



Item 9: Interconnection and Grid Analysis Update

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Vice President, Interconnection and Grid Analysis

Board of Directors Meeting

April 20-21, 2026

Purpose

Provide updates on key Interconnection and Grid Analysis topics.

For information only

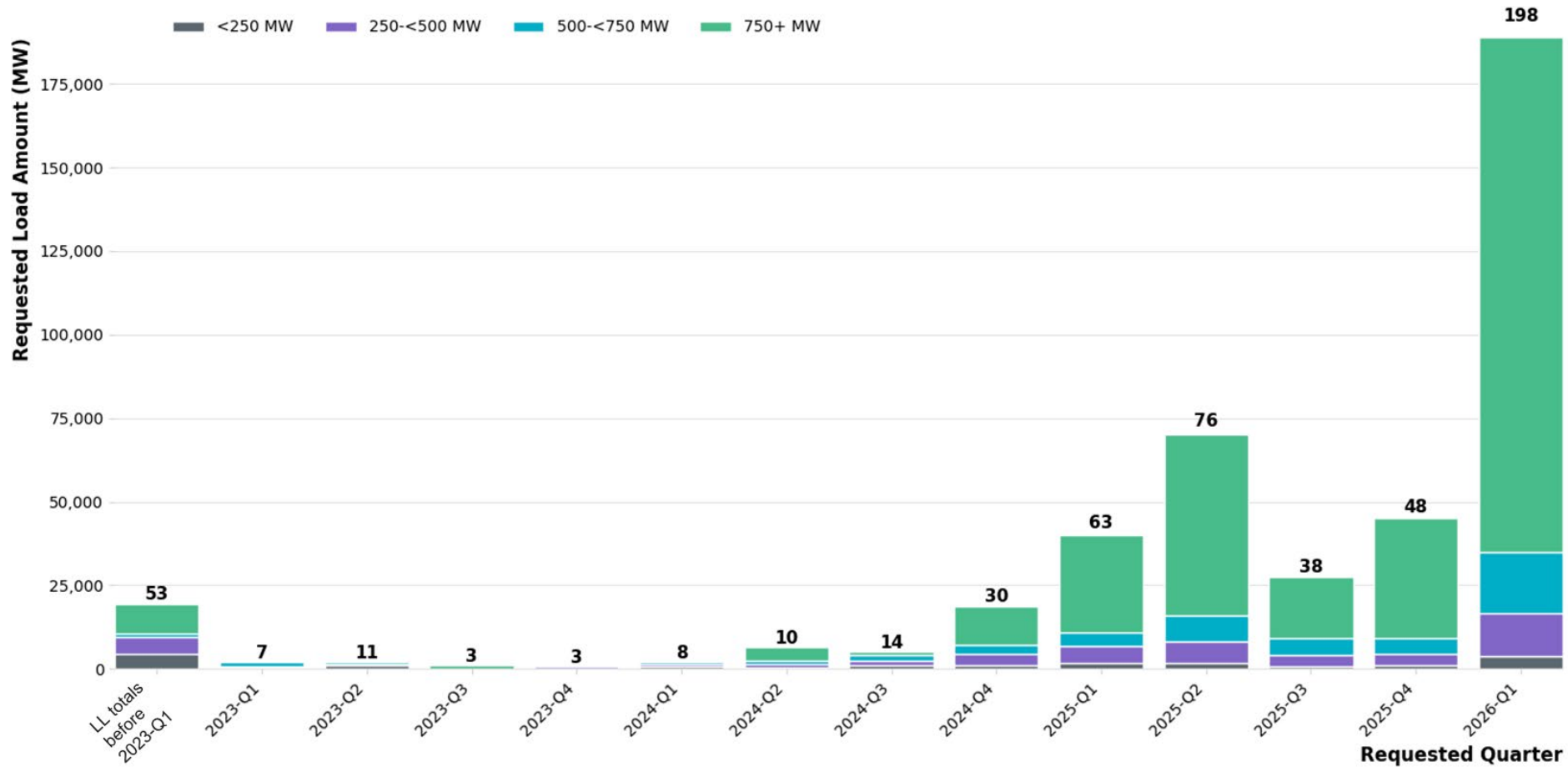
No action is requested; for discussion only.

Key Takeaways

- ERCOT received 198 new Large Load Interconnection requests in Q1 2026 resulting in the total LLI request queue increasing to ~410 GW.
- ERCOT is pursuing targeted mitigations for addressing emerging risks posed by Large Loads.
- There are no operational ESRs with Advanced Grid Support capability.
- ERCOT will proceed with NOGRR245-related Reliability Assessments on May 1, 2026 using the best available data.

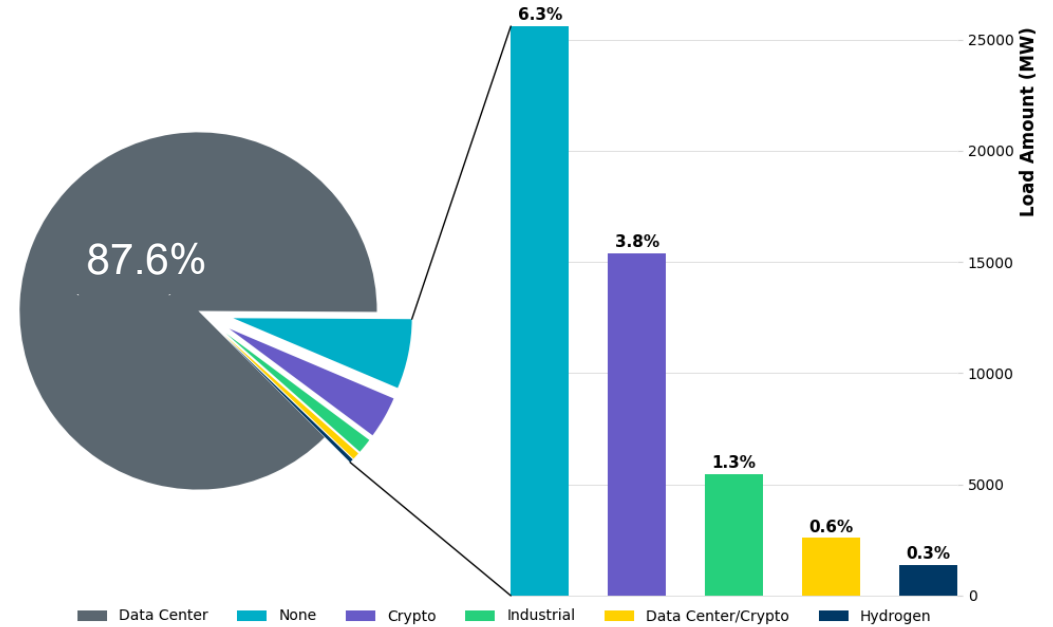
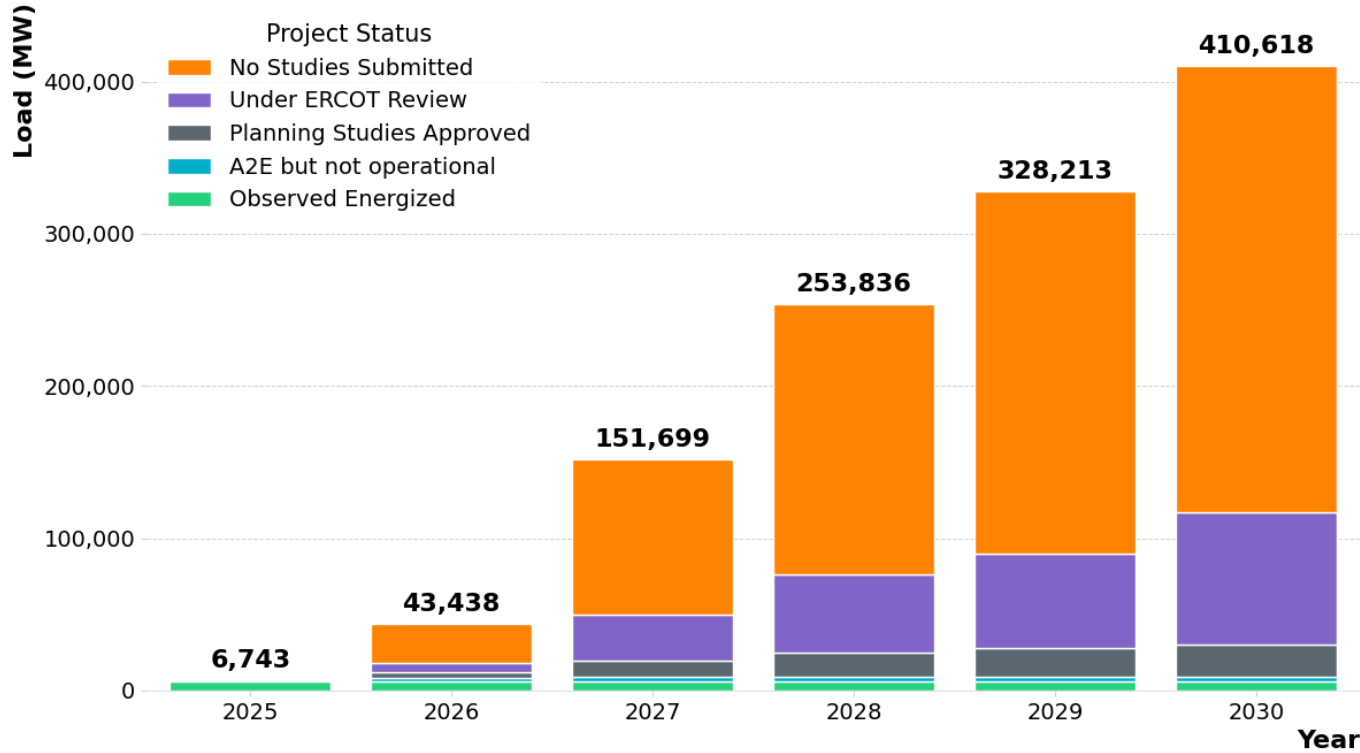
Large Load Interconnection Requests – By Submitted Quarter

(as of March 26, 2026)



Key Takeaway:
 ERCOT received 198 new LLI requests in Q1 2026 as we prepare to transition to a batch study process.

Large Load Interconnection Requests (as of March 26, 2026)



Project Status	2025	2026	2027	2028	2029	2030
No Studies Submitted	0	25,253	101,702	177,879	238,188	293,651
Under ERCOT Review	0	6,478	30,539	51,315	61,966	86,605
Planning Studies Approved	30	3,181	10,739	15,923	19,040	21,343
A2E but not operational	935	2,748	2,941	2,941	3,241	3,241
Observed Energized	5,778	5,778	5,778	5,778	5,778	5,778
Total (MW)	6,743	43,438	151,699	253,836	328,213	410,618

Key Takeaway: ERCOT is tracking approximately 410 GW of Large Loads seeking interconnection, of which ~87% are data centers. This is an increase of 178 GW since the end of 2025.

Communications with Large Loads

- ERCOT stood up a new team in April to increase support for questions from stakeholders about the Batch Process and to begin providing periodic status reports for all Large Load projects.
- At this time, status reports will be available via Transmission Service Providers (TSPs), with the expectation the report will serve as a precursor to the Large Load Portal currently in development.
- The reports are expected to provide the status of the various requirements for each project in the interconnection process.

LLI Number	TSP	Owner	MW	Likely Treatment in Batch Zero
LLI-9001	Oncor	Big Data	800	1) Eligible as Base load in Batch Zero
LLI-9002	Oncor	One Data	100	1) Eligible as Base load in Batch Zero
LLI-9003	Oncor	ABC	250	1) Eligible as Base load in Batch Zero
LLI-9004	Oncor	ABC	500	1) Eligible as Base load in Batch Zero
LLI-9005	AEP	Big Data	750	1) Eligible as Base load in Batch Zero
LLI-9006	STEC	ABC	760	1) Eligible as Base load in Batch Zero
LLI-9007	WETT	XYZ	1000	1) Eligible as Base load in Batch Zero
LLI-9008	WETT	New Data	800	1) Eligible as Base load in Batch Zero
LLI-9009	Lonestar	New Data	350	1) Eligible as Base load in Batch Zero
LLI-9010	AEP	Big Data	280	1) Eligible as Base load in Batch Zero
LLI-9011	AEP	Project 1	192	1) Eligible as Base load in Batch Zero
LLI-9012	Oncor	Project 1	80	2) May be eligible for base load in Batch Zero, subject to study validation
LLI-9013	Oncor	XYZ	150	2) May be eligible for base load in Batch Zero, subject to study validation
LLI-9014	Oncor	XYZ	130	2) May be eligible for base load in Batch Zero, subject to study validation
LLI-9015	Oncor	ABC	900	2) May be eligible for base load in Batch Zero, subject to study validation
LLI-9016	Oncor	Big Data	925	2) May be eligible for base load in Batch Zero, subject to study validation
LLI-9017	Oncor	Big Company	500	2) May be eligible for base load in Batch Zero, subject to study validation
LLI-9018	Oncor	Project 1	450	2) May be eligible for base load in Batch Zero, subject to study validation

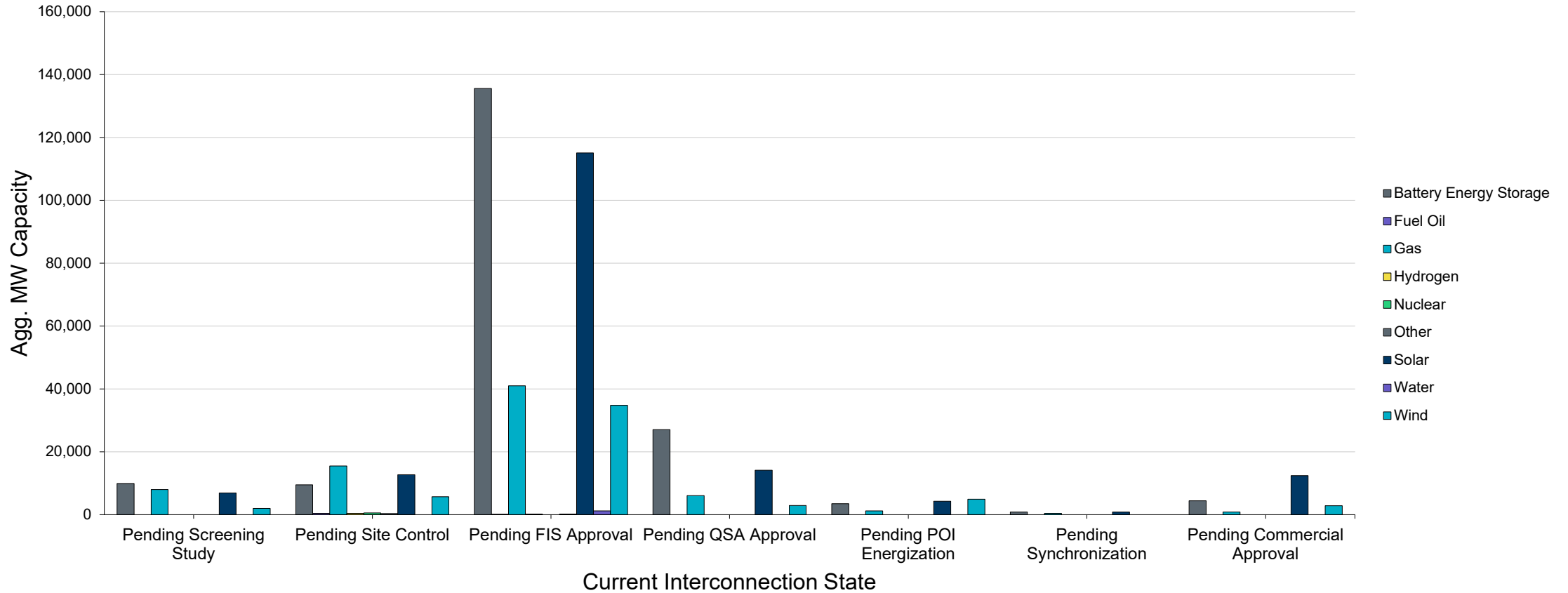
Key Takeaway: ERCOT is ramping up efforts to provide more frequent communication to TSPs.

Addressing Emerging Operational Risks Posed by Large Loads

Risk	Description	Mitigation	Status
Ride-Through	Sensitive compute equipment trips offline during normal grid events, leading to grid imbalance and instability .	NOGRR282/NPRR1308 : Implement ride-through requirements for Large Electronic Loads.	ROS endorsed NOGRR282 and NPRR1308 on April 2. Tracking for June Board vote.
Oscillations	Certain data centers processes can oscillate in a way that damages grid equipment .	ERCOT is developing requirements for Large Loads to ensure that their processes do not oscillate in a manner that would cause grid damage.	ERCOT presented a draft concept to the Large Load Working Group in February and is drafting a revision request for Q2 posting .
Modeling	Dynamic models for Large Loads have proven to be inaccurate and thus are inadequate for studying their grid impacts.	ERCOT is working with Texas A&M University on developing more accurate models . PGRR144 : Introduces model quality requirements for Large Loads.	Texas A&M has released a new model for crypto mining facilities and is working on a data center model. PGRR144 was submitted in February and is working through the stakeholder process.

Key Takeaway: ERCOT is pursuing targeted mitigations for addressing emerging risks posed by Large Loads.

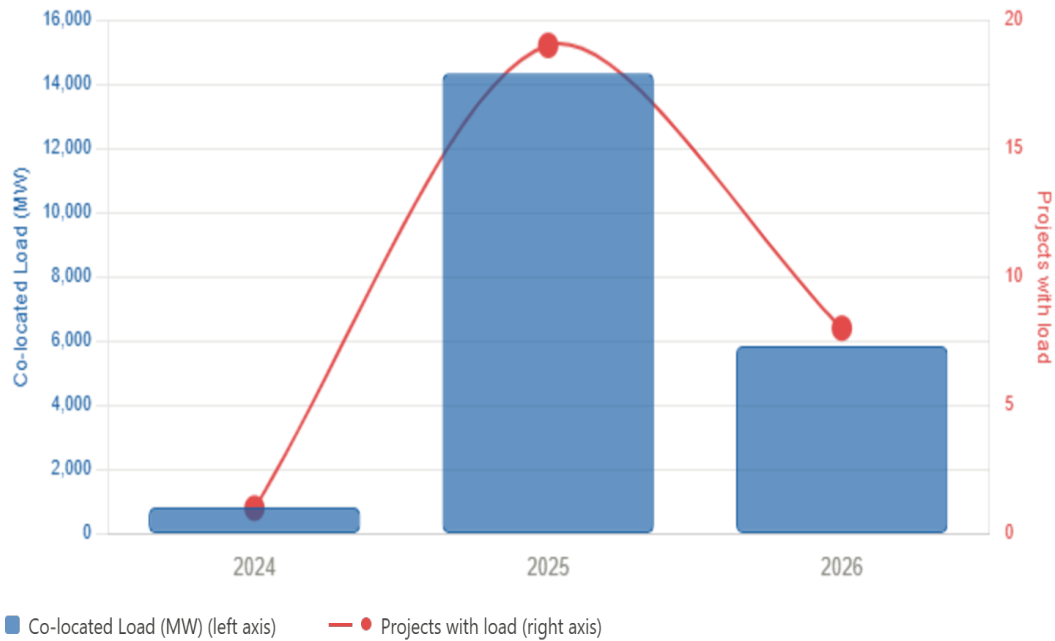
Generation Resource Project MWs by Fuel Type and Interconnection Stage (as of March 31, 2026)



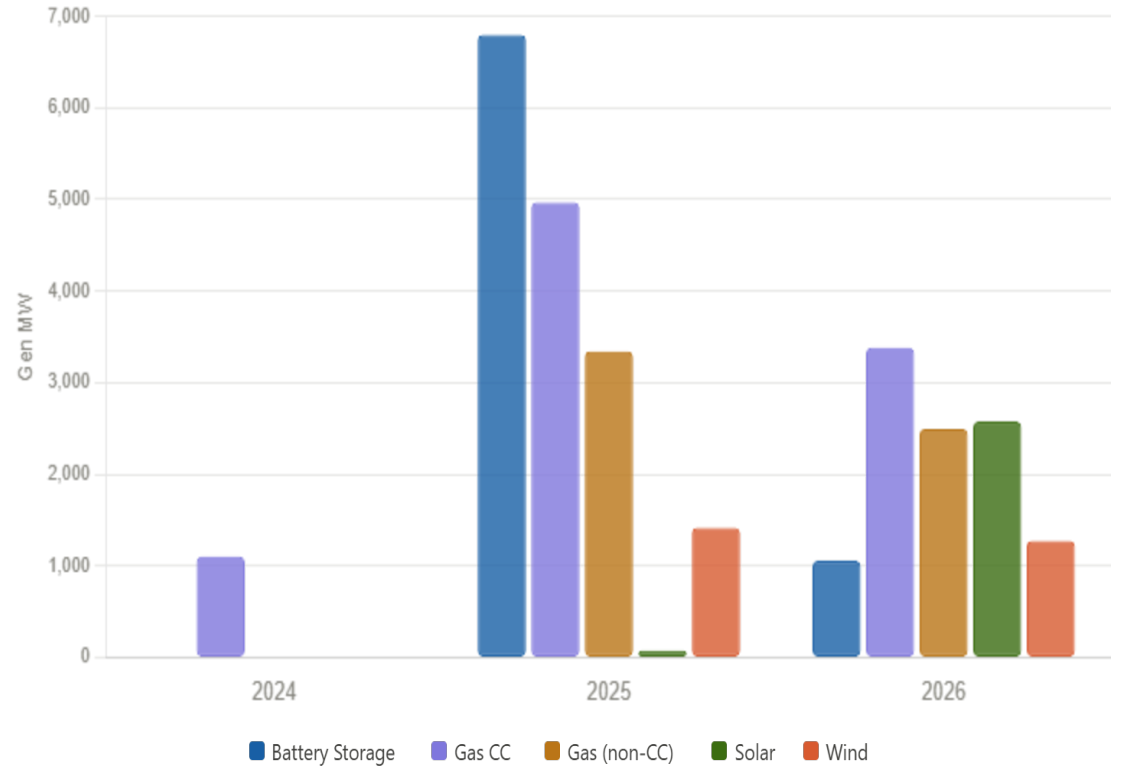
Key Takeaway: There is ~462 GW of total capacity that is in the interconnection process, of which ~262 GW of capacity is currently in the FIS phase, which is where critical reliability analysis is completed. Solar and Battery Energy Storage represent the majority of current GWs in the interconnection process.

Co-located Generation with Large Loads

Total Load MW	Peak year	Projects w/ load
21,001	2025	28

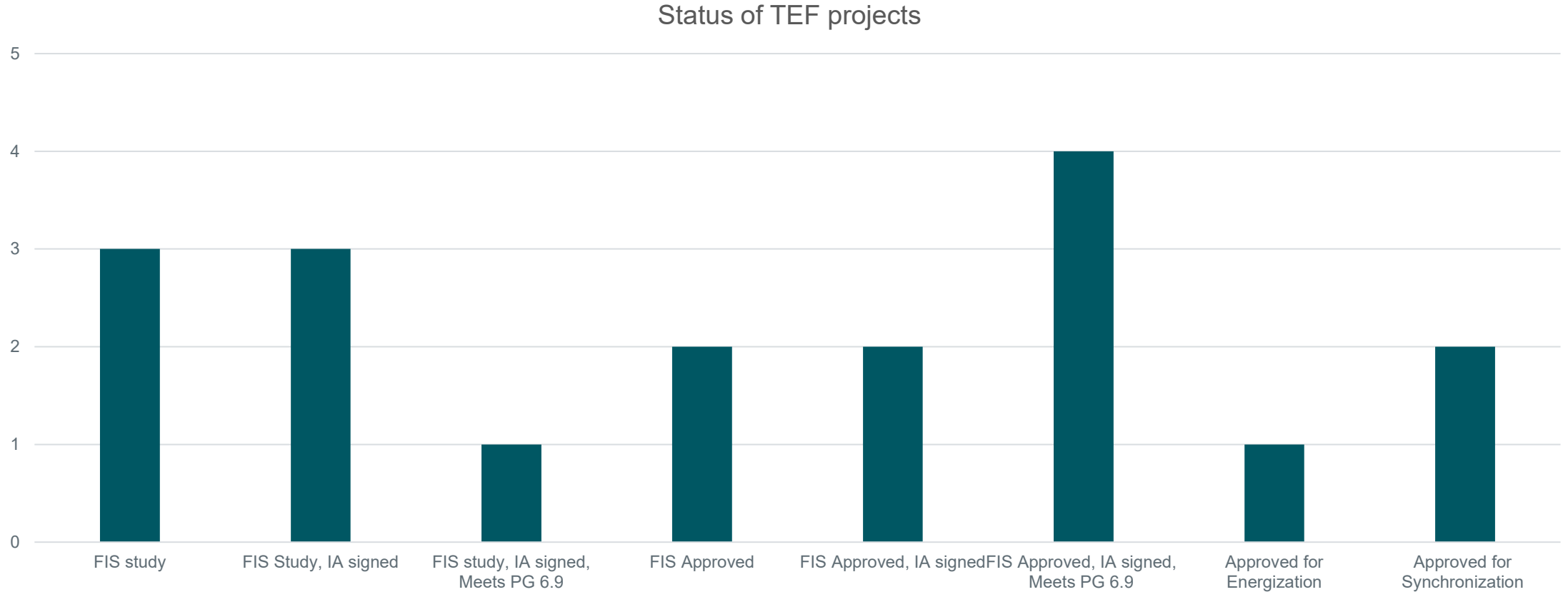


Co-located Generation for Large Load Projects



Key Takeaway: Since Q4 2025, new generation co-located with large loads has risen markedly, alongside a notable increase in dispatchable generation.

Texas Energy Fund Status (as of March 23, 2026)



Key Takeaway: All eighteen projects, which represent just over 7 GW of capacity, are advancing through the interconnection process. Two projects have received Approval to Synchronize.

Advanced Grid Support Update

NOGRR272, approved by the PUCT in November 2025, set forth requirements for new Energy Storage Resources (ESRs) with interconnection agreements (SGIA) signed on or after April 1, 2026 to have **Advanced Grid Support** (aka “**Grid Forming Inverters**”)

Key Takeaways:
 There are no operational ESRs with Advanced Grid Support capability.
 One operational ESR is currently going through the process to implement AGS.

AGS ESR Implementation — Status Summary

Operational status
 One ESR (30 MW) — only unit with Grid Forming Models submitted
 Not yet implemented; no projects have put AGS into practice

NPRR incentive program
 Proposed program presented to IBRWG in March 2025
 Target NPRR submission: June 2026

ESR Capacity Overview

~152 GW — no SGIA today
 ESRs currently in the interconnection process
 Required to implement AGS per NOGRR272

50+ GW — exempt
 Operational + planned ESRs with SGIAs signed before April 1, 2026
 Not required to implement AGS

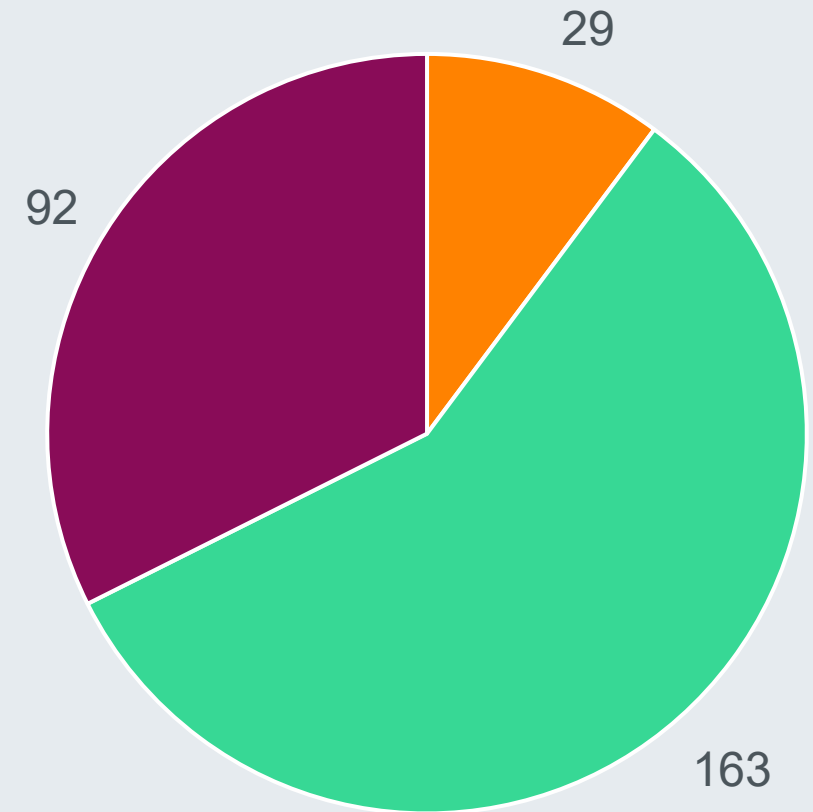
- AGS required (NOGRR272)
- AGS exempt (pre-April 1, 2026 SGIA)
- Submitted models, not yet live
- Incentive program in progress

NOGRR245 Update

- **Review Process for NOGRR245 Submissions**
 - ERCOT has done an initial review of all Extension/Exemption requests. Requests with deficiencies were sent Missing Information Reports (MIRs).
 - The Resource Entity (RE) is required to correct deficiencies identified in the MIR and resubmit to ERCOT within 10 Business Days.
- **Status of Submissions (as of March 30, 2026)**
 - ERCOT is reviewing submissions for 163 Resources and will notify those with complete submissions.
 - 119 Resources have withdrawn Extension/Exemption requests and are no longer represented in this chart.
- **Key Issues**
 - Submissions deemed incomplete are primarily due to missing post-modification models.
 - Some REs have indicated to ERCOT they will not have models submitted and approved by April 30, 2026.
- **Next Step**
 - ERCOT will start the reliability assessments for Exemption requests with the best data available on May 1, 2026.

Key Takeaway(s): ERCOT will proceed with Reliability Assessments on May 1, 2026 using the best available data.

NOGRR245 Submission Status as of March 30, 2026



- Missing Information Request (MIR) Sent to RE
- MIR Received and under ERCOT Review
- Not Complete after 2 MIR Attempts