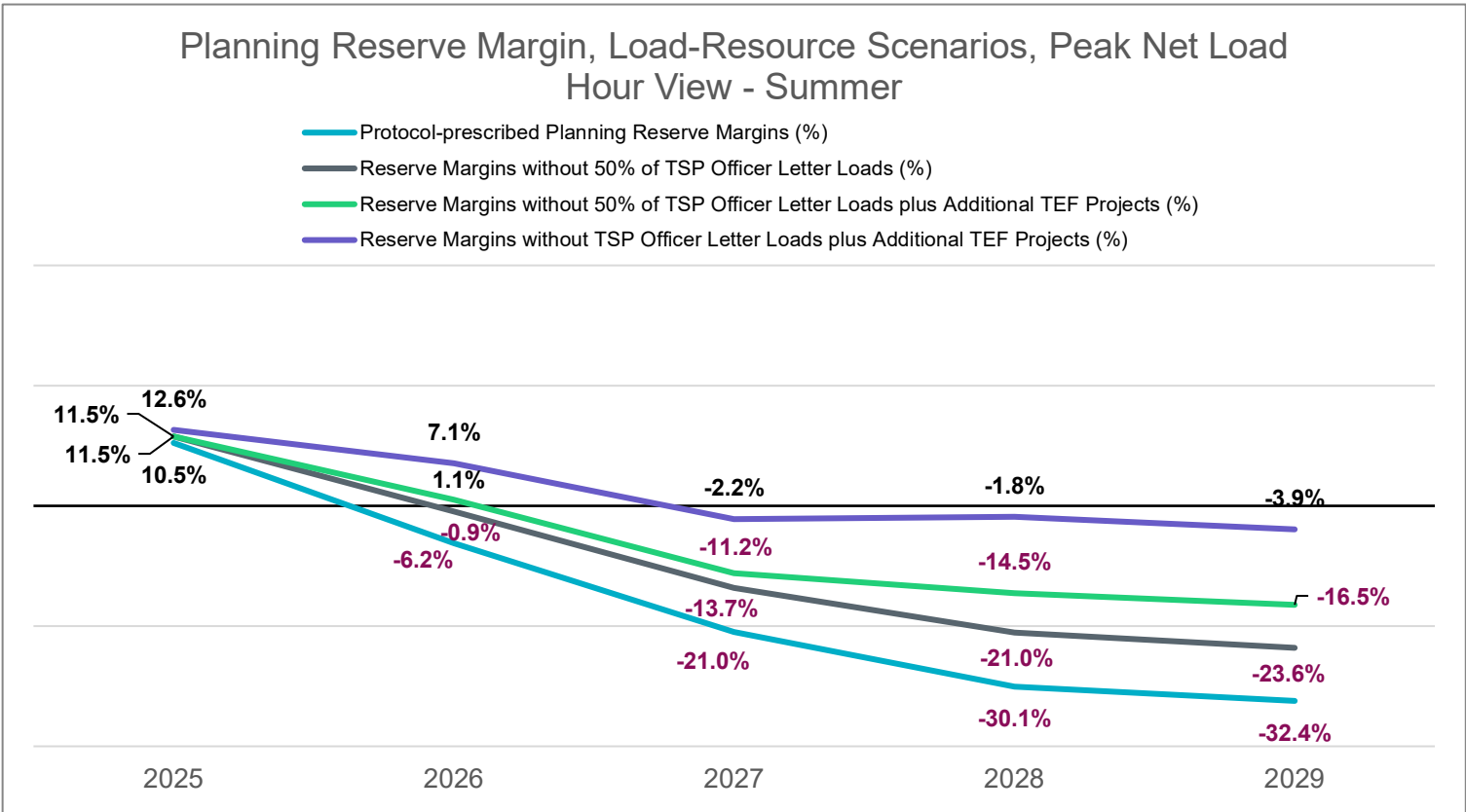
Table 2: Winter Load and Resource Scenario	2025/26	2026/27	2027/28	2028/29	2029/30
Original Firm Peak Load, MW	78,608	94,351	110,083	126,285	131,998
TSP Officer Letter Loads Reported by Transmission Service Providers	(3,707)	(11,390)	(20,316)	(31,094)	(33,660)
50% of TSP Officer Letter Loads Reported by Transmission Service Providers	(1,854)	(5,695)	(10,158)	(15,547)	(16,830)
Firm Peak Load, excluding 50% of TSP Officer Letter Loads, MW	76,754	88,656	99,925	110,738	115,168
Firm Peak Load, excluding TSP Officer Letter Loads, MW	74,901	82,961	89,767	95,191	98,338
Total Capacity, MW	97,255	98,590	96,719	97,012	96,652
Texas Energy Fund (TEF) Projects not already included in the CDR	-	1,920	3,662	7,740	8,670
Total Capacity with TEF Projects, MW	97,255	100,510	100,381	104,752	105,322
Protocol-prescribed Planning Reserve Margins (%)	23.7%	4.5%	-12.1%	-23.2%	-26.8%
Reserve Margins without 50% of TSP Officer Letter Loads (%)	26.7%	11.2%	-3.2%	-12.4%	-16.1%
Reserve Margins without 50% of TSP Officer Letter Loads plus Additional TEF Projects (%)	26.7%	13.4%	0.5%	-5.4%	-8.5%
Reserve Margins without TSP Officer Letter Loads plus Additional TEF Projects (%)	29.8%	21.2%	11.8%	10.0%	7.1%



Net Peak Load Hour Scenarios: Summer and Winter

Peak Net Load Hour					
Table 1: Summer Load and Resource Scenarios	2025	2026	2027	2028	2029
Original Firm Peak Load, MW	82,964	100,833	117,025	133,558	137,111
TSP Officer Letter Loads Reported by Transmission Service Providers	(1,600)	(10,685)	(19,735)	(30,619)	(31,694)
50% of TSP Officer Letter Loads Reported by Transmission Service Providers	(800)	(5,343)	(9,868)	(15,310)	(15,847)
Firm Peak Load, excluding 50% of TSP Officer Letter Loads, MW	82,164	95,490	107,157	118,248	121,264
Firm Peak Load, excluding TSP Officer Letter Loads, MW	81,364	90,148	97,290	102,939	105,417
Total Capacity, MW	91,652	94,584	92,485	93,370	92,623
Texas Energy Fund (TEF) Projects not already included in the CDR	-	1,920	2,668	7,740	8,670
Total Capacity with TEF Projects, MW	91,652	96,504	95,153	101,110	101,293
Protocol-prescribed Planning Reserve Margins (%)	10.5%	-6.2%	-21.0%	-30.1%	-32.4%
Reserve Margins without 50% of TSP Officer Letter Loads (%)	11.5%	-0.9%	-13.7%	-21.0%	-23.6%
Reserve Margins without 50% of TSP Officer Letter Loads plus Additional TEF Projects (%)	11.5%	1.1%	-11.2%	-14.5%	-16.5%
Reserve Margins without TSP Officer Letter Loads plus Additional TEF Projects (%)	12.6%	7.1%	-2.2%	-1.8%	-3.9%

Table 2: Winter Load and Resource Scenario	2025/26	2026/27	2027/28	2028/29	2029/30
Original Firm Peak Load, MW	72,843	88,550	104,870	121,368	126,886
TSP Officer Letter Loads Reported by Transmission Service Providers	(3,707)	(11,390)	(20,316)	(31,094)	(33,660)
50% of TSP Officer Letter Loads Reported by Transmission Service Providers	(1,854)	(5,695)	(10,158)	(15,547)	(16,830)
Firm Peak Load, excluding 50% of TSP Officer Letter Loads, MW	70,990	82,855	94,712	105,821	110,056
Firm Peak Load, excluding TSP Officer Letter Loads, MW	69,136	77,160	84,554	90,274	93,226
Total Capacity, MW	96,438	97,656	95,895	96,119	95,748
Texas Energy Fund (TEF) Projects not already included in the CDR	-	1,920	3,662	7,740	8,670
Total Capacity with TEF Projects, MW	96,438	99,576	99,557	103,859	104,418
Protocol-prescribed Planning Reserve Margins (%)	32.4%	10.3%	-8.6%	-20.8%	-24.5%
Reserve Margins without 50% of TSP Officer Letter Loads (%)	35.8%	17.9%	1.2%	-9.2%	-13.0%
Reserve Margins without 50% of TSP Officer Letter Loads plus Additional TEF Projects (%)	35.8%	20.2%	5.1%	-1.9%	-5.1%
Reserve Margins without TSP Officer Letter Loads plus Additional TEF Projects (%)	39.5%	29.1%	17.7%	15.0%	12.0%



Report on the Capacity, Demand and Reserves in the ERCOT Region

Summer Summary: 2025-2029

	2025			2026			2027			2028			2029		
	Peak Load Hour:	Peak Net Load Hour:	Difference [1] less [2]	Peak Load Hour:	Peak Net Load Hour:	Difference [4] less [5]	Peak Load Hour:	Peak Net Load Hour:	Difference [7] less [8]	Peak Load Hour:	Peak Net Load Hour:	Difference [10] less [11]	Peak Load Hour:	Peak Net Load Hour:	Difference [13] less [14]
	17	21		17	22		17	22		22	22		22	22	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
Load Forecast and Adjustments, MW:															
Total Summer Load based on normal weather conditions*	91,935	86,847	5,088	108,391	104,594	3,798	123,789	120,786	3,003	137,319	137,319	-	140,872	140,872	-
less: Incremental Rooftop PV Forecast	(1,463)	(148)	(1,315)	(1,986)	-	(1,986)	(2,649)	-	(2,649)	-	-	-	-	-	-
less: Load Resources providing Responsive Reserves	(985)	(965)	(20)	(985)	(965)	(20)	(985)	(965)	(20)	(965)	(965)	-	(965)	(965)	-
less: Load Resources providing Non-Spinning Reserves	(235)	(235)	-	(235)	(235)	-	(235)	(235)	-	(235)	(235)	-	(235)	(235)	-
less: Load Resources providing ERCOT Contingency Reserve Service (ECRS)	(216)	(216)	-	(216)	(216)	-	(216)	(216)	-	(216)	(216)	-	(216)	(216)	-
less: Controllable Load Resources not included in other adjustments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
less: Emergency Response Service (10- and 30-min ramp products)	(1,269)	(1,269)	-	(1,295)	(1,295)	-	(1,295)	(1,295)	-	(1,295)	(1,295)	-	(1,295)	(1,295)	-
less: TDSP Standard Offer Load Management Programs	(372)	(372)	-	(372)	(372)	-	(372)	(372)	-	(372)	(372)	-	(372)	(372)	-
less: Distribution Voltage Reduction	(678)	(678)	-	(678)	(678)	-	(678)	(678)	-	(678)	(678)	-	(678)	(678)	-
Firm Peak Load, MW	86,717	82,964	3,753	102,624	100,833	1,791	117,359	117,025	334	133,558	133,558	-	137,111	137,111	-
Energy Efficiency Program Savings Forecast, included in the Base Load Forecast	3208			3497			3786			4076			4367		
Expected Resource Capacity Available by Period, MW:															
Operational Generation Capacity															
Installed Summer-rated Capacity, Thermal	66,138	66,138	-	66,138	66,138	-	66,138	66,138	-	65,353	65,353	-	65,353	65,353	-
Hydroelectric, Peak Average Capacity Contribution	544	544	-	544	544	-	544	544	-	544	544	-	544	544	-
Switchable Capacity	3,680	3,680	-	3,680	3,680	-	3,680	3,680	-	3,680	3,680	-	3,680	3,680	-
less: Switchable Capacity Unavailable to ERCOT	(1,480)	(1,480)	-	(1,631)	(1,631)	-	(1,633)	(1,633)	-	(1,020)	(1,020)	-	(1,020)	(1,020)	-
Available Mothballed Capacity (Units with reported return probabilities ≥ 75%)	136	136	-	136	136	-	136	136	-	136	136	-	136	136	-
Capacity from Private Use Networks	3,265	3,354	(89)	3,155	3,096	59	3,362	3,299	63	3,301	3,301	-	3,551	3,551	-
Inverter-Based Resources, Capacity Contribution based on Effective Load Carrying Capabilities (ELCCs)			-			-			-			-			-
Coastal Wind	1,674	889	785	1,714	923	791	1,727	894	833	894	894	-	894	894	-
Panhandle Wind	1,567	832	735	1,603	864	740	1,616	837	780	837	837	-	837	837	-
Other Wind	4,592	2,439	2,154	4,700	2,532	2,168	4,738	2,452	2,285	2,452	2,452	-	2,452	2,452	-
Far West Solar Utility-Scale	1,893	384	1,510	1,491	178	1,313	1,408	100	1,308	46	46	-	33	33	-
West Solar Utility-Scale	1,572	318	1,253	1,238	148	1,090	1,169	83	1,086	38	38	-	27	27	-
Other Solar Utility-Scale	4,860	984	3,875	3,828	457	3,370	3,613	255	3,358	118	118	-	85	85	-
Energy Storage	7,903	7,903	-	5,893	5,893	-	4,912	4,912	-	4,690	4,690	-	4,640	4,640	-
RMR Capacity to be under Contract	412	412	-	412	412	-	-	-	-	-	-	-	-	-	-
Capacity Pending Retirement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operational Generation Capacity, Total	96,755	86,532	10,223	92,900	83,369	9,531	91,409	81,696	9,712	81,069	81,069	-	81,211	81,211	-
Non-Synchronous Ties (Based on average net import contribution during the summer 2023 EEA event)	817	817	-	817	817	-	817	817	-	817	817	-	817	817	-
Planned Resource Additions (with Signed IA and Proof of Financial Commitment) and Retirements															
Thermal Resources	267	267	-	1,473	1,473	-	1,473	1,473	-	2,147	2,147	-	2,147	2,147	-
Inverter-Based Resources, Capacity Contribution based on Effective Load Carrying Capabilities (ELCCs)			-			-			-			-			-
Coastal Wind	74	39	35	76	41	35	220	114	106	114	114	-	114	114	-
Panhandle Wind	-	-	-	203	109	94	205	106	99	106	106	-	106	106	-
Other Wind	-	-	-	184	99	85	321	166	155	185	185	-	185	185	-
Far West Solar Utility-Scale	53	11	42	276	33	243	261	18	242	9	9	-	8	8	-
West Solar Utility-Scale	314	64	251	1,264	151	1,113	1,463	103	1,360	59	59	-	49	49	-
Other Solar Utility-Scale	1,132	229	903	2,539	303	2,236	3,733	264	3,469	136	136	-	97	97	-
Energy Storage	3,692	3,692	-	8,188	8,188	-	8,802	8,802	-	9,805	9,805	-	9,934	9,934	-
Unconfirmed Planned Retirements	-	-	-	-	-	-	(1,075)	(1,075)	-	(1,075)	(1,075)	-	(2,045)	(2,045)	-
Planned Generation Capacity Total, Net of Unconfirmed Planned Retirements	5,533	4,302	1,230	14,203	10,397	3,806	15,402	9,971	5,431	11,484	11,484	-	10,595	10,595	-
Total Capacity	103,105	91,652	11,454	107,921	94,584	13,337	107,628	92,485	15,143	93,370	93,370	-	92,623	92,623	-
Reserve Margin	18.9%	10.5%	8.4%	5.2%	-6.2%	11.4%	-8.3%	-21.0%	12.7%	-30.1%	-30.1%	0.0%	-32.4%	-32.4%	0.0%
(Total Resources - Firm Load Forecast) / Firm Load Forecast															

*Total Load consists of the following forecast components: Base Economic, Electric Vehicle Forecast, Large Flexible Loads forecast (with 15% curtailment assumption for Summer months from HE14 to HE21), Total Contracts, and Total Officer Letters. The rooftop PV forecast is shown as a separate adjustment to indicate the magnitude of this Distributed Generation resource.
<https://www.ercot.com/gridinfo/load/forecast>

Report on the Capacity, Demand and Reserves in the ERCOT Region

Winter Summary: 2025/26 - 2029/30

	2025/26			2026/27			2027/28			2028/29			2029/30		
	Peak Load Hour:	Peak Net Load Hour:	Difference [1] less [2]	Peak Load Hour:	Peak Net Load Hour:	Difference [4] less [5]	Peak Load Hour:	Peak Net Load Hour:	Difference [7] less [8]	Peak Load Hour:	Peak Net Load Hour:	Difference [10] less [11]	Peak Load Hour:	Peak Net Load Hour:	Difference [13] less [14]
	8	19		8	19		8	19		8	19		8	19	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
Load Forecast and Adjustments, MW:															
Total Winter Load based on normal weather conditions*	82,971	77,096	5,875	98,807	92,889	5,918	114,559	109,220	5,339	130,786	125,732	5,054	136,528	131,266	5,262
less: Incremental Rooftop PV Forecast	(47)	(29)	(18)	(63)	(39)	(24)	(83)	(50)	(33)	(108)	(64)	(44)	(137)	(80)	(57)
less: Load Resources providing Responsive Reserves	(1,633)	(1,540)	(93)	(1,633)	(1,540)	(93)	(1,633)	(1,540)	(93)	(1,633)	(1,540)	(93)	(1,633)	(1,540)	(93)
less: Load Resources providing Non-Spinning Reserves	(235)	(235)	-	(235)	(235)	-	(235)	(235)	-	(235)	(235)	-	(235)	(235)	-
less: Load Resources providing ERCOT Contingency Reserve Service (ECRS)	(167)	(167)	-	(167)	(167)	-	(167)	(167)	-	(167)	(167)	-	(167)	(167)	-
less: Controllable Load Resources not included in other adjustments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
less: Emergency Response Service (10- and 30-min ramp products)	(1,553)	(1,553)	-	(1,630)	(1,630)	-	(1,630)	(1,630)	-	(1,630)	(1,630)	-	(1,630)	(1,630)	-
less: TDSP Standard Offer Load Management Programs	(41)	(41)	-	(41)	(41)	-	(41)	(41)	-	(41)	(41)	-	(41)	(41)	-
less: Distribution Voltage Reduction	(687)	(687)	-	(687)	(687)	-	(687)	(687)	-	(687)	(687)	-	(687)	(687)	-
Firm Peak Load, MW	78,608	72,843	5,764	94,351	88,550	5,801	110,083	104,870	5,213	126,285	121,368	4,917	131,998	126,886	5,112
Energy Efficiency Program Savings Forecast, included in the Base Load Forecast	3208			3497			3786			4076			4367		
Expected Resource Capacity Available by Period, MW:															
Operational Generation Capacity															
Installed Winter-rated Capacity, Thermal	69,869	69,869	-	69,869	69,869	-	69,869	69,869	-	69,084	69,084	-	69,084	69,084	-
Hydroelectric, Peak Average Capacity Contribution	515	521	(6)	515	521	(6)	515	521	(6)	515	521	(6)	515	521	(6)
Switchable Capacity	4,016	4,016	-	4,016	4,016	-	4,016	4,016	-	4,016	4,016	-	4,016	4,016	-
less: Switchable Capacity Unavailable to ERCOT	(364)	(364)	-	(364)	(364)	-	(542)	(542)	-	(357)	(357)	-	-	-	-
Available Mothballed Capacity (Units with reported return probabilities ≥ 75%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Capacity from Private Use Networks	4,049	3,852	197	3,939	3,747	192	4,146	3,944	202	4,146	3,944	202	4,396	4,182	214
Inverter-Based Resources, Capacity Contribution based on Effective Load Carrying Capabilities (ELCCs)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coastal Wind	1,624	1,624	-	1,616	1,616	-	1,582	1,582	-	1,582	1,582	-	1,582	1,582	-
Panhandle Wind	1,519	1,519	-	1,512	1,512	-	1,480	1,480	-	1,481	1,481	-	1,481	1,481	-
Other Wind	4,459	4,459	-	4,437	4,437	-	4,345	4,345	-	4,345	4,345	-	4,346	4,346	-
Far West Solar Utility-Scale	136	136	-	103	103	-	96	96	-	92	92	-	92	92	-
West Solar Utility-Scale	113	113	-	86	86	-	79	79	-	76	76	-	76	76	-
Other Solar Utility-Scale	348	348	-	264	264	-	245	245	-	235	235	-	236	236	-
Energy Storage	4,323	4,024	299	3,425	3,139	285	2,912	2,688	223	2,839	2,600	239	2,807	2,571	236
RMR Capacity to be under Contract	412	412	-	412	412	-	-	-	-	-	-	-	-	-	-
Capacity Pending Retirement	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operational Generation Capacity, Total	91,018	90,528	490	89,829	89,357	471	88,743	88,324	420	88,055	87,619	435	88,632	88,187	444
Non-Synchronous Ties (Based on average net import contribution during winter 2020/2021 EEA events)	720	720	-	720	720	-	720	720	-	720	720	-	720	720	-
Planned Resource Additions (with Signed IA and Proof of Financial Commitment) and Retirements															
Thermal Resources	488	488	-	1,400	1,400	-	1,400	1,400	-	2,097	2,097	-	2,097	2,097	-
Inverter-Based Resources, Capacity Contribution based on Effective Load Carrying Capabilities (ELCCs)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Coastal Wind	72	72	-	205	205	-	201	201	-	201	201	-	201	201	-
Panhandle Wind	54	54	-	191	191	-	188	188	-	188	188	-	188	188	-
Other Wind	129	129	-	230	230	-	328	328	-	328	328	-	328	328	-
Far West Solar Utility-Scale	4	4	-	19	19	-	18	18	-	22	22	-	22	22	-
West Solar Utility-Scale	47	47	-	95	95	-	122	122	-	125	125	-	136	136	-
Other Solar Utility-Scale	134	134	-	210	210	-	264	264	-	270	270	-	272	272	-
Energy Storage	4,590	4,264	326	5,690	5,228	463	5,812	5,408	404	6,082	5,625	458	6,103	5,643	460
Unconfirmed Planned Retirements	-	-	-	-	-	-	(1,075)	(1,075)	-	(1,075)	(1,075)	-	(2,045)	(2,045)	-
Planned Generation Capacity Total, Net of Unconfirmed Planned Retirements	5,517	5,191	326	8,042	7,579	463	7,256	6,852	404	8,238	7,780	458	7,301	6,842	460
Total Capacity	97,255	96,438	817	98,590	97,656	934	96,719	95,895	824	97,012	96,119	893	96,652	95,748	904
Reserve Margin	23.7%	32.4%	-8.7%	4.5%	10.3%	-5.8%	-12.1%	-8.6%	-3.6%	-23.2%	-20.8%	-2.4%	-26.8%	-24.5%	-2.2%
(Total Resources - Firm Load Forecast) / Firm Load Forecast															
*Total Load consists of the following forecast components: Base Economic, Electric Vehicle Forecast, Large Flexible Loads forecast, Total Contracts, and Total Officer Letters. The rooftop PV forecast is shown as a separate adjustment to indicate the magnitude of this Distributed Generation resource. https://www.ercot.com/gridinfo/load/forecast															

											Summer Capabilities, MW (As of the Season Start Date, June 1)					Winter Capabilities, MW (As of the Season Start Date, December 1)				
UNIT NAME	INTERCONNECT ION REQUEST NUMBER (INR)	UNIT CODE	TECHNOLOGY	FUEL	CDR STATUS	CDR RESOURCE ATTRIBUTE	COUNTY	ZONE	IN-SERVICE DATE	INSTALLED CAPACITY (MW)	2025	2026	2027	2028	2029	2025/26	2026/27	2027/28	2028/29	2029/30
EXXON G14		EXN_EXN_G14	GT	GAS	OPER	PUN	HARRIS		12/31/2004	163.8										
EXXON G15		EXN_EXN_G15	ST	GAS	OPER	PUN	HARRIS		7/1/2011	7.5										
EXXON G2		EXN_EXN_G2	GT	GAS	OPER	PUN	HARRIS		4/1/1989	35.7										
EXXON G3		EXN_EXN_G3	GT	GAS	OPER	PUN	HARRIS		3/1/1989	35.7										
EXXON G4		EXN_EXN_G4	GT	GAS	OPER	PUN	HARRIS		2/28/1997	92.0										
EXXON G8		EXN_EXN_G8	GT	GAS	OPER	PUN	HARRIS		8/1/1989	37.4										
EXXON G9		EXN_EXN_G9	GT	GAS	OPER	PUN	HARRIS		1/1/1978	29.4										
FORMOSA G11		FORMOSA_FORMOSG11	ST	GAS	OPER	PUN	CALHOUN		3/1/2012	143.1										
FORMOSA G12		FORMOSA_FORMOSG12	ST	GAS	OPER	PUN	CALHOUN		5/1/2012	143.1										
FORMOSA G8		FORMOSA_FORMOSG8	GT	GAS	OPER	PUN	CALHOUN		3/17/1987	36.2										
LYCHEM		LHM_CVC_G4	CT	GAS	OPER	PUN	HARRIS		8/1/2001	192.1										
NORTH CARBIDE G1		NCARBIDE_NCARBIG1	GT	GAS	OPER	PUN	CALHOUN		11/1/1987	35.1										
NORTH CARBIDE G2		NCARBIDE_NCARBIG2	GT	GAS	OPER	PUN	CALHOUN		11/1/1987	35.1										
NORTH CARBIDE G3		NCARBIDE_NCARBIG3	GT	GAS	OPER	PUN	CALHOUN		11/1/2000	37.6										
NORTH CARBIDE G5		NCARBIDE_NCARBIG5	ST	GAS	OPER	PUN	CALHOUN		11/1/1987	14.4										
NORTH CARBIDE G6		NCARBIDE_NCARBIG6	ST	GAS	OPER	PUN	CALHOUN		11/1/1987	6.7										
NORTH CARBIDE G7		NCARBIDE_NCARBIG7	ST	GAS	OPER	PUN	CALHOUN		11/1/1987	14.4										
NORTH CARBIDE G8		NCARBIDE_NCARBIG8	ST	GAS	OPER	PUN	CALHOUN		7/1/2009	16.4										
OXYCHEM CC		OXY_CC_OXY_CCG1	GT	GAS	OPER	PUN	NUECES		6/22/2001	37.9										
PETRA NOVA		PNPL_GT2	CT	GAS	OPER	PUN	FORT BEND		6/15/2013	82.2										
TEXAS PETROCHEMICALS		PR_PR_G2	ST	GAS	OPER	PUN	HARRIS		10/29/2009	35.0										
SWEENY COGEN 1		SCLPCOGN_SCLPC_1	GT	GAS	OPER	PUN	BRAZORIA		1/1/1998	120.0										
SWEENY COGEN 2		SCLPCOGN_SCLPC_2	GT	GAS	OPER	PUN	BRAZORIA		1/1/1998	120.0										
SWEENY COGEN 3		SCLPCOGN_SCLPC_3	GT	GAS	OPER	PUN	BRAZORIA		1/1/1998	120.0										
SWEENY COGEN 4		SCLPCOGN_SCLPC_4	GT	GAS	OPER	PUN	BRAZORIA		12/1/2000	120.0										
TECO		TC_TCHP1	GT	GAS	OPER	PUN	HARRIS		6/1/2010	48.0										
UNION CARBIDE COGEN		UCC_COGN_UCC_C_2	ST	GAS	OPER	PUN	GALVESTON		8/22/2001	38.0										
TECO		TC_GTG2	GT	GAS	OPER	PUN	HARRIS		1/30/2024	48.0										
TEXAS BLUEBONNET SOLAR		BONETSLR_UNIT1	PV	SOLAR-O	OPER	PUN	MCLENNAN		6/17/2024	9.8										
JACKALOPE SOLAR PV1		JKLP_SLR_PV1	PV	SOLAR-O	OPER	PUN	SAN PATRICIO		10/31/2024	81.4										
JACKALOPE SOLAR PV2		JKLP_SLR_PV2	PV	SOLAR-O	OPER	PUN	SAN PATRICIO		10/31/2024	71.7										

Operational Resources, MW [1]	Installed Capacity Rating [2]			
	Summer 2025	Summer 2029	Winter 2025/26	Winter 2029/30
Thermal	85,291	82,375	85,829	82,756
Natural Gas	65,310	64,531	65,848	64,912
Combined-cycle	43,450	43,971	43,965	44,329
Combustion Turbine	9,596	9,596	9,596	9,596
Internal Combustion Engine	732	732	900	900
Steam Turbine	11,532	10,232	11,387	10,087
Compressed Air Energy Storage	-	-	-	-
Coal	14,713	12,576	14,713	12,576
Nuclear	5,268	5,268	5,268	5,268
Renewable, Intermittent [6]	67,364	67,364	67,364	67,364
Solar	27,818	27,818	27,818	27,818
Far West	5,262	5,262	5,262	5,262
West	4,374	4,374	4,374	4,374
Other	18,181	18,181	18,181	18,181
Wind	39,546	39,546	39,546	39,546
Coastal	5,436	5,436	5,436	5,436
Panhandle	4,669	4,669	4,669	4,669
Other	29,442	29,442	29,442	29,442
Renewable, Other	725	725	725	725
Biomass	142	142	142	142
Hydroelectric [4]	583	583	583	583
Energy Storage, Available State of Charge	9,187	9,289	9,187	9,289
Batteries	9,187	9,289	9,187	9,289
Duration 1-hour or less	4,268	4,370	4,268	4,370
Duration greater than 1-hour and less than 4	4,773	4,773	4,773	4,773
Duration 4 hour or more	146	146	146	146
Other	-	-	-	-
DC Tie Net Imports	1,220	1,220	1,220	1,220
Planned Resources [5]	Summer 2025	Summer 2029	Winter 2025/26	Winter 2029/30
Thermal	134	2,132	496	2,132
Natural Gas	104	2,102	466	2,102
Combined-cycle	88	997	276	997
Combustion Turbine	16	1,075	160	1,075
Internal Combustion Engine	-	30	30	30
Steam Turbine	-	-	-	-
Compressed Air Energy Storage	-	-	-	-
Diesel	30	30	30	30
Renewable, Intermittent [6]	5,418	33,037	10,055	33,037
Solar	5,176	29,543	8,799	29,543
Far West	147	1,273	147	1,273
West	870	7,748	1,804	7,748
Other	4,160	20,522	6,849	20,522
Wind	242	3,494	1,256	3,494
Coastal	241	691	241	691
Panhandle	-	591	166	591
Other	0	2,212	848	2,212
Energy Storage, Available State of Charge	4,245	17,620	9,078	17,620
Batteries	4,245	17,620	9,078	17,620
Duration 1-hour or less	1,967	5,229	3,378	5,229
Duration greater than 1-hour and less than 4	2,157	11,388	5,424	11,388
Duration 4 hour or more	122	1,003	275	1,003
Other	-	-	-	-
Total Resources, MW	173,584	213,761	183,954	214,142

NOTES:

[1] Operational resources are those for which ERCOT has approved grid synchronization or full commercial operations. Unit level details for each resource category can be found in the Resource Details tab.

[2] Installed capacity ratings are based on the maximum power that a generating unit can produce during normal sustained operating conditions as specified by the equipment manufacturer. All gas-fired Private-Use Network (PUNs) units are reflected in the combined cycle fuel type row above.

[3] *Expected Available Capacity* for operational units accounts for thermal seasonal sustained capability ratings, hourly capacity contribution estimates for intermittent renewables, planned retirements, reductions due to co-located loads, unavailable Switchable Generation Resources (SWGRs), mothballed capacity, and expected Private Use Network (PUN) generator net exports to the grid. For planned projects, Expected Available Capacity is based on the maximum capacity reported by the developers and accounts for net changes due to repower or upgrade projects greater than one MW, and the established limits on the total MW Injection for designated Self-Limiting Facilities. Unit level details for each resource group above can be found in the Resource Details tab.

[4] Includes a small amount of hydro units that are considered intermittent resources (run-of-river DG hydro units).

[5] Planned resources are those for which ERCOT expects to be approved for grid synchronization or has been assigned a "Model Ready Date" (for Small Generators) by the first of the month.

[6] Wind and solar values represent the 50th percentile values from hourly synthetic output profiles used in the PRRM. See the Background tab for more information.

What is an Effective Load Carrying Capability?

ELCC measures the effectiveness of a resource type—wind, solar and battery energy storage—in maintaining a resource portfolio’s reliability level over a given period. Reliability is measured as the expected frequency of loss-of-load (LOL) events, where an event represents an hourly period when rotating load shed is necessary to maintain overall grid reliability. The availability of the resource type when LOL events are more likely to occur determines the ELCC. ELCC is not a direct measure of generation output available for a given period, but rather an indicator of the expected reliability benefit of the capacity for the given period.

ELCCs estimated for the CDR reflect the resource reliability benefit for a given multi-hour "risk period" rather than an individual hour. The reason is that loss-of-load events can span multiple hours, which makes it impractical to calculate ELCCs for just a given hour.

Why has ERCOT changed its method for calculating the capacity contribution of wind and solar resources?

ELCCs estimated for wind, solar and battery energy storage—Inverter Based Resources, or IBRs—are now being used for ERCOT’s CDR. ELCCs replace a methodology whereby average historical wind and solar capacity availability is estimated for a sample of the highest peak load hours during past seasons. This prior approach fails to account for the expected reliability impacts of increasing wind and solar penetration, resulting in reserve margins that belie the increased reliability risk for these intermittent resources. Importantly, the ELCC method aligns the CDR with how IBRs are represented in the probabilistic simulation model to be used to support analysis for the Texas Public Utility Commission’s new Reliability Standard.

How are ELCCs Estimated?

A resource type’s ELCC is gauged against so-called “perfect capacity,” which is hypothetical generation capacity that is available 100% of the time when the capacity is needed. For example, a wind ELCC of 25% means that the resource portfolio’s wind capacity is only 25% as effective as perfect capacity in maintaining the portfolio’s reliability level for the given period. The associated ELCC capacity is the ELCC percentage multiplied by the resource type’s aggregate installed capacity in megawatts (MW).

ELCCs are determined by running a probabilistic reliability model for a future year. The model produces many reliability outcomes for the forecast year based on simulating grid conditions with variations in load and resource availabilities. ELCCs account for a resource type’s average reliability contribution across all the simulation outcomes.

The basic process for estimating ELCCs is as follows:

1. The future-year resource portfolio is first modified to meet a reliability level based on the reliability criteria established for a prevailing reliability standard.
2. All the capacity for the resource type is then removed and replaced with perfect capacity until the reliability level is again reached based on simulation results. (The perfect capacity is a gas turbine plant with a zero-percent outage rate).
3. The final step is to divide the perfect capacity added by the capacity of the resource type removed. The result is the ELCC percentage. ELCCs will always be less than 100%.

ELCC study reports are available in the "Wind, Solar and Energy Storage Resources" section of [ERCOT Resource Adequacy webpage](#).

Key Attributes of ELCCs

Annual ELCCs can be decomposed into values for shorter periods. ERCOT’s ELCCs are estimated by year, season, and daily risk period (afternoon and evening for non-winter months; morning, afternoon, and evening for winter months.)

ELCCs decline as more of the resource type is added to the resource portfolio. When there is not much of the resource type installed on the grid, its capacity yields a high ELCC. However, adding more capacity dilutes the reliability benefit of the existing and new capacity, thereby lowering the ELCC. This effect is most dramatic for solar capacity. At low penetration levels, solar has a large reliability benefit in the afternoon when solar output is at its highest. As more solar is added, the risk of reliability issues is then pushed into the evening hours when solar generation drops and becomes much less effective at maintaining reliability. Solar ELCCs decrease sharply for the evening risk period, but also decrease for the afternoon.

ELCCs for a resource type account for the joint reliability impacts of other portfolio resources and the grid conditions modeled. Resource diversity can have benefits for maintaining a given portfolio reliability level. For example, the combination of solar and battery energy storage can provide a combined ELCC greater than adding the ELCCs estimated separately for these resource types. This synergistic reliability effect is captured by running simulations designed to isolate the incremental ELCC increase of the combined solar/battery resource portfolio. *ELCCs also reflect all modeled grid conditions that impact the timing, length and magnitude of LOL events.*

ELCCs are unique for a given set of portfolio resources, load forecasts, and other modeling assumptions. ELCCs typically need to be re-estimated as resource portfolios and other grid attributes affecting reliability change. To minimize the frequency of needed updates, a library of ELCCs has been developed based on a range of future resource-type combinations and load levels. This library development approach supports ELCCs calculated for the range of planning reserve margin periods reported in the CDRs.

ELCCs for battery energy storage systems (BESSs) are estimated for a range of design durations. BESS ELCCs are impacted by system duration; the longer the duration, the higher the ELCC, not accounting for the “diminishing returns” effect of adding more BESS capacity to the resource portfolio. Estimating BESS-duration ELCCs is more complicated than estimating them for wind and solar capacity, requiring both probabilistic modeling and a separate model to estimate all the reliability impacts of these systems.

ELCCs Values used in this CDR

The following table lists the wind, solar and battery energy storage Effective Load Carrying Capability (ELCC) values used for Planning Reserve Margin calculations. ELCC values are disaggregated by time periods: forecast year, season and applicable reserve risk period.

Effective Load Carrying Capabilities (ELCCs)*

	2025 & 2025/26				2026 & 2026/27				2027 & 2027/28				2028 & 2028/29				2029 & 2029/30			
Risk Period	Winter Morning	Winter Evening	Summer Afternoon	Summer Evening	Winter Morning	Winter Evening	Summer Afternoon	Summer Evening	Winter Morning	Winter Evening	Summer Afternoon	Summer Evening	Winter Morning	Winter Evening	Summer Afternoon	Summer Evening	Winter Morning	Winter Evening	Summer Afternoon	Summer Evening
Resource Type																				
Wind - Coastal	30%	30%	31%	16%	30%	30%	32%	17%	29%	29%	32%	16%	29%	29%	32%	16%	29%	29%	32%	16%
Wind - Panhandle	33%	33%	34%	18%	32%	32%	34%	19%	32%	32%	35%	18%	32%	32%	35%	18%	32%	32%	35%	18%
Wind - Other	15%	15%	16%	8%	15%	15%	16%	9%	15%	15%	16%	8%	15%	15%	16%	8%	15%	15%	16%	8%
Solar - FarWest	3%	3%	36%	7%	2%	2%	28%	3%	2%	2%	27%	2%	2%	2%	26%	1%	2%	2%	26%	1%
Solar - West	3%	3%	36%	7%	2%	2%	28%	3%	2%	2%	27%	2%	2%	2%	26%	1%	2%	2%	26%	1%
Solar - Other	2%	2%	27%	6%	1%	1%	21%	3%	1%	1%	20%	1%	1%	1%	20%	1%	1%	1%	20%	0%
BESS - 1.0 hr	27%	24%	74%	74%	25%	22%	43%	43%	22%	20%	38%	38%	20%	18%	34%	34%	20%	18%	33%	33%
BESS - 2.0 hr	64%	59%	98%	98%	46%	42%	82%	82%	38%	35%	65%	65%	39%	36%	64%	64%	39%	35%	64%	64%
BESS - 3.0 hr	91%	95%	98%	98%	66%	72%	98%	98%	60%	60%	98%	98%	62%	55%	97%	97%	62%	55%	97%	97%
BESS - 4.0 hr	98%	98%	98%	98%	92%	94%	98%	98%	84%	89%	98%	98%	71%	71%	97%	97%	71%	70%	97%	97%
BESS - 5.0 hr	98%	98%	98%	98%	85%	91%	98%	98%	81%	86%	98%	98%	81%	86%	97%	97%	81%	86%	97%	97%
BESS - 6.0 hr	98%	98%	98%	98%	92%	94%	98%	98%	90%	92%	98%	98%	90%	92%	97%	97%	89%	92%	97%	97%
BESS - 7.0 hr	98%	98%	98%	98%	94%	95%	98%	98%	92%	93%	98%	98%	92%	93%	97%	97%	92%	92%	97%	97%
BESS - 8.0 hr	98%	98%	98%	98%	96%	96%	98%	98%	94%	94%	98%	98%	93%	93%	97%	97%	93%	93%	97%	97%
BESS - 9.0 hr	98%	98%	98%	98%	96%	96%	98%	98%	94%	94%	98%	98%	93%	93%	97%	97%	93%	93%	97%	97%
BESS - 10.0 hr	98%	98%	98%	98%	96%	96%	98%	98%	94%	94%	98%	98%	93%	93%	97%	97%	93%	93%	97%	97%
BESS - 11.0 hr	98%	98%	98%	98%	96%	96%	98%	98%	94%	94%	98%	98%	93%	93%	97%	97%	93%	93%	97%	97%
BESS - 12.0 hr	98%	98%	98%	98%	96%	96%	98%	98%	94%	94%	98%	98%	93%	93%	97%	97%	93%	93%	97%	97%

*ELCCs for non-winter morning reserve risk periods are not reported because the occurrence of loss-of-load events is expected to be negligible or non-existent for those periods.

New Planned Resources Eligible for CDR Report since the Last CDR Report, Published May 2024

The table below lists the planned resources that have met certain ERCOT Planning Guide criteria necessary for the resources to be included in this CDR report. These criteria are as follows:

Large Generators

1. For all resource types a signed Standard Generation Interconnection Agreement (SGIA) or other binding agreement (for municipally-owned utilities or electric cooperatives).
2. Air permits required by the Texas Commission on Environmental Quality (TCEQ) or notice that air permits are not required.
3. Submission of a "Declaration of Adequate Water Supplies" and proof that the resource has sufficient water supplies for electricity generation. Solar, wind, and Energy Storage Resources are exempt from this requirement.

Small Generators

1. ERCOT has determined that all data submission requirements for Resource Registration have been met and the generator is added to the ERCOT Network Operations Model. These requirement are met when the Small Generator has been issued a Model Ready Date.

Notes

Year of Projected Commercial Operations: The year is based on the projected Commercial Operations Date (COD) reported by the project developer.

Planned projects with a "(DGR)" suffix indicate that the resource is a Distributed Generation Resource as defined in the ERCOT Nodal Protocols (Section 2.1).

Projects ending with 'SLF' represent Battery Energy Storage Systems that are Self-Limiting Facilities (SLFs), where the MW capacities are reported as zero to reflect projects for which the battery system is sized to be less than the total nameplate capacity of all registered generators at the facility. Other generators at the facility typically include one or more inverter-based resources, such as solar.

Project Name	GENERATION INTERCONNECTION PROJECT CODE	County	Fuel	Zone	Year of Projected Commercial Operations	Installed Capacity, MW
CEDAR BAYOU5	23INR0029	CHAMBERS	GAS-CC	HOUSTON	2027	721 MW
COYOTE SPRINGS AGR1 (DGR)	24INR0645	REEVES	DIESEL	WEST	2025	10 MW
ENCHANTED ROCK NEWPP	22INR0546	HARRIS	GAS-IC	HOUSTON	2025	30 MW
FRIENDSWOOD G CTG 2	24INR0456	HARRIS	GAS-GT	HOUSTON	2025	144 MW
OLNEY AGR1 (DGR)	24INR0647	YOUNG	DIESEL	WEST	2025	10 MW
SADDLEBACK AGR1 (DGR)	24INR0646	REEVES	DIESEL	WEST	2025	10 MW
HONEY MESQUITE WIND FARM	26INR0447	GLASSCOCK	WIND-O	WEST	2026	155 MW
PEYTON CREEK WIND II	20INR0155	MATAGORDA	WIND-C	COASTAL	2025	241 MW
RUBICON ALPHA WIND	24INR0291	HASKELL	WIND-O	WEST	2027	226 MW
YELLOW CAT WIND	25INR0018	NAVARRO	WIND-O	NORTH	2026	300 MW
ANSON SOLAR CENTER, PHASE II	20INR0242	JONES	SOLAR	WEST	2025	201 MW
AUSTIN BAYOU SOLAR	25INR0102	BRAZORIA	SOLAR	COASTAL	2027	753 MW
CANTALOUPE SOLAR	23INR0116	REEVES	SOLAR	WEST	2028	303 MW
DIAMONDBACK SOLAR	20INR0162	STARR	SOLAR	SOUTH	2027	202 MW
HICKERSON SOLAR	21INR0359	BOSQUE	SOLAR	NORTH	2026	316 MW
HIGH NOON SOLAR	24INR0124	HILL	SOLAR	NORTH	2027	182 MW
HOLLOW BRANCH CREEK SOLAR	24INR0422	LEON	SOLAR	NORTH	2027	460 MW
HORNET SOLAR II SLF	25INR0282	CASTRO	SOLAR	PANHANDLE	2026	209 MW
LEIGHTON SOLAR SLF	24INR0298	LIMESTONE	SOLAR	NORTH	2026	183 MW
LEON SOLAR PARK	26INR0023	LEON	SOLAR	NORTH	2026	213 MW
MOCCASIN SOLAR	26INR0269	STONEWALL	SOLAR	WEST	2027	807 MW
NORTHINGTON SOLAR	25INR0319	WHARTON	SOLAR	SOUTH	2026	130 MW
PITTS DUDIK II	24INR0364	HILL	SOLAR	NORTH	2026	30 MW
SHORT CREEK SOLAR	24INR0201	WICHITA	SOLAR	WEST	2029	625 MW
SWIFT AIR SOLAR	24INR0421	ECTOR	SOLAR	WEST	2025	147 MW
ABILENE ELMCREEK BESS	25INR0701	TAYLOR	STORAGE	WEST	2025	10 MW
ABILENE INDUSTRIAL PARK BESS	25INR0702	TAYLOR	STORAGE	WEST	2025	10 MW
ALDRIN 138 BESS	25INR0421	BRAZORIA	STORAGE	COASTAL	2026	207 MW
ALDRIN 345 BESS	25INR0425	BRAZORIA	STORAGE	COASTAL	2027	362 MW
ANDROMEDA STORAGE SLF	24INR0630	SCURRY	STORAGE	WEST	2024	160 MW
ANGLETON BESS	24INR0547	BRAZORIA	STORAGE	COASTAL	2025	10 MW
ANSON BAT	22INR0457	JONES	STORAGE	WEST	2026	151 MW

Project Name	GENERATION INTERCONNECTION PROJECT CODE	County	Fuel	Zone	Year of Projected Commercial Operations	Installed Capacity, MW
APACHE HILL BESS	25INR0231	HOOD	STORAGE	NORTH	2026	201 MW
ATASCOCITA BESS	25INR0713	HARRIS	STORAGE	HOUSTON	2025	10 MW
BIG ELM STORAGE	23INR0469	BELL	STORAGE	NORTH	2025	101 MW
BLACK & GOLD ENERGY STORAGE	24INR0386	MENARD	STORAGE	WEST	2027	255 MW
BLUE SKIES BESS	25INR0046	HILL	STORAGE	NORTH	2027	309 MW
BRACERO PECAN STORAGE	26INR0034	REEVES	STORAGE	WEST	2026	232 MW
CANTALOUPE STORAGE	23INR0117	REEVES	STORAGE	WEST	2028	251 MW
CANVASBACK BESS	25INR0160	CALHOUN	STORAGE	COASTAL	2027	151 MW
CITRUS CITY BESS	24INR0591	HIDALGO	STORAGE	SOUTH	2025	10 MW
CITY BREEZE BESS	25INR0271	MATAGORDA	STORAGE	COASTAL	2026	141 MW
COTULLA BESS 2	24INR0638	LA SALLE	STORAGE	SOUTH	2025	10 MW
CROSS TRAILS STORAGE	23INR0372	SCURRY	STORAGE	WEST	2025	58 MW
CROWNED HERON BESS 2	24INR0493	FORT BEND	STORAGE	HOUSTON	2025	154 MW
ELIO BESS	25INR0103	BRAZORIA	STORAGE	COASTAL	2026	317 MW
FALFUR BESS (DGR)	24INR0593	BROOKS	STORAGE	SOUTH	2025	10 MW
FIRST CAPITOL BESS	26INR0226	BRAZORIA	STORAGE	COASTAL	2025	256 MW
FORT WATT STORAGE	24INR0498	TARRANT	STORAGE	NORTH	2026	201 MW
HIGH NOON STORAGE	24INR0126	HILL	STORAGE	NORTH	2027	94 MW
HORNET STORAGE II SLF	25INR0283	CASTRO	STORAGE	PANHANDLE	2026	208 MW
MAYBERRY II BESS	23INR0807	HIDALGO	STORAGE	SOUTH	2024	10 MW
MRG GOODY STORAGE	24INR0305	LAMAR	STORAGE	NORTH	2025	50 MW
PALMVIEW BESS	24INR0628	HIDALGO	STORAGE	SOUTH	2025	10 MW
PEARSALL BESS	24INR0560	FRIO	STORAGE	SOUTH	2024	10 MW
PHOTON BESS2	25INR0691	WHARTON	STORAGE	SOUTH	2025	153 MW
PINE FOREST BESS	22INR0526	HOPKINS	STORAGE	NORTH	2025	201 MW
PROJECT LYNX BESS	25INR0329	NUECES	STORAGE	COASTAL	2026	125 MW
RADIAN STORAGE SLF	24INR0631	BROWN	STORAGE	NORTH	2024	160 MW
RIO GRANDE CITY BESS 2	24INR0592	STARR	STORAGE	SOUTH	2025	10 MW
ROCK ROSE ENERGY BESS	26INR0201	FORT BEND	STORAGE	HOUSTON	2026	212 MW
ROCKEFELLER STORAGE	22INR0239	SCHLEICHER	STORAGE	WEST	2027	207 MW
SCENIC WOODS BESS	25INR0712	HARRIS	STORAGE	HOUSTON	2025	10 MW
SE EDINBURG BESS	24INR0642	HIDALGO	STORAGE	SOUTH	2025	10 MW
SHAMROCK ENERGY STORAGE (SLF)	24INR0568	CROCKETT	STORAGE	WEST	2025	99 MW
SHERBINO II BESS SLF	26INR0296	PECOS	STORAGE	WEST	2025	77 MW
SPENCER BESS	24INR0545	HARRIS	STORAGE	HOUSTON	2025	10 MW
ST. GALL II ENERGY STORAGE	22INR0525	PECOS	STORAGE	WEST	2025	100 MW
STONERIDGE BESS	25INR0389	MILAM	STORAGE	SOUTH	2025	102 MW
TWO BROTHERS BATTERY ENERGY STORAGE SYSTEM	24INR0425	VICTORIA	STORAGE	SOUTH	2026	152 MW
TWO FORKS BESS	24INR0198	COOKE	STORAGE	NORTH	2027	310 MW
TYNAN BESS	24INR0759	BEE	STORAGE	SOUTH	2024	10 MW
WHARTON BESS (DGR)	22INR0608	WHARTON	STORAGE	SOUTH	2025	10 MW
TOTAL						12,522 MW

Acronyms

General

GIM = Generator Interconnection or Modification request
CDR = Capacity, Demand and Reserves Report
COD = Commercial Operations Date
ELCC = Effective Load Carrying Capability
HE = Hour Ending
INR = Interconnection Request Number
RIOO-IS = "Resource Integration and Ongoing Operations - Integration Services" system
RIOO-RS = "Resource Integration and Ongoing Operations - Registration Services" system
RTP = Regional Transmission Plan
TSP = Transmission Service Provider

CDR Status (For Unit Details table)

EXT-OUT = Extended outage
OPER = Operational
OPER-SLF = Operational Self-Limiting Facility (See the Definitions tab for the SLF definition)
OPER-SYN = Operational, synchronized only
OPER-UNR = Unconfirmed Planned Retirement
MOTH-SEA = Seasonal mothballed (Unit operating under a seasonal availability schedule)
MOTH-IND = Indefinitely mothballed
PLAN = Planned
PLAN-RPR = An existing unit being repowered and required to submit an interconnection request (See the Definitions tab for the CDR repower definition)
RMR = Reliability Must-Run, A generation resource unit operated under the terms of an agreement with ERCOT that would not otherwise be operated except that they are necessary to provide voltage support, stability or management of localized transmission constraints under first contingency criteria.

CDR Resource Attributes (For Unit Details table)

CONV = Conventional generation resource (Unit that does not fall under the other CDR Attribute categories)
DC-TIE = Direct Current Asynchronous Tie
DGR = Distributed Generation Resource
PUN = Private Use Network generator
PUN-AGR = Aggregate PUN resource, used for reporting the aggregate PUN capacity contribution
SLF = Self-Limiting Facility (See the Definitions tab for the SLF definition)
SODG = Settlement Only Distribution Generator
SWGR-AVA = Switchable Generation Resource, available
SWGR-UNA = Switchable Generation Resource, Unavailable

Fuel Types (For Unit Details Table)

BIO = Biomass
COAL = Coal (bituminous, subbituminous, lignite)
GAS = Natural Gas
GEO = Geothermal
HYD = Hydrogen
NUC = Nuclear
OIL = Fuel Oil
OTH = Other
PET = Petcoke
SOL = Solar
WAT = Water
WIND-C = Wind from the Coastal wind region
WIND-P = Wind from the Panhandle wind region
WIND-O = Wind from the Other wind region
SOLAR-FW = Solar from the Far West CDR solar region
SOLAR-W = Solar from the West CDR solar region
SOLAR-O = Solar from the Other CDR solar region

Technology Types (For Unit Details table)

BA = Battery Energy Storage
CC = Combined-Cycle
CE = Compressed Air Energy Storage
CP = Concentrated Solar Power
EN = Energy Storage
FC = Fuel Cell
GT = Combustion (gas) Turbine, but not part of a Combined-Cycle
HY = Hydroelectric Turbine
IC = Internal Combustion Engine, eg. Reciprocating
OT = Other
PV = Photovoltaic Solar
ST = Steam Turbine other than Combined-Cycle
WT = Wind Turbine

Definitions

Available Mothballed Capacity based on Owner's Return Probability

Mothballed capacity with a return-to-service probability of 50% or greater for a given season of the year, as provided by its owner, constitutes available mothballed generation. Return probabilities for individual units are considered protected information under the ERCOT Protocols and therefore are not included in this report.

Capacity Pending Retirement

Announced retired capacity that is undergoing ERCOT grid reliability reviews pursuant to Nodal Protocol Section 3.14.1.2.

Contracted / Non-Contracted TSP Loads

Contracted Large Load: A Large Load, as defined in ERCOT's Planning Guide, reported to ERCOT for which an interconnection agreements and/or Facility Extension Agreements (FEA) has been signed by the customer and Transmission Service Provider, and the customer share of costs for the extension of TSP facilities has been paid to the TSP. A contracted Load typically falls into the following general categories: crypto-mining, data centers, hydrogen/ammonia production, oil and gas production, and industrial/manufacturing.

Officer letter Large Load: A Load (or Loads) for which an officer of a TSP has documented in a letter sent to ERCOT attesting that there is a high likelihood that the Load(s) will materialize. These prospective Loads are not associated with a signed interconnection agreement or FEA, and are therefore considered more speculative than Loads with a signed interconnection agreement or FEA.

Decommissioned Generation Resource

A Generation Resource for which a Resource Entity has submitted a Notification of Suspension of Operations (NSO) or a Notification of Change of Generation Resource Designation (NCGRD), for which ERCOT has declined to execute a Reliability Must-Run (RMR) Agreement, and which has been decommissioned and permanently retired.

Distribution Resource Types:

Settlement Only Distribution Generator (SODG)

A generator that is connected to the Distribution System with a rating of:

- (1) One MW or less that chooses to register as an SODG; or
- (2) Greater than one and up to ten MW that is capable of providing a net export to the ERCOT System and does not register as a Distribution Generation Resource (DGR).

Distribution Generation Resource (DGR)

A Generation Resource connected to the Distribution System that is either:

- (1) Greater than ten MW and not registered with the Public Utility Commission of Texas (PUCT) as a self-generator; or
- (2) Ten MW or less that chooses to register as a Generation Resource to participate in the ERCOT markets.

DGRs must be registered with ERCOT in accordance with Planning Guide Section 6.8.2, Resource Registration Process, and will be modeled in ERCOT systems in accordance with Section 3.10.7.2, Modeling of Resources and Transmission Loads.

Effective Load Carrying Capability (ELCC)

Represents the aggregate average Megawatt (MW) contribution of a resource class in maintaining a target level of resource reliability for a given resource portfolio and forecast period. ELCCs are developed using Monte Carlo system simulation techniques to capture a wide range of system reliability outcomes. ELCC derivation starts with a base portfolio constructed to achieve the target reliability level. The resource class (e.g., wind) is removed and substituted with capacity that has perfect availability until the target reliability level is again reached. The ELCC is the amount of perfect capacity added divided by the amount of the resource class capacity removed, expressed as a percentage.

Emergency Response Service

ERCOT uses the methodology specified in Protocol Section 3.2.6.2.1, Peak Load Estimate, to derive the ERS capacity forecast for future years. The Current Year for the calculations is defined as the latest year for which ERS has been procured. The ERS capacity amounts are grossed up by 2% to reflect avoided transmission line losses.

Energy Efficiency Program Savings Forecast

ERCOT's energy efficiency forecast uses the PUCT's annual verified energy efficiency program savings estimates as the starting point. (See the definition for verified energy efficiency program savings below.) Savings from TDSP standard offer load management programs are not included in the ERCOT energy efficiency forecast. ERCOT computes the historical average annual verified savings, but excludes 2017 from the calculation due to Hurricane Harvey load impacts. (For prior forecasts, ERCOT used a formula based on the State energy efficiency goals in Utilities Code Section 39.905. Since the impacts of the goals were assumed to accumulate for just seven years from the time that the goals must be first met (2013), ERCOT no longer uses the goal-based forecasting approach.)

Finally, ERCOT incorporates annual energy efficiency estimates from municipal utilities and electric cooperatives provided to the State Energy Conservation Office (SECO). Annual SECO report submission by these entities is required under S.B. No. 924. If annual reports for the previous calendar year are not available at the time the CDR is prepared, ERCOT incorporates report data for the most recently available reporting year.

Energy Emergency Alert (EEA)

An ERCOT EEA declaration is made when operating reserves and system frequency drop below established severity levels (Levels 1, 2 and 3) and reserves are not projected to recover within 30 minutes unless certain actions are taken. An EEA declaration initiates an orderly, predetermined procedure for maximizing the use of available Resources, including the use of voluntary load reduction programs that are only available under EEA operations. Only under the most severe EEA level, would ERCOT direct Transmission and Distribution Service Providers to start shedding Load on a rotating basis in order to maintain system reliability and integrity. See Nodal Protocol Section 6.5.9.4, Energy Emergency Alert, for more details.

ERCOT Contingency Reserve Service (ECRS)

An Ancillary Service that provides operating reserves that is intended to:

- (a) Restore Responsive Reserve (RRS) within ten minutes of a frequency deviation that results in significant depletion of RRS by restoring frequency to its scheduled value to return the system to normal;
- (b) Provide energy or continued Load interruption to avoid or during the implementation of an Energy Emergency Alert (EEA);
- (c) Provide backup regulation; and
- (d) Be sustained at a specified level for two consecutive hours.

Forecast Zone

The CDR report uses Forecast Zones to identify the geographical location of generation resources. Forecast Zones generally have the same boundaries as the 2003 Congestion Management Zones with the following exceptions: A) Panhandle Zone for resources in the Texas Panhandle counties and outside the 2003 Congestion Management Zones, and B) Coastal Zone for resources in 11 counties along the Texas Gulf Coast and formerly in the South Zone of the 2003 Congestion Management Zones. There are six Forecast Zones: Coastal, Houston, North, Panhandle, South, and West.

Full Interconnection Study (FIS)

The set of studies conducted by a Transmission Service Provider (TSP) for the purpose of identifying any electric system improvements or enhancements required to reliably interconnect a new All-Inclusive Generation Resource consistent with the provisions of Planning Guide Section 5, Generation Resource Interconnection or Change Request. These studies may include steady-state studies, system protection (short-circuit) studies, dynamic and transient stability studies, facility studies, and sub-synchronous oscillation studies.

Inactive Projects

Per Planning Guide Section 5.7.6, a proposed Resource shall be given the status of “Inactive” if the Resource has not met the conditions for inclusion in the ERCOT planning models, as specified in Section 6.9, Addition of Proposed Generation to the Planning Models, within two years of the date on which ERCOT posts the final FIS studies for the Resource to the MIS Secure Area. A developer may also elect Inactive status and stop any interconnection studies in process at its own discretion. When an Inactive Resource subsequently meets the requirements of Section 6.9, it shall be added to the planning models and the status changed back to Planned. If a Resource has been Inactive for five years, ERCOT may cancel the project pursuant to Planning Guide Section 5.7.7, Cancellation of a Project Due to Failure to Comply with Requirements.

Installed Capacity Rating

The installed capacity rating is the maximum power that a generating unit can produce during normal sustained operating conditions as specified by the equipment manufacturer. ERCOT uses Real Power Ratings that reflect the continuous flow of power to loads (as opposed to reactive power, which is the power that flows back and forth between the power source and loads, and doesn't perform useful work.)

Large Flexible Load (LFL)

A Large Load (as defined below) that can come online quickly and is very responsive to real time prices. An LFL is typically a crypto-currency mining site.

Large Load

One or more Facilities at a single site with an aggregate peak Demand greater than or equal to 75 MW behind one or more common Points of Interconnection (POIs) or Service Delivery Points.

LRs (Load Resources)

Load capable of reducing or increasing the need for electrical energy or providing Ancillary Services to the ERCOT System, as described in the ERCOT Protocols, Section 6, Ancillary Services. These Resources may provide the following Ancillary Services: Responsive Reserve Service, Non-Spinning Reserve Service, Replacement Reserve Service, and Regulation Service. The Resources must be registered and qualified by ERCOT and will be scheduled by a Qualified Scheduling Entity (QSE). LR capacity has been grossed up by 2% to reflect avoided transmission line losses.

Mothballed Unit

A generation resource for which a generation entity has submitted a Notification of Suspension of Operations, for which ERCOT has declined to execute an RMR agreement, and for which the generation entity has not announced retirement of the generation resource. A seasonal mothballed unit is one in which the generation entity requests a seasonal operation period that must include the summer Peak Load Season, June 1 through September 30.

Mothballed Capacity

Capacity that is designated as mothballed by a generating unit's owner as described above, and which is not available for operations during the summer Peak Load Season (June, July, August and September) or winter Peak Load Season (December, January and February).

Seasons

Summer months are June, July, August, and September; winter months are December, January, and February.

Net Load / Peak Net Load

The Load for a given period minus generation from PhotoVoltaic Generation Resources (PVGRs) and Wind Generation Resources (WGRs) for the same period. The peak Net Load is the highest value for the given period.

Private Use Networks

An electric network connected to the ERCOT transmission grid that contains load that is not directly metered by ERCOT (i.e., load that is typically netted with internal generation).

Non-Synchronous Tie

Any non-synchronous transmission interconnection between ERCOT and non-ERCOT electric power systems.

Reliability Must-Run (RMR) Unit

A generation resource unit operated under the terms of an agreement with ERCOT that would not otherwise be operated except that they are necessary to provide voltage support, stability or management of localized transmission constraints under first contingency criteria.

Repower

For CDR reporting purposes, a repower is a an operational resource that needs to project for which one of the two following conditions apply:

- The Resource Entity is changing the inverter, turbine, generator, or power converter associated with a facility with an aggregate real power rating of ten MW or greater, unless the replacement is in-kind; Repowered Facility. See Planning Guide Section 5.2.1(1)(c)(ii).
- Increasing the aggregate nameplate capacity of a generator less than ten MW to ten MW or greater. See Planning Guide Section 5.2.1(1)(c)(v).

Self-Limiting Facility (SLF)

A modeled generation station that includes one or more Generation Resources, Energy Storage Resources (ESRs), and/or Settlement Only Generators (SOGs) with an established limit on the total MW Injection that is less than the total nameplate capacity of all registered generators or Energy Storage Systems (ESSs) within the Facility. A Facility with one or more ESRs may also have an established limit on the MW Withdrawal that is less than the total nameplate MW Withdrawal rating of all ESRs within the facility. (MW Withdrawal is defined as the instantaneous Megawatt (MW) energy withdrawn from the ERCOT System as measured at the Point of Interconnection (POI) or Point of Common Coupling (POCC).

Signed SGIA (Standard Generation Interconnection Agreement)

An agreement that sets forth requirements for physical connection between an eligible transmission service customer and a transmission or distribution service provider.

Switchable Generation Resource (SWGR)

A generation resource that can be connected to either the ERCOT transmission grid or a grid outside the ERCOT Region.

Synchronized but not Approved for Commercial Operations Capacity

These units have met requirements to Energize Equipment (Part 1 of Generator Commissioning Checklist): provided latest model data, verified Voltage Ride-Through capability and communication capabilities specified by ERCOT Operating Guides are in place. Output for these resources is not limited once they have passed a curtailment test and the project developer has submitted an attestation for the following plant controls: Automatic Voltage Regulator (AVR), Primary Frequency Response (PFR), Voltage Support Service (VSS), and Power System Stabilizer (PSS).

A Synchronized unit get approved for Commercial Operations after the plant controls have been verified by

TDSP Standard Offer Load Management Programs

For the May releases of the CDR report, ERCOT uses the megawatt amount of verified peak load capacity reductions, adjusted for avoided transmission losses, due to TDSP Standard Offer load management programs that are reported by electric utilities in the ERCOT Region to the Public Utility Commission of Texas. The reported amounts are for the most current reporting year, which is the calendar year prior to the year during which the May CDR is prepared. (For example, the May 2019 CDR report used verified program savings for the 2018 reporting year.)

Unconfirmed Retirement

The capacity of Generation Resources for which a public announcement of the intent to permanently shut the unit down has been released, but a Notice of Suspension of Operations for the unit has not been received by ERCOT. To be considered an Unconfirmed Planned Retirement, the Generation Resource must meet the following criteria: (1) a specific retirement date is cited in the announcement, or other timing information is provided that indicates the unit will be unavailable for a given season and year, and (2) the announcement, with follow-up inquiry by ERCOT, does not indicate that retirement timing is highly speculative.

Verified Energy Efficiency Program Savings

The total megawatt (MW) amount of verified peak load capacity reductions due to residential and commercial sector energy efficiency incentive programs that are reported by electric utilities in the ERCOT Region to the Public Utility Commission of Texas. See Utilities Code Section 39.905. Note that savings from TDSP standard offer load management programs are not included in the ERCOT energy efficiency forecast, but rather handled as a separate reporting line item.

Wind and Solar Regions

See the "Wind-Solar Region Mapping" tab to see which counties are assigned to each region.

The assigned Wind Region for each wind generation resource is indicated as "WIND-C," "WIND-P," or "WIND-O" in the Fuel columns of the summer/winter Capacities tabs. The assigned Solar Region assigned to each solar generation resources is indicated as "SOLAR-W," "SOLAR-FW," and "SOLAR-O."

The tables below show what counties in the ERCOT region are mapped to the CDR Wind and Solar Regions.

Note: The CDR Wind and Solar Regions are intended to facilitate calculation of geographic-based Effective Load Carrying Capabilities (ELCCs) that represent wind and solar availabilities for Planning Reserve Margin calculation purposes. These are distinct from ERCOT zone definitions defined for other uses, such as the zones used for wind and solar production forecasting and reporting.

CDR Wind Region	County	CDR Solar Region	County
Coastal	Aransas	West	Archer
Coastal	Brazoria	West	Baylor
Coastal	Calhoun	West	Borden
Coastal	Cameron	West	Callahan
Coastal	Chambers	West	Clay
Coastal	Galveston	West	Coke
Coastal	Jefferson	West	Coleman
Coastal	Kenedy	West	Concho
Coastal	Kleberg	West	Crockett
Coastal	Matagorda	West	Fisher
Coastal	Nueces	West	Glasscock
Coastal	Orange	West	Haskell
Coastal	Refugio	West	Howard
Coastal	San Patricio	West	Irion
Coastal	Willacy	West	Jones
North	Anderson	West	Knox
North	Angelina	West	Martin
North	Bell	West	Menard
North	Bosque	West	Mitchell
North	Bowie	West	Nolan
North	Brazos	West	Reagan
North	Brown	West	Runnels
North	Camp	West	Schleicher
North	Cass	West	Scurry
North	Cherokee	West	Shackelford
North	Collin	West	Sterling
North	Comanche	West	Stonewall
North	Cooke	West	Sutton
North	Coryell	West	Taylor
North	Dallas	West	Throckmorton
North	Delta	West	Tom Green
North	Denton	West	Val Verde
North	Eastland	West	Wichita
North	Ellis	West	Wilbarger
North	Erath	West	Armstrong
North	Falls	West	Bailey
North	Fannin	West	Briscoe
North	Franklin	West	Carson
North	Freestone	West	Castro
North	Grayson	West	Childress
North	Gregg	West	Cochran
North	Grimes	West	Collingsworth
North	Hamilton	West	Cottle
North	Harrison	West	Crosby
North	Henderson	West	Dallam
North	Hill	West	Dawson
North	Hood	West	Deaf Smith
North	Hopkins	West	Dickens

North	Houston	West	Donley
North	Hunt	West	Floyd
North	Jack	West	Foard
North	Jasper	West	Garza
North	Johnson	West	Gray
North	Kaufman	West	Hale
North	Lamar	West	Hall
North	Lampasas	West	Hansford
North	Leon	West	Hardeman
North	Limestone	West	Hartley
North	Madison	West	Hemphill
North	Marion	West	Hockley
North	McLennan	West	Hutchinson
North	Mills	West	Kent
North	Montague	West	King
North	Morris	West	Lamb
North	Nacogdoches	West	Lipscomb
North	Navarro	West	Lubbock
North	Newton	West	Lynn
North	Palo Pinto	West	Moore
North	Panola	West	Motley
North	Parker	West	Ochiltree
North	Polk	West	Oldham
North	Rains	West	Parmer
North	Red River	West	Potter
North	Robertson	West	Randall
North	Rockwall	West	Roberts
North	Rusk	West	Sherman
North	Sabine	West	Swisher
North	San Augustine	West	Terry
North	San Jacinto	West	Wheeler
North	San Saba	FarWest	Andrews
North	Shelby	FarWest	Brewster
North	Smith	FarWest	Crane
North	Somervell	FarWest	Culberson
North	Stephens	FarWest	Ector
North	Tarrant	FarWest	El Paso
North	Titus	FarWest	Gaines
North	Trinity	FarWest	Hudspeth
North	Tyler	FarWest	Jeff Davis
North	Upshur	FarWest	Loving
North	Van Zandt	FarWest	Midland
North	Walker	FarWest	Pecos
North	Wise	FarWest	Presidio
North	Wood	FarWest	Reeves
Panhandle	Armstrong	FarWest	Terrell
Panhandle	Bailey	FarWest	Upton
Panhandle	Briscoe	FarWest	Ward
Panhandle	Carson	FarWest	Winkler
Panhandle	Castro	FarWest	Yoakum
Panhandle	Childress	Other	Bandera
Panhandle	Cochran	Other	Bell
Panhandle	Collingsworth	Other	Blanco
Panhandle	Crosby	Other	Bosque
Panhandle	Dallam	Other	Brown
Panhandle	Deaf Smith	Other	Burnet
Panhandle	Dickens	Other	Collin
Panhandle	Donley	Other	Comal
Panhandle	Floyd	Other	Comanche
Panhandle	Gray	Other	Cooke

Panhandle	Hale	Other	Coryell
Panhandle	Hall	Other	Dallas
Panhandle	Hansford	Other	Denton
Panhandle	Hartley	Other	Eastland
Panhandle	Hemphill	Other	Edwards
Panhandle	Hockley	Other	Ellis
Panhandle	Hutchinson	Other	Erath
Panhandle	Lamb	Other	Gillespie
Panhandle	Lipscomb	Other	Grayson
Panhandle	Lubbock	Other	Hamilton
Panhandle	Moore	Other	Hays
Panhandle	Motley	Other	Hill
Panhandle	Ochiltree	Other	Hood
Panhandle	Oldham	Other	Jack
Panhandle	Parmer	Other	Johnson
Panhandle	Potter	Other	Kendall
Panhandle	Randall	Other	Kerr
Panhandle	Roberts	Other	Kimble
Panhandle	Sherman	Other	Lampasas
Panhandle	Swisher	Other	Llano
Panhandle	Wheeler	Other	Mason
South	Atascosa	Other	McCulloch
South	Austin	Other	McLennan
South	Bandera	Other	Mills
South	Bastrop	Other	Montague
South	Bee	Other	Palo Pinto
South	Bexar	Other	Parker
South	Blanco	Other	Real
South	Brooks	Other	San Saba
South	Burleson	Other	Somervell
South	Burnet	Other	Stephens
South	Caldwell	Other	Tarrant
South	Colorado	Other	Travis
South	Comal	Other	Williamson
South	DeWitt	Other	Wise
South	Dimmit	Other	Young
South	Duval	Other	Anderson
South	Edwards	Other	Angelina
South	Fayette	Other	Austin
South	Fort Bend	Other	Bastrop
South	Frio	Other	Bowie
South	Gillespie	Other	Brazoria
South	Goliad	Other	Brazos
South	Gonzales	Other	Burleson
South	Guadalupe	Other	Caldwell
South	Hardin	Other	Camp
South	Harris	Other	Cass
South	Hays	Other	Chambers
South	Hidalgo	Other	Cherokee
South	Jackson	Other	Colorado
South	Jim Hogg	Other	Delta
South	Jim Wells	Other	Falls
South	Karnes	Other	Fannin
South	Kendall	Other	Fayette
South	Kerr	Other	Fort Bend
South	Kimble	Other	Franklin
South	Kinney	Other	Freestone
South	La Salle	Other	Galveston
South	Lavaca	Other	Gregg
South	Lee	Other	Grimes

South	Liberty	Other	Hardin
South	Live Oak	Other	Harris
South	Llano	Other	Harrison
South	Mason	Other	Henderson
South	Maverick	Other	Hopkins
South	McCulloch	Other	Houston
South	McMullen	Other	Hunt
South	Medina	Other	Jackson
South	Milam	Other	Jasper
South	Montgomery	Other	Jefferson
South	Real	Other	Kaufman
South	Starr	Other	Lamar
South	Travis	Other	Lavaca
South	Uvalde	Other	Lee
South	Victoria	Other	Leon
South	Waller	Other	Liberty
South	Washington	Other	Limestone
South	Webb	Other	Madison
South	Wharton	Other	Marion
South	Williamson	Other	Matagorda
South	Wilson	Other	Milam
South	Zapata	Other	Montgomery
South	Zavala	Other	Morris
West	Andrews	Other	Nacogdoches
West	Archer	Other	Navarro
West	Baylor	Other	Newton
West	Borden	Other	Orange
West	Brewster	Other	Panola
West	Callahan	Other	Polk
West	Clay	Other	Rains
West	Coke	Other	Red River
West	Coleman	Other	Robertson
West	Concho	Other	Rockwall
West	Cottle	Other	Rusk
West	Crane	Other	Sabine
West	Crockett	Other	San Augustine
West	Culberson	Other	San Jacinto
West	Dawson	Other	Shelby
West	Ector	Other	Smith
West	El Paso	Other	Titus
West	Fisher	Other	Trinity
West	Foard	Other	Tyler
West	Gaines	Other	Upshur
West	Garza	Other	Van Zandt
West	Glasscock	Other	Walker
West	Hardeman	Other	Waller
West	Haskell	Other	Washington
West	Howard	Other	Wharton
West	Hudspeth	Other	Wood
West	Irion	Other	Aransas
West	Jeff Davis	Other	Atascosa
West	Jones	Other	Bee
West	Kent	Other	Bexar
West	King	Other	Brooks
West	Knox	Other	Calhoun
West	Loving	Other	Cameron
West	Lynn	Other	DeWitt
West	Martin	Other	Dimmit
West	Menard	Other	Duval
West	Midland	Other	Frio

West	Mitchell	Other	Goliad
West	Nolan	Other	Gonzales
West	Pecos	Other	Guadalupe
West	Presidio	Other	Hidalgo
West	Reagan	Other	Jim Hogg
West	Reeves	Other	Jim Wells
West	Runnels	Other	Karnes
West	Schleicher	Other	Kenedy
West	Scurry	Other	Kinney
West	Shackelford	Other	Kleberg
West	Sterling	Other	La Salle
West	Stonewall	Other	Live Oak
West	Sutton	Other	Maverick
West	Taylor	Other	McMullen
West	Terrell	Other	Medina
West	Terry	Other	Nueces
West	Throckmorton	Other	Refugio
West	Tom Green	Other	San Patricio
West	Upton	Other	Starr
West	Val Verde	Other	Uvalde
West	Ward	Other	Victoria
West	Wichita	Other	Webb
West	Wilbarger	Other	Willacy
West	Winkler	Other	Wilson
West	Yoakum	Other	Zapata
West	Young	Other	Zavala

CDR Report Background

The main purpose of the CDR is to provide forecasted Planning Reserve Margins by season and year. The Planning Reserve Margin represents the percentage of resource capacity, in excess of firm electricity demand, available to cover uncertainty in future demand, generator availability and new resource supply. Firm demand accounts for load reductions available through interruptible load programs controlled by ERCOT as well as incremental load reductions from rooftop solar systems. The methodologies used to develop Planning Reserve Margins and other elements of the CDR are outlined in the ERCOT Nodal Protocols, Section 3.2.6 (See <https://www.ercot.com/mktrules/nprotocols/current>). ERCOT's load forecasts are based on normal weather conditions and determined by the methodologies described in the methodology documents posted to the Load Forecast webpage, <https://www.ercot.com/gridinfo/load/forecast>. The CDR also conforms to requirements for resource adequacy reporting specified by the Public Utility Commission of Texas in their Substantive Rules, §25.505(b).

Resource data comes from generation capacity developers (Interconnecting Entities, IEs) and owners as reported in ERCOT's Resource Integration and Ongoing Operations (RIOO) system, as well as other data collection mechanisms described in the ERCOT Nodal Protocols.

Note that the CDR is not intended for characterizing the risk of capacity scarcity conditions from a real-time operations perspective.

Report Changes Introduced by Nodal Protocol Revision Requests 1219 and 945

Peak Net Load Information: Planning Reserve Margin (PRMs) and associated loads and resource information are added for the forecasted peak Net Load hour by year and season.

Shift to Effective Load Carrying Capabilities (ELCCs): Instead of using peak average capacity contributions for wind and solar resources, the CDR is now utilizing ELCCs to represent their availabilities. ELCCs are also estimated for battery energy storage systems.

Expanded Reporting Timeframe: The report will now include PRMs, associated loads, and resources for all four seasons (summer, winter, spring, and fall). Previously, only summer and winter seasons were included. The December 2024 CDR covers the Summer and Winter seasons, whereas full seasonal reporting will be implemented for the May 2025 CDR.

Introduction of New Solar Regions: Three new solar regions (West, Far West, and Other) are introduced to enable more accurate solar capacity availability forecasts. Previously, a single system capacity availability forecast was used.

Updated Criteria for Planned Resources: The criteria for including planned resources in the CDR has been expanded to include ERCOT notification that a project developer has provided the required financial security for interconnection facility construction and that the TDSP has received a notice to proceed with interconnection construction. See ERCOT Planning Guide Section 6.9(1)(d)(ii)(B).

Inclusion of Publicly Announced Planned Retirements: A new category for planned retirements has been added to account for Generation Resources associated with publicly announced retirement plans, but their Resource owners haven't yet submitted a formal Notification of Suspension of Operations (NSO) to ERCOT.

Inclusion of Distribution Voltage Reduction (DVR): Distribution voltage reduction is now included as a load-reducing adjustment for Firm Peak Load calculation.

Inclusion of Energy Storage Resources (ESRs): Existing and planned ESRs are factored into the PRM calculations as available capacity. Battery ESRs are also categorized based on their maximum (or design) duration capabilities.

Revised Emergency Response Service (ERS) Methodology: The methodology for estimating forecasted ERS capacity has been modified to match the most recent ERS procurement amounts and allow ERCOT to make adjustments based on anticipated ERS program changes. This approach avoids unrealistic forecasted year-to-year volatility caused by averaging three-year historical ERS amounts.

Elevated Probability-of-Return Threshold for Mothballed Generation Resources: The threshold for including mothballed Generation Resources in the PRM calculations has been raised from 50% to 75%.

Identification of Individual Private Use Network (PUN) generators: Implementation of NPRR945 is expected by the end of 2024. This Protocol change requires ERCOT to post a monthly report identifying all generators that are part of a PUN, their nameplate capacities, and the date upon which they can be included in the report. This reporting requirement allows PUN generators that contribute to CDR Reserve Margins to be listed in the Unit Details tab along with their capacities. However, ERCOT will continue reporting the PUN capacity contribution as an aggregate value in a separate line item.