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Item 16.2: System Planning and Weatherization Update

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Vice President, System Planning and Weatherization

Board of Directors Meeting

December 8-9, 2025

- **Purpose**

  Provide an update on recent activity related to planning, modeling, large load and generation interconnections, resource adequacy and weatherization.

- **Question for the Board**

  What topics would the Board like to see further discussed regarding the ERCOT interconnection process and planning for future transmission to support grid growth?

Key Takeaways

- ERCOT has received 225 new Large Load interconnection requests in 2025 which account for a 270% MW demand increase since January.
- The 1,999 new generation requests in process are comprised of 77% solar and energy storage resources.
- The first Texas Energy Fund project received approval to energize.
- ERCOT has review more than double the number of transmission projects compared to 2024.
- ERCOT's assessment of NOGRR245 responses has indicated that additional missing information as well as numerous dynamic models are still needed from Resources.

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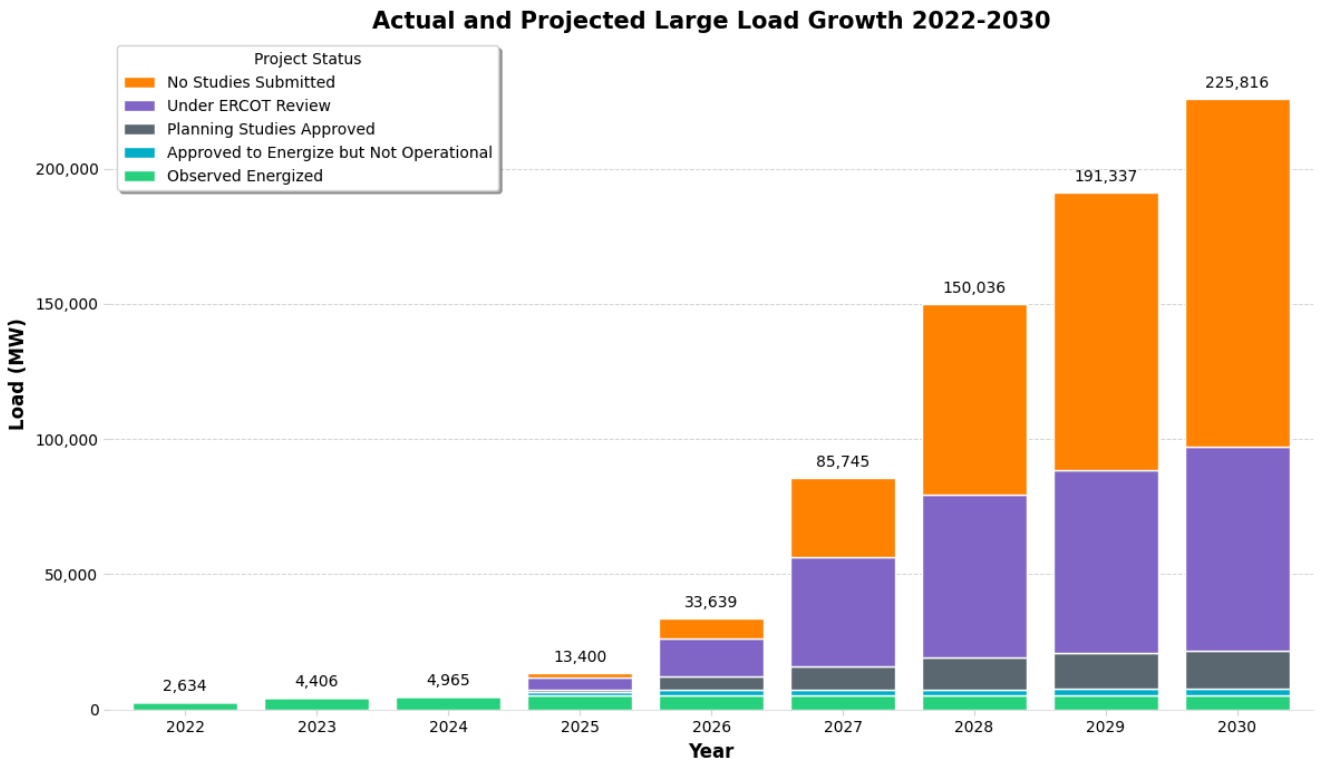
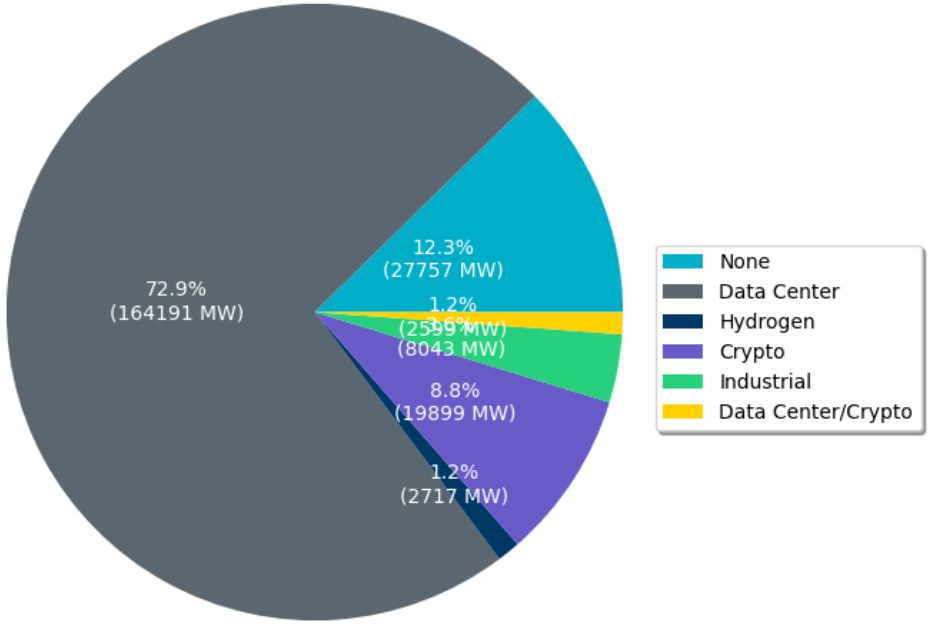
Large Load Interconnection Requests (as of November 18, 2025)



Project Status	2022	2023	2024	2025	2026	2027	2028	2029	2030
No Studies Submitted	0	0	0	1,414	7,385	29,580	70,709	102,970	128,487
Under ERCOT Review	0	0	0	4,720	13,935	40,098	59,909	67,472	75,531
Planning Studies Approved	0	0	0	637	5,118	8,866	12,217	13,394	14,297
Approved to Energize but Not Operational	0	77	131	1,327	1,899	1,899	1,899	2,199	2,199
Observed Energized	2,634	4,329	4,834	5,302	5,302	5,302	5,302	5,302	5,302
Total (MW)	**2,634**	**4,406**	**4,965**	**13,400**	**33,639**	**85,745**	**150,036**	**191,337**	**225,816**

Large Loads by Project Type



Key Takeaway: ERCOT is tracking approximately 226 GW of Large Loads seeking interconnection (compared to 63 GW in December 2024) of which ~73% are data centers.

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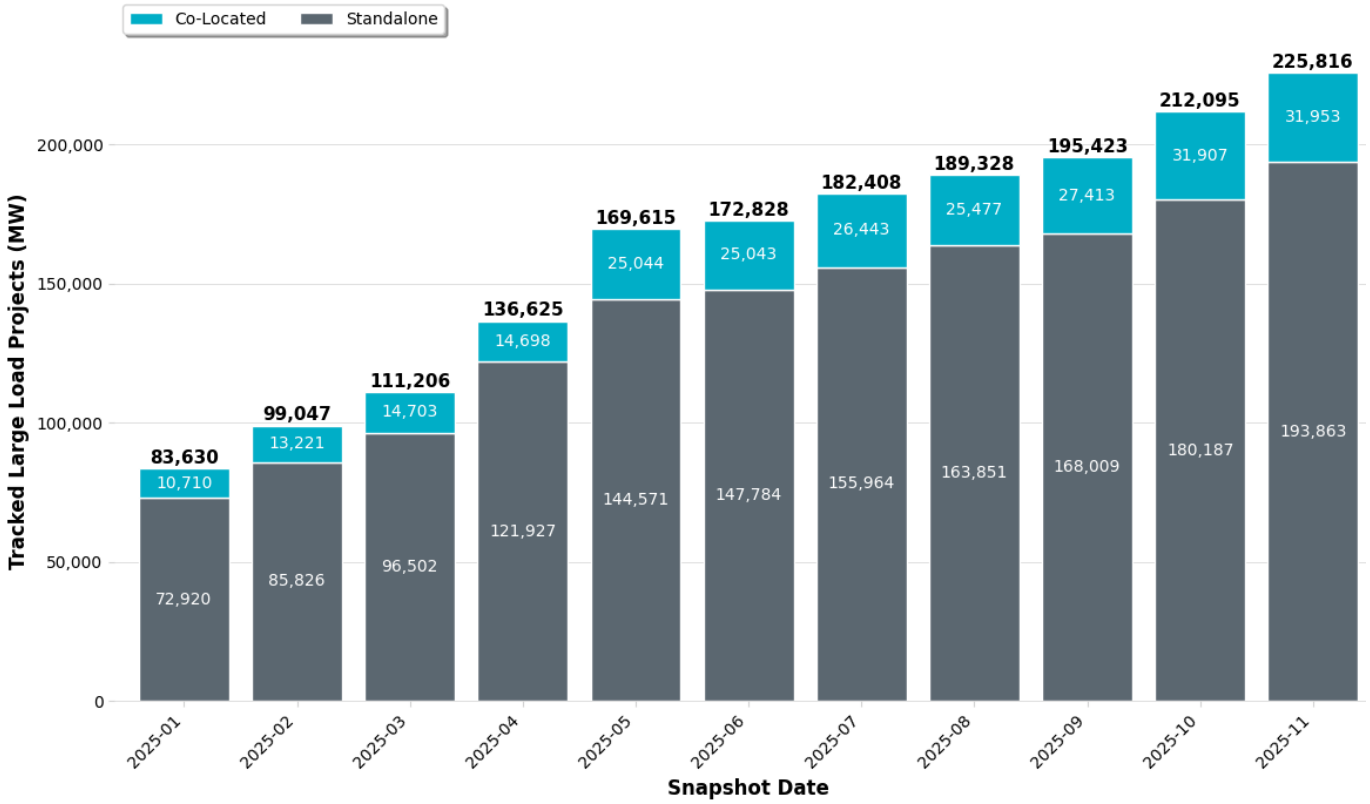
Large Load Requests Submitted 2025 (as of November 18, 2025)



Key Takeaway: Large Load MW demand seeking interconnection by 2030 has grown by 142 GW (270%) since the beginning of 2025.

ERCOT continues to see rapid growth in Large Load interconnection requests.

Many interconnection requests exceed 1 GW *per site.*

Both transmission and resource adequacy should be considered in how quickly Large Loads can connect and ramp up.

PUC load forecasting rules will be instrumental in identifying credible Loads that should be planned for.

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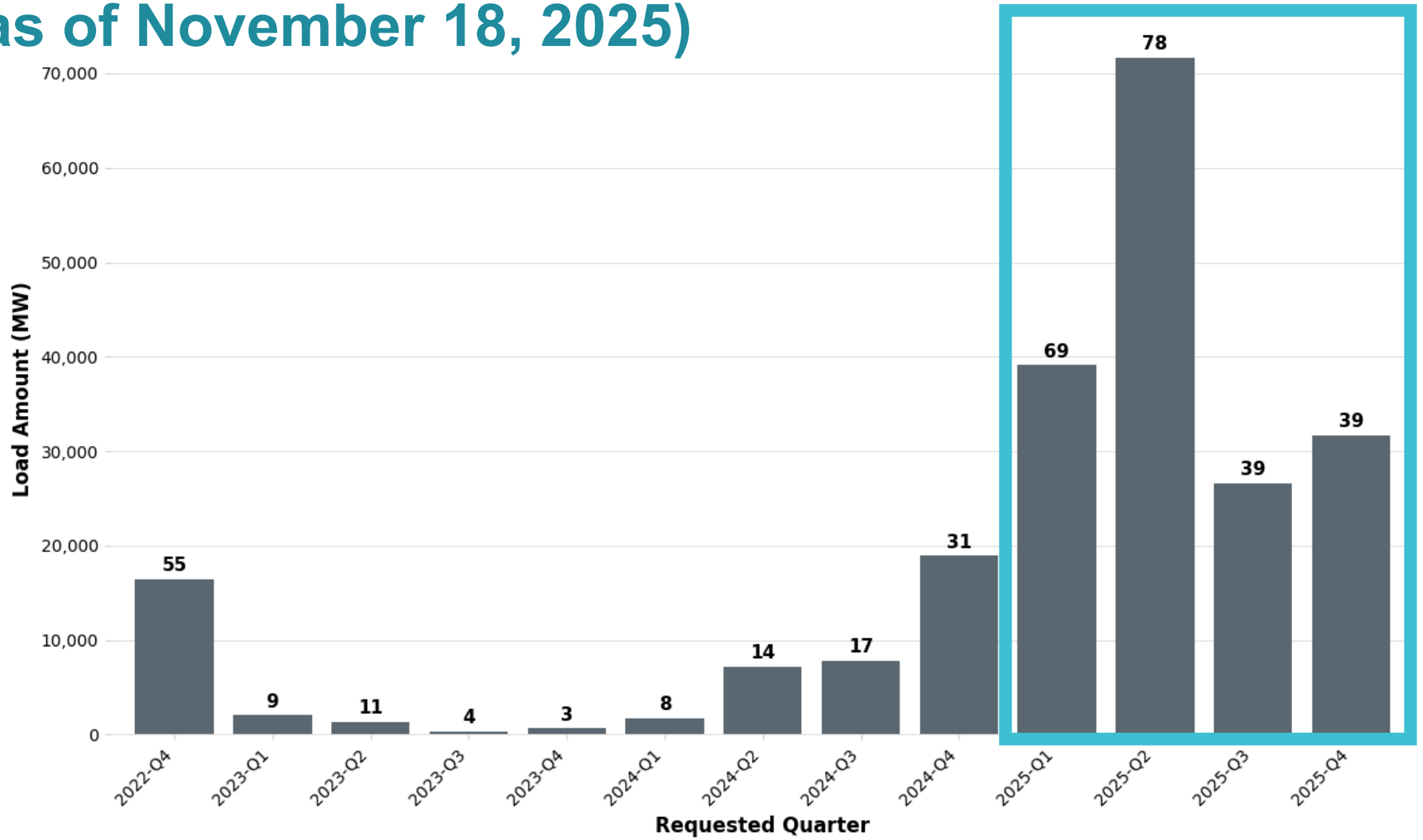
Large Load Project Counts by Submittal Date (as of November 18, 2025)



Key Takeaway: In 2025, ERCOT has received 225 Large Load interconnection requests through mid-November compared to 152 from 2022-2024.

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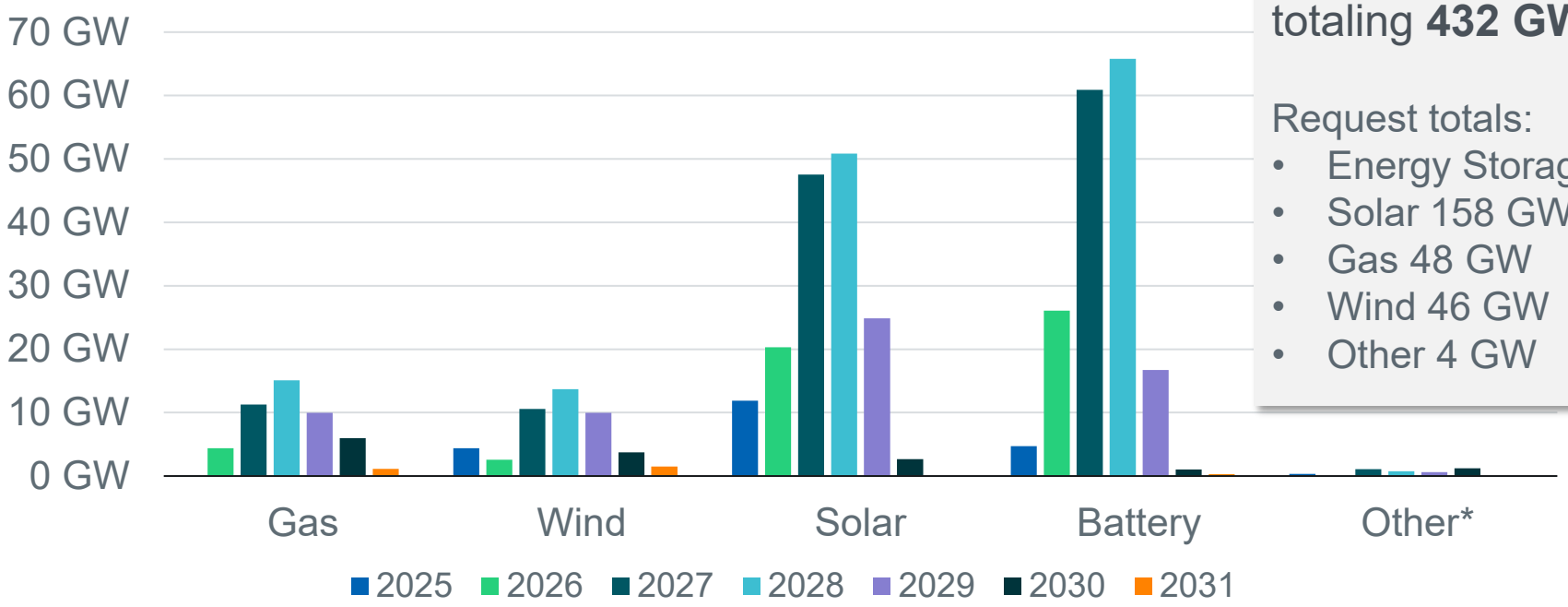
Generation Interconnection Requests (as of October 31, 2025)



1,999 active generation interconnection requests totaling **432 GW**.

Request totals:

- Energy Storage 176 GW
- Solar 158 GW
- Gas 48 GW
- Wind 46 GW
- Other 4 GW

Other includes petroleum coke (pet coke), hydroelectric, fuel oil, geothermal energy, other miscellaneous fuels reported by developers, and fuel cells that use fuels other than natural gas. (Numbers exclude capacity associated with projects designated as Inactive per Planning Guide Section 5.2.5).

Key Takeaway: Solar and Energy Storage account for 77% of the amount of generation seeking interconnection. Gas is up from 26 GW in October 2024.

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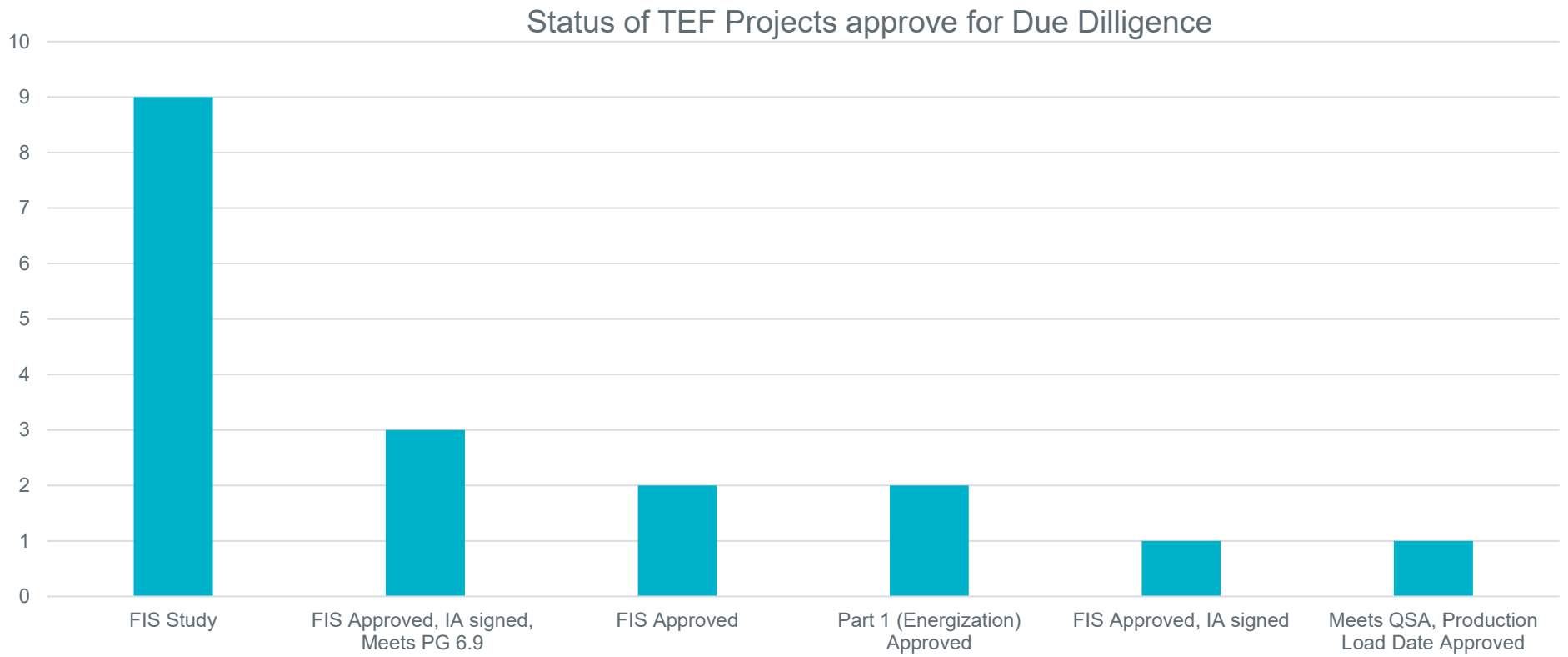
Texas Energy Fund Status (as of November 11, 2025)



Key Takeaway: All eighteen projects which represent just over 7 GW have submitted Full Interconnection Study (FIS) applications with ERCOT and are advancing through the interconnection process.

In November, Pin Peaking was the first TEF project to receive Part 1 Approval to Energize.

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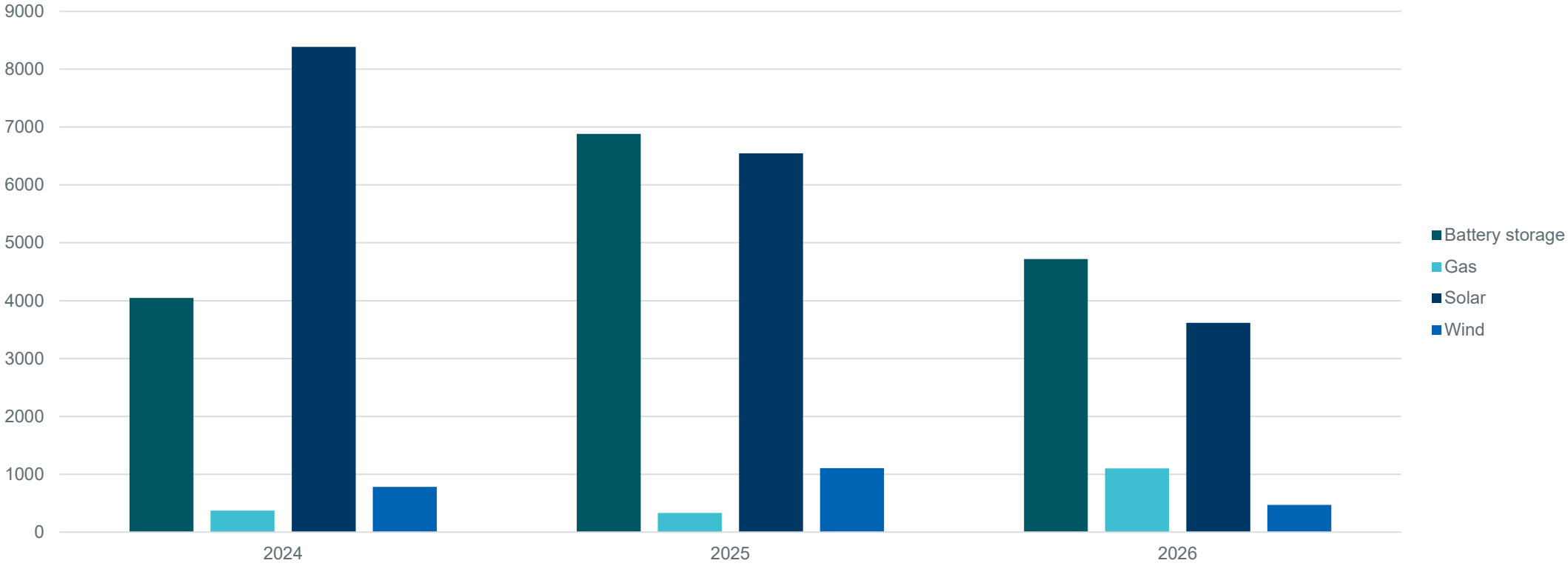
Generation Resource Project MWs by Fuel Type that have achieved Quarterly Stability Analysis (QSA) since 2024



Key Takeaway: Between 2024 and 2025 approximately 23 GWs of new Generation Resources were synchronized to the ERCOT grid. Another 9.9 GW has completed review requirements intending to synchronize in Q1-Q2 2026. Solar and battery storage continue to account for most recent additions.

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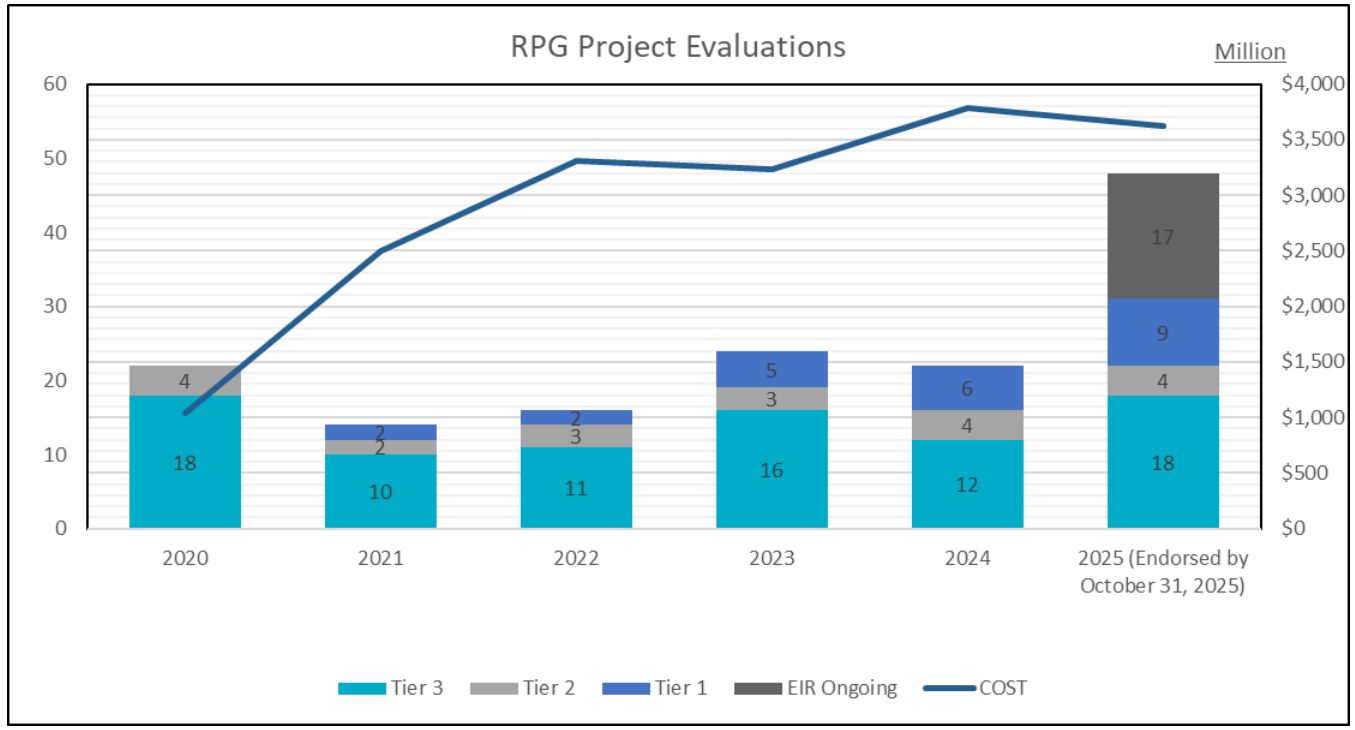
Transmission Planning Summary



Key Takeaway: ERCOT has reviewed more than double the number of projects in 2025 compared to 2024.

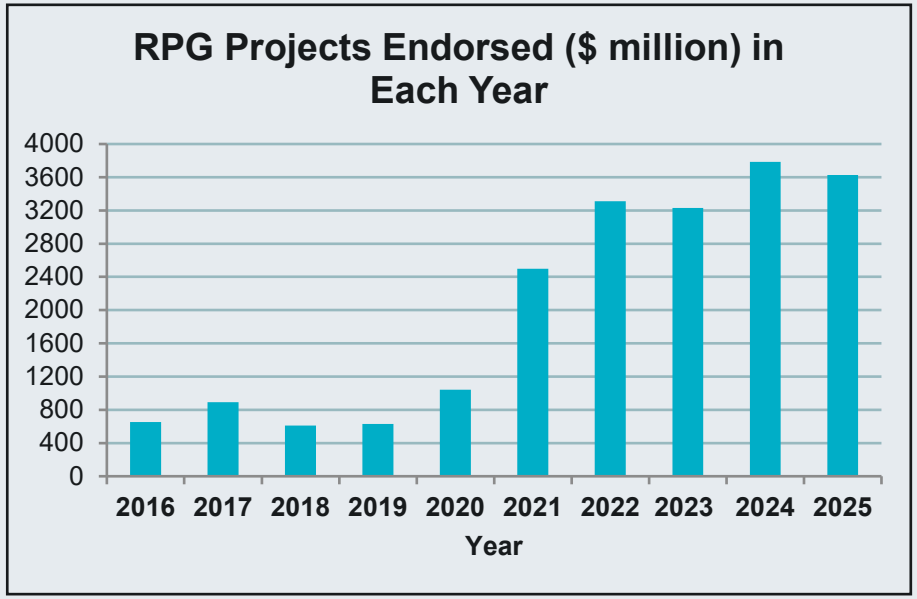
As of November 1, 2025, projects energized in 2025 total about $1.678 billion.

- $1.553 billion energized in 2023
- $2.435 billion energized in 2024

As of October 31, 2025, ERCOT has endorsed transmission projects totaling $3.626 billion in 2025.

Total endorsed transmission projects in:

- 2023 equaled $3.231 billion
- 2024 equaled $3.785 billion



As of October 31, 2025

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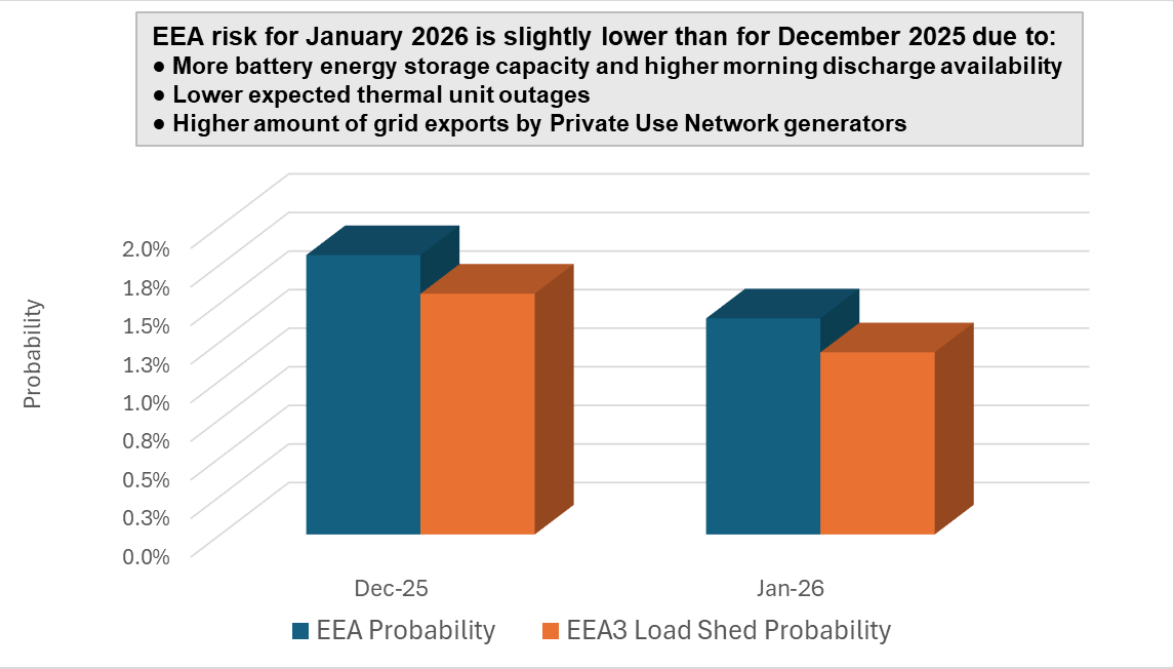
Resource Adequacy Reporting

December 2025 / January 2026
Monthly Outlook for Resource Adequacy (MORA)



Key Takeaway: Winter EEA risk is lower due to increased battery storage availability during high-risk hours, lower expected outages and additional capacity.

December Capacity Demand and Reserves (CDR) Report

- Release is planned for third week of December
- Will include scenarios demonstrating the impact of SB6 Large Load curtailment and TEF assumptions

Upcoming milestones for ERCOT's support of the PUC's **Reliability Standard**

- In December:
  - File the Transmission Operators' latest aggregate estimate of the maximum MW of load that can be safely shed on a rotating basis; this amount defines the *magnitude* criterion to be used for the reliability assessment
  - Complete a trial probabilistic simulation for 2026 to serve as a process benchmark for the official 2026/2029 study-year simulations to be completed by mid-2026
- In January, file ERCOT's list of proposed modeling assumptions with the PUC

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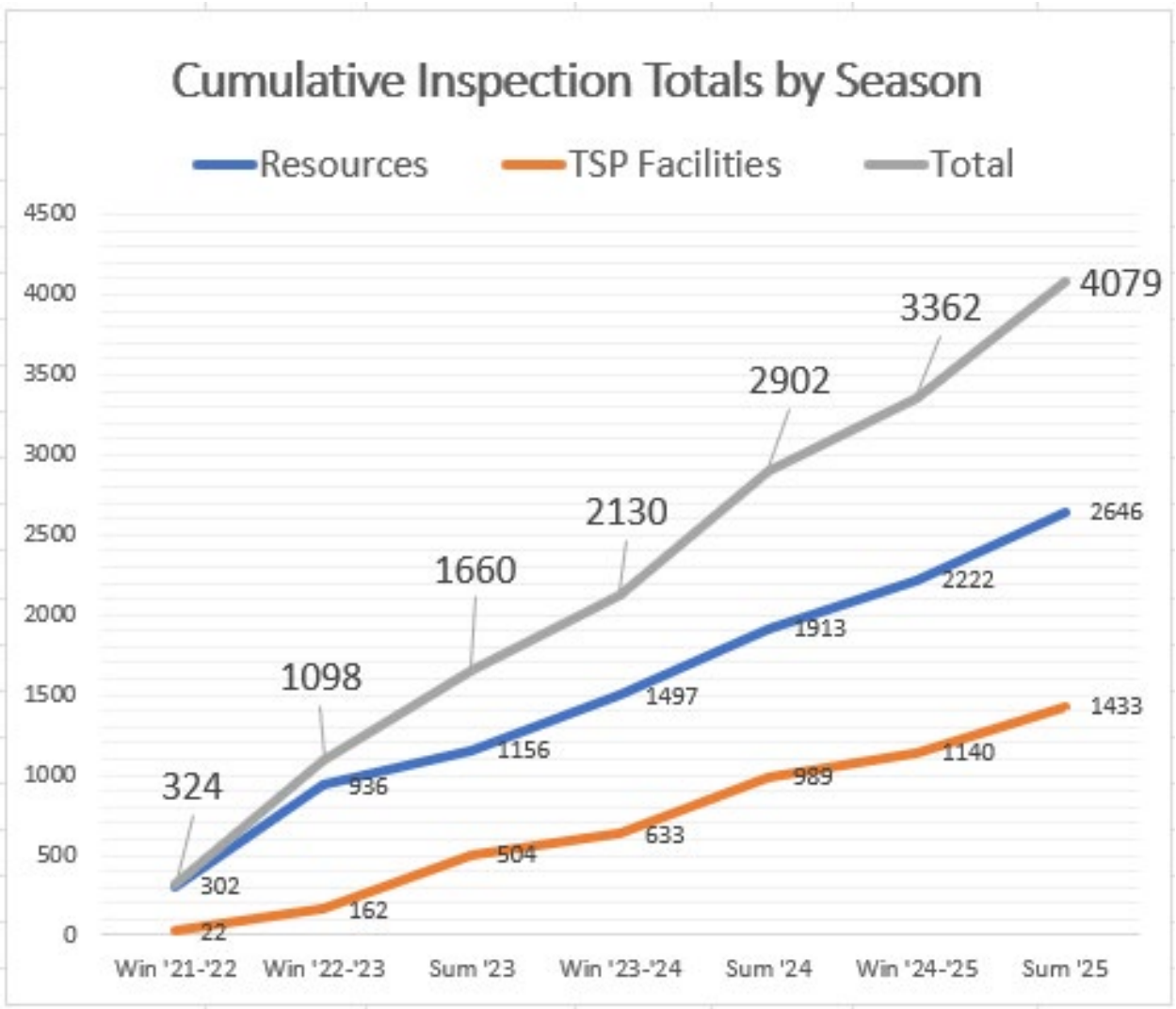
Weatherization Update



- In advance of winter, ERCOT hosted an educational workshop and numerous online informational sessions focused on new Resource Entities.
- ERCOT will utilize a risk-based approach to plan inspections.
- Winter inspections will commence on December 2nd and focus on new generation resources and transmission facilities critical to system reliability.
- All ten sites contracted to provide Firm Fuel Supply Service were visited, found to have adequate fuel stored onsite, and otherwise be meeting their contractual commitments.

Key Takeaway:

ERCOT works with Market Participants to support compliance with the PUC's Weather Emergency Preparedness Rule.

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NOGRR245, Inverter-Based Resource (IBR) Ride Through Requirements – Status of Extension & Exemption Reviews

- ERCOT is continuing to review requests for Extensions and Exemptions received from Resource Entities (REs) on or before September 15.
  - ➢ Requests for Extension are being prioritized.
- Notices are being sent to REs for IBRs which ERCOT has identified missing information on their submission.
  - ➢ The RE has 10 business day to respond.

Review of Requests for Extension Only

	Submissions	%
ERCOT Review Pending	21	16.3%
Under ERCOT Review	65	50.4%
Notice of Missing Info Sent to RE	43	33.3%
Total	129	100%

Review of Requests for Exemption Only

	Submissions	%
ERCOT Review Pending	63	90%
Under ERCOT Review	5	7.1%
Notice of Missing Info Sent to RE	2	2.9%
Total	70	100%

Review of Requests for both Extension & Exemption

	Submissions	%
ERCOT Review Pending	36	38.3%
Under ERCOT Review	52	55.3%
Notice of Missing Info Sent to RE	6	6.4%
Total	94	100%

Key Takeaways:

- ERCOT is prioritizing submissions from REs requesting an Extension. None of the submissions reviewed as of November 17, 2025 were found to be complete.
- ERCOT has sent out Notices of Missing Information to 50 Resources as of November 17, 2025.

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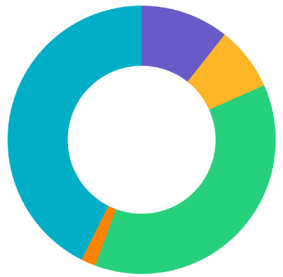
NOGRR245, Inverter-Based Resource (IBR) Ride Through Requirements – Status of Extension & Exemption Reviews

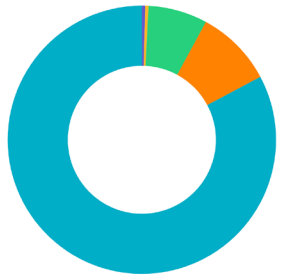
- ERCOT intends to initiate the Reliability Assessment(s) to evaluate requests from Resources seeking an Exemption in Q2 2026.
  - ➢ Accurate dynamic models from Resources will be critical for this study.
- Resources that submitted Exemption requests must provide either a model that accurately reflects expected performance reflecting all technical limitations or confirm that the existing model on file with ERCOT fully captures all ride-through limitations.
  - ➢ ERCOT has not received updated models or an attestation from **72 Resources** seeking an Exemption.
- Per Planning Guide 5.5(6) Resources that have indicated they will comply with NOGRR245 requirements by the end of 2025 must submit a dynamic model, and the model must be approved before changes can be implemented in the field.
  - ➢ ERCOT has not received model submissions from **418 Resources** in the category.

Dynamic Models for IBRs Requesting an Exemptions



Status	Issues	%
Model Received	18	10.7%
Dynamic Review in Progress	13	7.7%
Dynamic Model Approved	63	37.3%
Current Model Accurate	3	1.8%
Pending Model Submission	72	42.6%
Total	**169**	**100%**

Dynamic Models for IBRs that will Comply by End of 2025 or Sync/COD



Status	Issues	%
Model Received	2	0.4%
Dynamic Review in Progress	2	0.4%
Dynamic Model Approved	36	7.1%
Current Model Accurate	47	9.3%
Pending Model Submission	418	82.8%
Total	**505**	**100%**

Key Takeaways:
Accurate dynamic models from Resources is important for the evaluation of Exemption Requests.
ERCOT is still missing numerous dynamic models from Resources.