

ERCOT: Thermal Generators to Benefit as Public Utility Commission Clarifies New Incentives, Performance Credit Mechanism Unlikely Until '27

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EXECUTIVE SUMMARY

- Capstone believes upcoming market design changes in the Electric Reliability Council of Texas (ERCOT) will notably benefit thermal power generators like Vistra Corp. (VST), NRG Energy Inc. (NRG), Constellation Corp. (CEG), and Calpine Corp. largely due to new incentives that will be implemented by the Public Utility Commission of Texas (PUCT) within the next five years.
- The PUCT and ERCOT are guiding towards implementing the Performance Credit Mechanism by Q1 2027. In the meantime, they will be establishing an update to the Operating Reserve Demand Curve (ORDC) price adder that is estimated to bring an additional \$500 million to market participants annually.
- The Dispatchable Reliability Reserve Service (DRRS), which has a statutory deadline of implementation of December 1, 2024 will benefit thermal resources that can provide energy capacity in longer lead times (within two hours).
- This note delves into the timeline that the PUCT and ERCOT will implement passed legislation and prioritized projects in the coming years.

A DEEPER LOOK

Capstone believes that the energy-related bills that passed during the 88th Texas legislative session largely favor thermal generators like Vistra Corp. (VST), NRG Energy Inc. (NRG), Constellation Corp. (CEG), and Calpine Corp. During the Public Utility Commission of Texas (PUCT)'s August 24th open meeting, the Commissioners laid out five market reform initiatives that are aimed to bring additional revenue to the ERCOT market and improve reliability on the grid. These initiatives include the establishment of a Reliability Standard, the establishment of the Dispatchable Reliability Reserve Service (DRRS), the development of the Performance Credit Mechanism (PCM), implementation of a multi-step floor to the Operating Reserve Demand Curve (ORDC), and implementation of Real-Time Co-optimization (RTC) (see: [ERCOT Battery Storage: Post-Uri Growth in Ancillary Service Market Points to Opportunities for Storage Manufacturers, Developers, and Software, March 22, 2022](#)). Implementation of items 1 and 5 (shown in Exhibit 1) would be incrementally negative for renewable development in the ERCOT market and we expect them to be addressed in the next legislation session in 2025.

Exhibit 1: Select 2023 Texas Legislation Impacting Power Generators

Item #	Legislation	Effective Date	Description
1	H.B. 1500	September 1, 2023	Interconnection costs: Requires the Commission to establish a reasonable allowance for costs incurred by transmission-owning utilities to interconnect generation resources to the ERCOT transmission system. Interconnection costs are allocated across new generation builds with interconnection agreements signed after December 31, 2025. PUCT will adopt this rulemaking by February 28, 2024.
2	H.B. 1500	September 1, 2023	New ancillary service: Creates a new ancillary service product called the Dispatchable Reliability Reserve Service (DRRS) with a two-hour ramp and four-hour runtime. Must be implemented by December 1, 2024.
3	H.B. 1500	September 1, 2023	Renewable Energy Credit program: Repeals the targets for installation of generation capacity from renewable energy technologies and requires ERCOT to maintain an accreditation banking system to award and track voluntary renewable energy credits.
4	H.B. 1500	September 1, 2023	Performance Credit Mechanism: Puts guardrails around the Performance Credit Mechanism (PCM). Caps net costs of annual performance credits at \$1 billion annually.
5	H.B. 1500	September 1, 2023	Firming requirement: Establishes a firming requirement for all new electric generation facilities that have interconnection approved after January 1, 2027, and renewable energy facilities can meet performance requirements by adding battery energy storage resources.
6	S.B. 2627	Effective immediately if adopted during November 7 election	Texas Energy Fund: Establishes a state-funded grant and loan program to support the construction, maintenance, and operations of dispatchable power generation facilities.
7	H.B. 5	January 1, 2024	Chapter 313 replacement: If a dispatchable generator in ERCOT decides to construct or expand an existing facility and meets additional requirements around job creation and investment thresholds, it receives a 50% property tax abatement and 75% abatement if located in a federally designated Opportunity Zone (low-income, rural areas). Excludes renewable energy and battery storage from participating.

Source: Public Utility Commission of Texas, Capstone analysis

PUCT's Select Market Reform Priority Projects

ERCOT's Bridge Solution: ORDC Price Floor

Price Floor Timing: ERCOT estimates that the bridge solution will go live in November 2023.

Last week, the Texas Public Utility Commission (PUC) approved modifications to the Operating Reserve Demand Curve (ORDC) that is estimated to bring \$500 million in additional revenue to incumbent generators in the market on an annual basis. ERCOT's back-cast analysis for 2022 shows that 80% of the revenue increase would have been directed to thermal generators. The implementation of this market initiative would create a multi-step floor where power generators would be awarded a minimum of \$10 per megawatt-hour (MWh) when reserves go down to 7,000 MW and \$20/MWh when reserves reach 6,500 MW.

Since it would take several years to fully implement the PCM product, the PUCT issued an order under Docket No. 53298 directing the Electric Reliability Council of Texas (ERCOT) to "evaluate bridging options to retain existing assets and build new dispatchable generation until the [PCM] can be fully implemented." The bridge solution is intended to help the market retain existing thermal units, incentivize new dispatchable generation, and reduce the frequency of Reliability Unit Commitments (RUCs). The PUC plans to reassess the need for the ORDC adder floor after the Dispatchable Reliability Reserve Service (DRRS) gets deployed in December 2024.

Dispatchable Reliability Reserve Service (DRRS)

DRRS Timing: Statutorily mandated by December 1, 2024

[HB 1500](#) requires PUC to implement a new ancillary services product called the Dispatchable Reliability Reserve Service. Eligible sources must be able to ramp within two hours and operate for at least four. In order to meet the *statutory December 1, 2024 deadline for implementation*, ERCOT has determined that the best option forward is to establish a new sub-type of the Non-Spin service, which would be utilized by generation resources that can come online in more than 30 minutes but less than or equal to two hours. The 30-minute service will still be retained and there will be a distinction between how much of DRRS versus the 30-minute original Non-Spin service will be procured. Theoretically, a peaker plant and a combined cycle plant would theoretically be paid the same clearing price if bidding into the same commitment period. ERCOT plans to file the Nodal Protocol Revision Request (NPRR) before the end of November 2023, with the goal of the ERCOT board approving it in December.

Reliability Standard & Performance Credit Mechanism

Reliability Standard Timing: According to ERCOT, the reliability standard can be finalized by the end of Q2 2024.

Performance Credit Mechanism Timing: If the PUCT decides to approve the PCM framework by the end of 2024, then we expect the PCM to go live by Q4 2026/Q1 2027.

Before the PUCT can establish a framework for the Performance Credit Mechanism, they must develop an appropriate reliability standard for ERCOT. The Commission kicked this project off on

January 20, 2023 to satisfy requirements set forth in Section 18 of S.B. 3 (from 87th legislative session). According to ERCOT, the establishment of a standard has been considered since 2011, when the Commission considered adopting a mandatory reserve margin, but ultimately decided to focus on adopting an Operating Reserve Demand Curve (ORDC) mechanism to support resource adequacy. Over the coming months, the PUCT and ERCOT will develop a three-parameter framework based on the expected magnitude, frequency, and duration of loss of load events, defined as follows:

- Frequency: Number of events that should occur within a given number of years
- Magnitude: Maximum amount of load shed (in MW) at any time during any single event
- Duration: Maximum number of hours that any single event will last

Through a consultant, ERCOT will run updated analysis on a region-wide Value of Lost Load (VOLL) and Cost of New Entry (CONE), which are imperative to understanding the costs and benefits to PCM. They plan on filing the PCM framework with the PUCT during Q1/Q2 2024 and kickoff the stakeholder feedback process, with the goal of making a final recommendation to the PUCT by end of 2024 whether they should move forward with implementing the PCM product – just in time for the next legislative session. If the PUCT decides to approve the PCM framework by the end of 2024, then *we expect the PCM to go live by Q4 2026/Q1 2027*.

In Case You Missed It: A roundup of Capstone's recent notes on ERCOT:

[Texas Lawmakers Warming to Low-Cost Funding for New Generation; Efficient New Entrants to Reap More Advantages than Incumbents, May 15, 2023](#)

[ERCOT Quick Take: Exploring Next Steps for Market Reform as PCM Legislation Increasingly Likely to Pass, Cost Cap Negative for Vistra, NRG, April 25, 2023](#)

[Texas Senate Floor Action on Market Design Would Do More Harm Than Good; Negative for Vistra, NRG, Calpine, other Dispatchable Generators, April 10, 2023](#)

[ERCOT Market Reform: PUCT Adoption of Performance Credit Mechanism a Positive for Thermal and Energy Storage; Raises Odds of Implementation, February 10, 2023](#)

[ERCOT Update: PUCT's Phase II Market Reform Options in Texas Favor Thermal Resources, a Tailwind to Vistra, NRG, Constellation, November 22, 2022](#)

[ERCOT: Unprecedented Summer Demand and Process Change a Windfall for Vistra; Forced Outage Rate Sparks Risks for NRG, Broader Market, July 25, 2022](#)

[ERCOT Battery Storage: Post-Uri Growth in Ancillary Service Market Points to Opportunities for Storage Manufacturers, Developers, and Software, March 22, 2022](#)

[ERCOT Update: Market Design Changes to Provide Tailwinds for Storage and Thermal Generators, a Positive for Vistra Corp, NRG Energy, January 21, 2022](#)

[Energy, Climate, & Industrials Weekly: ERCOT Transmission a Backlog to West, South Development; North, East Solar to Benefit, October 16, 2021](#)

[Energy, Climate, & Industrials Weekly: DOE Solar Futures Study, ERCOT Weatherization and Market Design Costs Manageable, September 11, 2021](#)