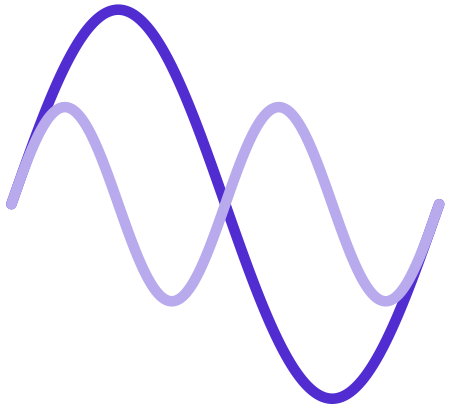


Agentic Infrastructure

ERCOT Batch Workshop #3 Public

February 2026

Batch Process and CLRs State of Affairs

Creating and approving rules which enable BYOG and CLRs ahead of the June 1st deadline for Batch Zero will be challenging but necessary to ensure public ratepayers are protected and transmission expansion is performed in a least cost manner

ERCOT and stakeholders should focus on the “minimally sufficient” rule changes required to enable opportunity for market efficiency. However…

In the spirit of incentivizing market behavior which achieves the objectives of SB6, ERCOT should prioritize rules which maximize participation in BYOG and CLR concepts

Maximize Economic Development | Maintain Reliability | Minimize Stranded Costs

3 CLR[1]/BYOG[2]/co-located generation rules (1/2)

Classification
- Batch Zero
- Process
- Technical

Key stakeholder input

Stakeholders noted that CLR/BYOG rules are not fully finalized and asked how such loads will be treated, modeled, or voluntarily committed during the interim period

ERCOT feedback

ERCOT views the treatment of Controllable Load Resources (CLRs) and the proper handling of Large Loads proposed concurrently with generation interconnection requests as two separate issues

For CLRs, ERCOT intends to file Revision Requests to:

- Allow a Large Load to declare its intent to register as a CLR and be treated accordingly in the Batch process
- Create a binding framework that would require the Large Load to register as a CLR once operational and remain a CLR until defined exit conditions are met
- Include updated SCED methodology to ensure the CLR is dispatched to resolve constraints in real-time operations
- Define how CLRs are reflected in other planning assessments to ensure transmission is ultimately built to serve these Large Loads

1 Controllable Load Resource | 2 Bring Your Own Generation

ERCOT "Required" CLR Rule Revisions

ERCOT Minimum Viable CLR Rule Changes

ERCOT intends to file Revision Requests to:	Agentic Proposed Solution / Comments	Relevant Existing Efforts / Concepts
Allow a Large Load to declare its intent to register as a CLR and be treated accordingly in the Batch process	PGRR134 or Infinium NPRR	See PGRR134 for reference language/approaches
Create a binding framework that would require the Large Load to register as a CLR once operational and remain a CLR until defined exit conditions are met	PGRR134 or Infinium NPRR	See PGRR134 for reference language/approaches
Include updated SCED methodology to ensure the CLR is dispatched to resolve constraints in real-time operations	NPRR1255 "just-in-time" framework applied to CLRs CLRs should be seen as a "dispatch of last resort" relative to generation. CLRs do not have the same market power/withholding incentives as generation and therefore should be granted more leniency when determining Bid-to-Buy mitigation thresholds	NPRR1255: "This NPRR introduces a dynamic, ***just-in-time mitigation framework that determines constraint contributions as a function of the maximum Shadow Price and the Shift Factor of the ~~ESR~~ CLR in intervals when an ~~ESR~~ CLR has been flagged for mitigation through the SCED CCT process***. "
Define how CLRs are reflected in other planning assessments to ensure transmission is ultimately built to serve these Large Loads	Planning studies should assume CLR dispatchability down to Low Power Consumption (LPC) until TSP confirms delivery of firm utility service to load per their Load Commissioning Plan (LCP) The LCP should reflect the timeline and scope of firm transmission service expected by all customers and planning models	Relevant tx/market planning assessments CDR, RPG, RTP, LTSA, MORA

Agentic CLR Bid to Buy Mitigation Comments

New Large Loads seeking to be CLRs want to curtail based on reliability/power flow security, *not marginal economics*

For CLRs to be a maximally effective concept (optimal reliability and economic development), ERCOT should impose a SF cut off which is "minimally sufficient" to manage reliability without undesired economic dispatch

Language ERCOT proposed in NPRR1255 provides ready-to-use concept for CLR mitigation

Agentic suggests setting a higher shift factor threshold for CLR compared to the proposed ESR mitigation due to load resources not having the same market power/withholding incentives as Generation Resources

Bid mitigation by SF cut off:

- Assuming 345kV SPC of $4,500/MWh

.2 SF * $4,500/MWh = **$900/MWh Bid Cap**
.5 SF * $4,500/MWh = **$2,250/MWh Bid Cap**

NPRR1255 Impact Analysis:
$225k Scope Cost
7-11mo Implementation Timeline

4.4.9.4.1 Mitigated Offer Cap *(using language drafted in NPRR1255)*
Notwithstanding the MOC calculation described in paragraph (1) above, the MOC for ***CLRs*** is calculated as follows:

(i) The ***CLR*** mitigation process considers all Non-Competitive Constraints as described in Section 3.19, Constraint Competitiveness Tests. For each ***CLR*** that has been flagged for mitigation as part of the SCED Constraint Competitiveness Test (CCT) process, each Non-Competitive Constraint with a negative Shift Factor with a magnitude greater than ***0.5*** shall be considered.

(ii) If no such constraint exists or the ***CLR*** has not been flagged for mitigation, the MOC for the ***CLR*** shall be set at the RTSWCAP.

(iii) Otherwise, the constraint contribution shall be calculated by multiplying the maximum Shadow Price by the Shift Factor of the ***CLR*** for each constraint defined in paragraph (i) above. The MOC for the ***CLR*** shall be set at the lowest absolute value of these constraint contributions plus the System Lambda of the first step in the two-step SCED process described in paragraph (10)(a) of Section 6.5.7.3 minus $0.01/MWh.

CLR *Supplemental Changes*

Agentic Proposed Participation-Maximizing Rule Changes

Revision Request Description	Proposed Solution / Comments	Relevant Existing Efforts / Concepts
Relax CLR dispatch requirements such that load participation can be maximized while preserving reliability/power flow benefits of dispatch ⇩ ***CLR rule change enables concept aggregation***	CLRs can consume with relaxed dispatch compliance* until a load must be curtailed below its Maximum Power Consumption (MPC) due to a binding transmission element *No Base Point deviation charges or ramping requirements beyond SSO/active power variation requirements	**Active power variation (SSO) limits as suggested by ERCOT in 2/19 LLWG will manage reliability concerns regarding ramping and oscillatory behavior** Regulation up/down quantities are already adjusted to manage solar/wind ramping and could manage load ramp/power variation Given the proliferation of energy storage on the ERCOT system, procuring additional regulation volumes is a very affordable and efficient utilization of existing fast-ramping grid capacity
BYOG and CLR Unification **If ERCOT were to adopt a CLR dispatch philosophy as reflected in the proposal above, BYOG and CLRs could largely be unified into the same concept**	CLR registration becomes the method by which all loads interconnect for as-available transmission service Allow for combined FIS/LLIS studies for efficient co-located study and development, but full allocation will be granted under the assumption that if tx binds without adequate solutions for redispatch, load will curtail	**If BYOG isn't allowed to interconnect until G-1 + N-1 can be served firm, there will only be marginal speed to power benefits and structuring flexibility** ***Alternatively, if BYOG is enabled to receive full allocation and energize until a G-1 event manifests in real-time, the market structure for BYOG becomes functionally identical to a CLR*** – ERCOT should consolidate these concepts into one technology agnostic approach ***With modified dispatch rules and compliance for CLRs, developers can pursue co-location schemes with full allocation.*** CLRs would be dispatched down once a tx element is binding (and no other competitive redispatch feasible). This would only occur during G-1 for co-located loads. Under this concept all participating loads would be registered as a CLR and BYOG projects would just be an incremental election to tie FIS/LLIS together. This concept works for netted or unnetted networks.

3 CLR[1]/BYOG[2]/co-located generation rules (2/2)

Classification
- Batch Zero
- Process
- Technical

Key stakeholder input

Stakeholders noted that CLR/BYOG rules are not fully finalized and asked how such loads will be treated, modeled, or voluntarily committed during the interim period

Unified scope eliminates all other "BYOG" rules/issues

ERCOT feedback

For Loads proposing to concurrently build new generation to serve some or all the requested demand (BYOG), ERCOT intends to file separate Revision Requests to:

- Create a definition that captures the technical requirements needed for some or all of a Large Load "customer" be seen or served by the
- Define the scenarios that must be assessed in the Batch and other planning studies (would depend on the and amount of generation)
- Define the allowed modes of participation in the market for the generation with the potential for defined exit criteria
- Establish rules preventing the energization of a Large Load studied with new co-located generation until that generation is operational with the potential for energization of equal amounts of Load as the generation is commissioned

Note: *ERCOT plans to develop CLR and BYOG concepts in 2 separate Revision Requests that will align with the main Batch Zero Revision Requests. The intent is to move all Revision Requests forward on the same timeline if possible*

CLR Rule Revisions Summary

Simplify CLR Compliance for Maximum Utilization

1. **CLR dispatch requirements can be relaxed to maximize adoption while retaining reliability attributes**
   - Uses existing precedent from Solar and Wind dispatch protocols
   - Avoids imposing unnecessary hardware requirements on loads

Unify Concepts for Minimal Rule Revision Work

2. **CLR/BYOG can be unified into a single concept which simplifies rule revisions**
   - Creates a “dispatch of last resort” framework (bid-to-buy mitigation rule) which enables speed to power solutions for load which wants to use load curtailment *or* co-locate/bilaterally firm load with generation

Rule revisions not required by 6/1

Maximize Use of System Capacity

3. **Existing grid capacity resources can play a larger role in economically-sustainable reliability management as load is integrated**
   - AS pricing trends suggest significant system capacity available (low prices, competitive market)
   - Separation of reliability services and load requirements make sure price signals determine economic solutions to avoid stranded cost

CLR Relaxed Dispatch Requirements

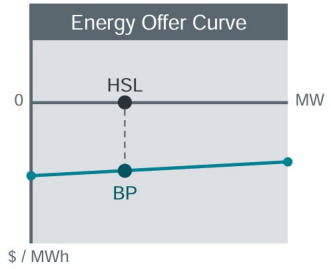
ERCOT can treat CLRs like Intermittent Renewables Resources (IRR) to maximize load participation as a Resource

- Load doesn't chase base point until behind a binding constraint
- Load follows base point down to Low Power Consumption (LPC) when behind a binding constraint
- Deviation charges only apply when over-consuming while curtailed

IRR with Energy Offer Curve ercot

Scenario 1 **IRR is available for dispatch and not impacted by any binding constraints**

- IRR runs at HSL
- IRR is a "Price-Taker"
- Base Point follows HSL



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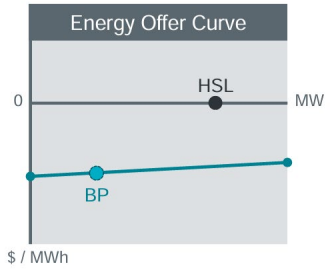
Curtailed IRR with Energy Offer Curve ercot

Scenario 2 **IRR has positive shift factor on a binding constraint and must be curtailed**

- Base Point is less than HSL
- IRR Energy Offer Curve sets LMP
- IRR must comply with Base Point



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Conditions for Base Point Deviation ercot

When are IRRs exposed to deviation charges?

	IRR output *within* 5% acceptable range	IRR output *exceeds* 5% acceptable range
Curtailment Flag is not set	No Charge	No Charge
Curtailment Flag *is* set	No Charge	***Charge***

IRR Groups are assessed as an aggregate

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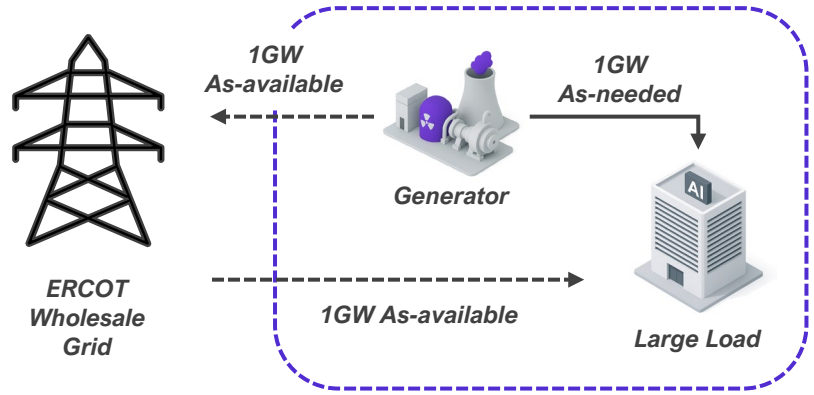
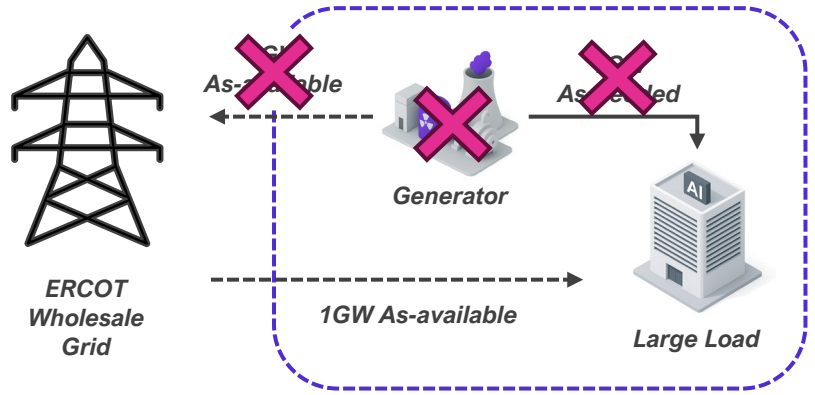
CLR and BYOG as a Unified Concept

CLR and BYOG seek to achieve the same objective:
Receive as-available service from the grid until firm service can be delivered

Bring Your Own Generation (BYOG)



Controllable Load Resource (CLR)



Conceptually, the only difference is how the site plans to manage the as-available grid service

Wholesale rules should be tech-agnostic to how private actors manage as-available transmission risk

Graphic inspired by FERC PJM Co-location Presentation

“BYOG” should not be limited to Co-location

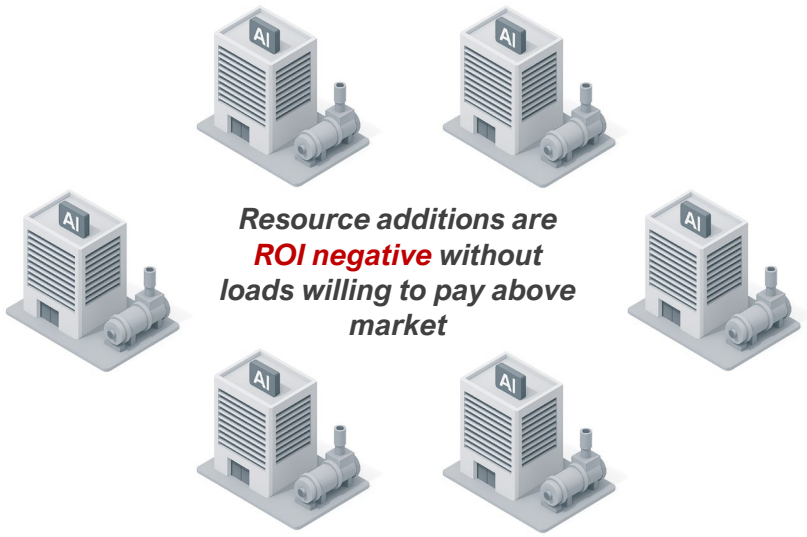
Besides known SSO risks, **greater system reliability and efficiency can be achieved from generation resources built as stand-alone grid connected sites** (i.e. frame-class, combined-cycle turbines)

Private/bilateral load firming can be served to large loads more efficiently with strategic regional siting instead of co-location

Under a unified CLR and BYOG approach, BYOG is no longer limited to co-location schemes and increases market efficiency

BYOG as currently perceived by the market

(inefficient resource siting, sizing, and utilization)



BYOG under CLR unification

(Optimal sizing, utilization and siting becomes a natural incentive)

Maximize Use of System Capacity

ERCOT already adjusts AS volumes procured to accommodate behaviors from IRRs is and evaluating adjustments for large loads

Regulation Up/Down Methodology 2026

	2024 Methodology	2025 Methodology
Data Input	• 5-min SCED Netload Forecast Error (2- *yr*)	• No Change
Calculation Method	• 95th of 5-min SCED Netload Forecast Error	• No Change
Wind/Solar Adjustment	• GE Table - Increased wind/solar forecast error per 1,000 MW installed capacity increase	• No Change
FRRS Component	• 95th of historical FRRS Deployment *(2-yr)*	• Remove
ACE Integral Component	• Average of ACE Integral Change *(2-yr)*	• No Change
Load Adjustment (LFL Ramps)	• Not considered	• TBD

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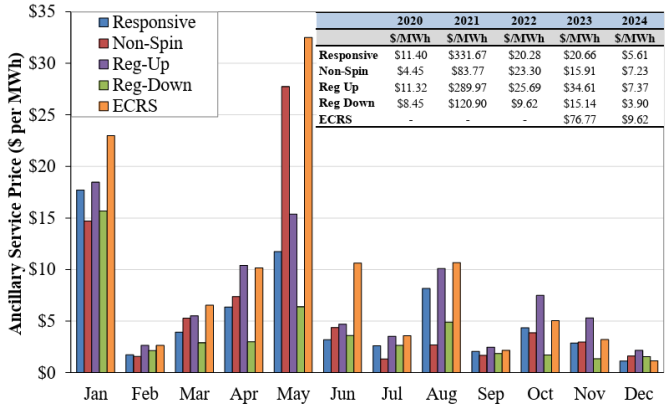
ERCOT 2026 Ancillary Service Methodology

Current ERCOT AS pricing is very competitive, suggesting existing system capacity is available to economically serve power variation needs of load growth

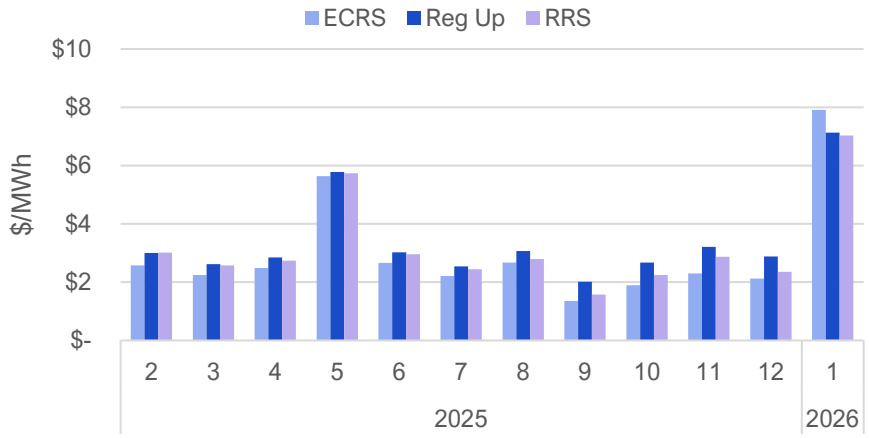
Figure 36: Ancillary Service Prices, 2020-2024



	2020 $/MWh	2021 $/MWh	2022 $/MWh	2023 $/MWh	2024 $/MWh
Responsive	$11.40	$331.67	$20.28	$20.66	$5.61
Non-Spin	$4.45	$83.77	$23.30	$15.91	$7.23
Reg Up	$11.32	$289.97	$25.69	$34.61	$7.37
Reg Down	$8.45	$120.90	$9.62	$15.14	$3.90
ECRS	-	-	-	$76.77	$9.62

Potomac 2024 State of the Market Report

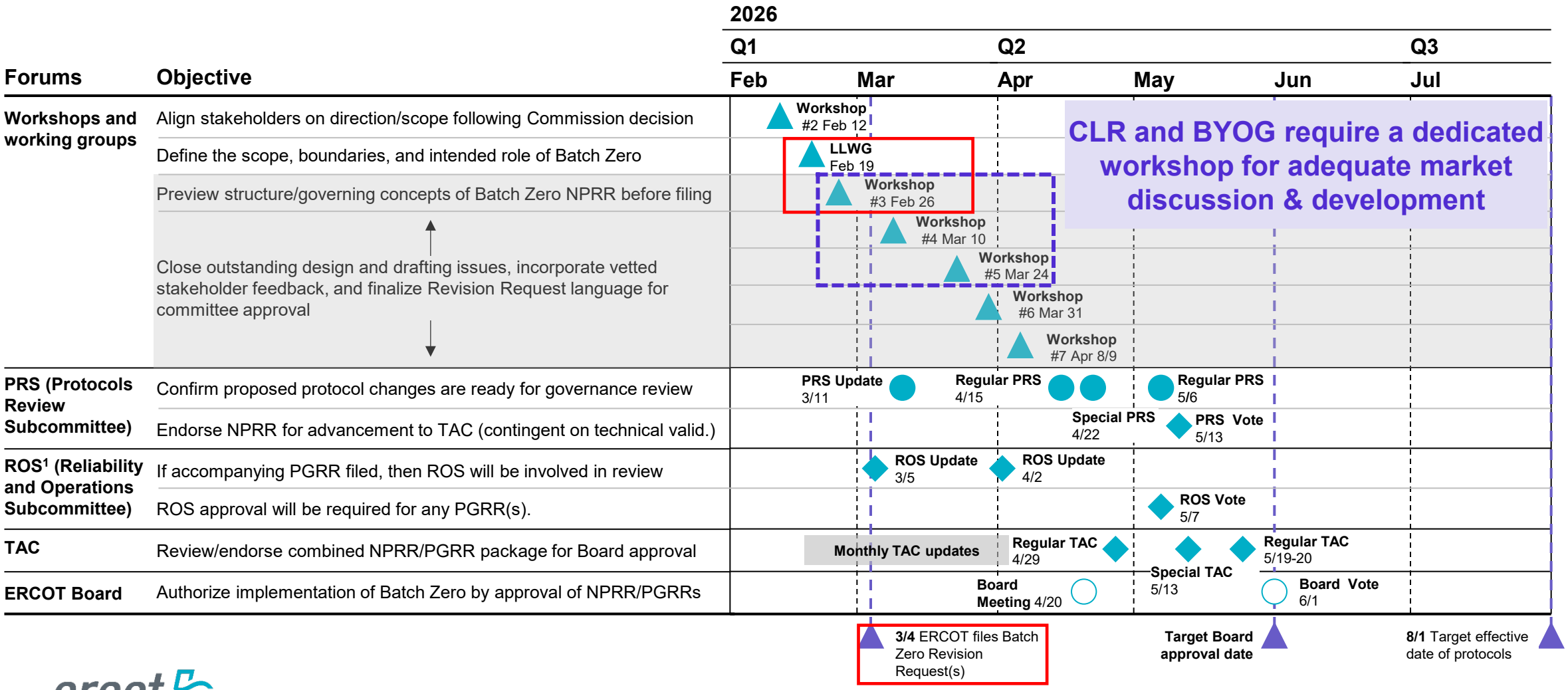
2025 AS Prices



Data via Gridstatus

The critical path to a successful Batch Zero NPRR relies on a series of successive May 2026 votes

Note that TAC leadership is also considering options to ensure successful review and approval.

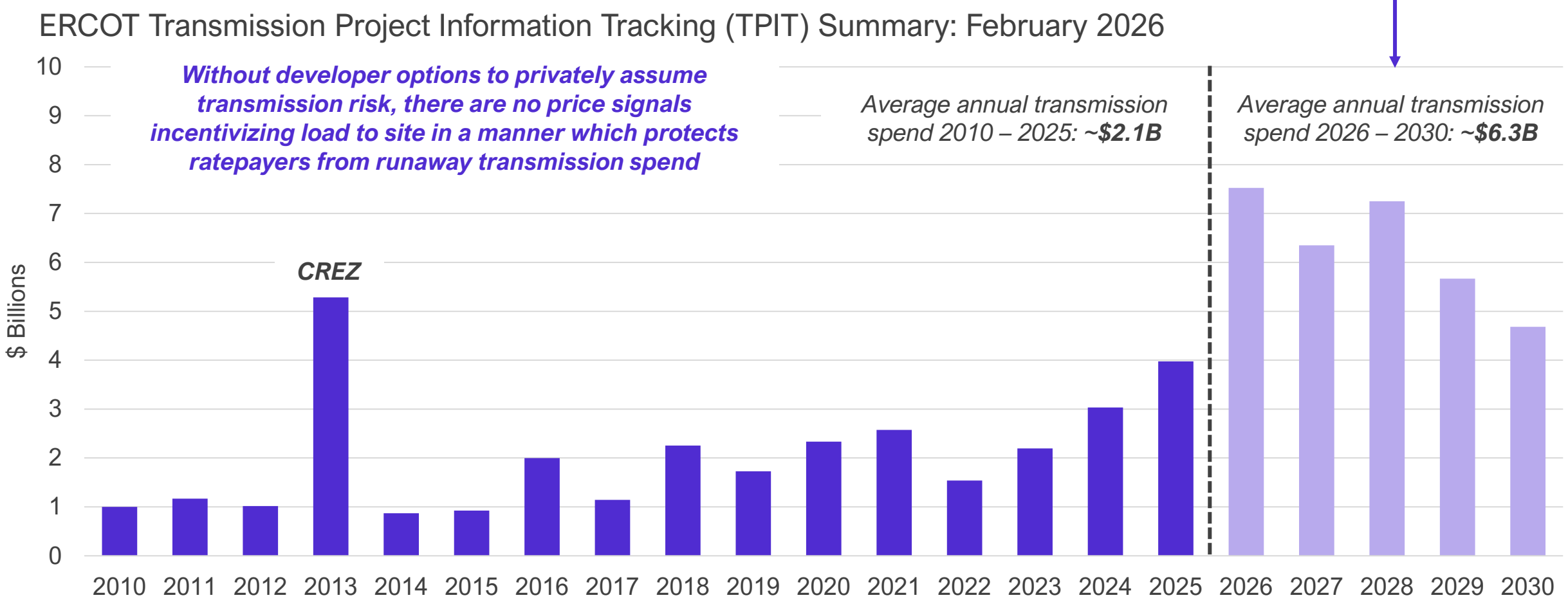


1. May be unnecessary if the Revision Request ends up utilizing only a NPRR and not an additional PGRR

Transmission Spending Outlook Today

Approved ERCOT transmission spend in the next 5 years is ***3x*** the annual rate of the last 15 years, ***before including upgrades to serve new large load***

+$6B of large load RPG projects in progress ***not included below***



Source: ERCOT TPIT