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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

September 22-23, 2025

- **Purpose**

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

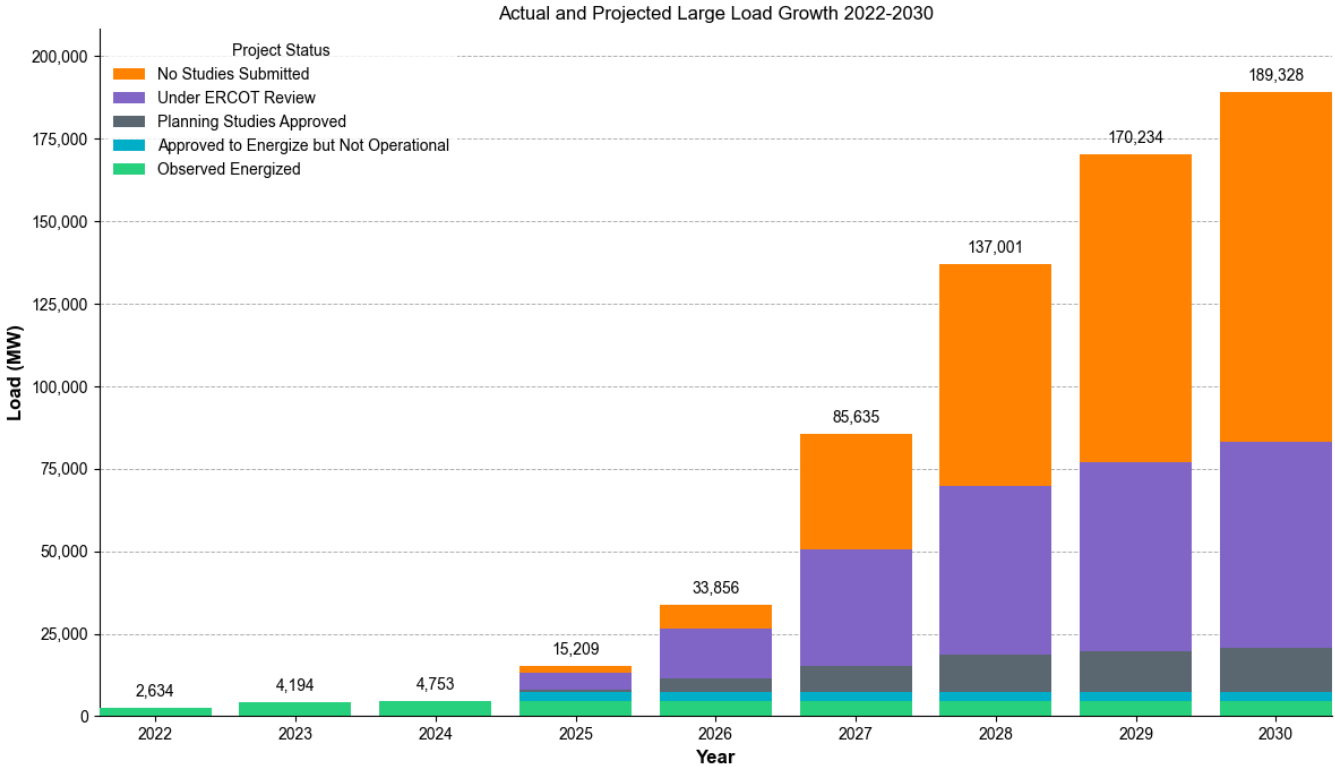
- **Questions for the Board**

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

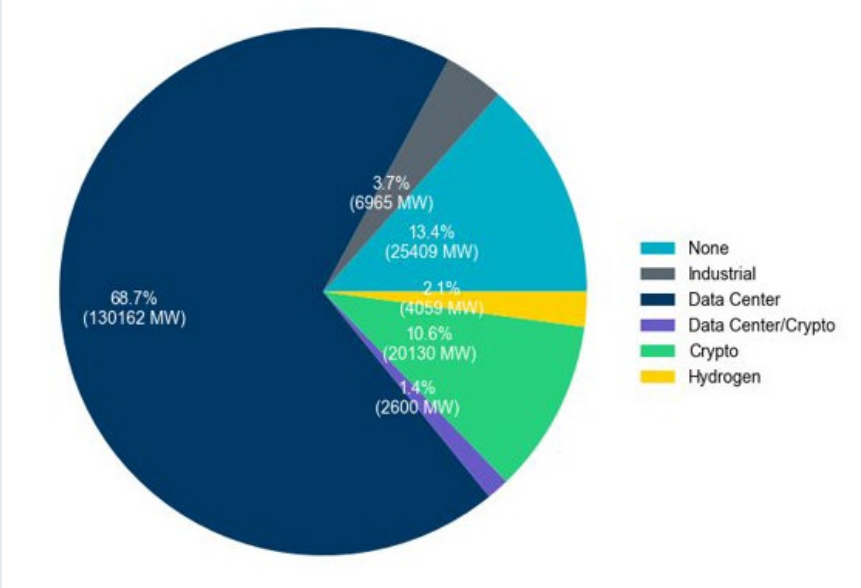
- ERCOT is tracking over 3 times as many large load interconnections compared to September 2024 as well as over 2,000 new generation requests of which almost 80% are solar and energy storage resources.
- Two Texas Energy Fund projects are near completion.
- ERCOT is on track to review more than double the number of transmission projects compared to 2024.
- As ERCOT's initial assessment of NOGRR245 responses indicated that none had met all requirements, ERCOT continues to work with Resource Entities via market notices, workshops, guidance materials, and tailored deficiency lists to help guide corrective actions to aid Inverter Based Resources in preparing to meet voltage ride through standards.

# Large Load Interconnection Queue (as of September 2, 2025)



| Project Status                           | 2022  | 2023  | 2024  | 2025   | 2026   | 2027   | 2028    | 2029    | 2030    |
|--|-------|-------|-------|--------|--------|--------|---------|---------|---------|
| No Studies Submitted                     | 0     | 0     | 0     | 2,072  | 7,208  | 35,054 | 67,332  | 93,400  | 106,267 |
| Under ERCOT Review                       | 0     | 0     | 0     | 5,192  | 15,062 | 35,198 | 50,966  | 56,981  | 62,388  |
| Planning Studies Approved                | 0     | 0     | 0     | 443    | 4,084  | 7,881  | 11,201  | 12,351  | 13,171  |
| Approved to Energize but Not Operational | 0     | 83    | 137   | 2,886  | 2,886  | 2,886  | 2,886   | 2,886   | 2,886   |
| Observed Energized                       | 2,634 | 4,111 | 4,616 | 4,616  | 4,616  | 4,616  | 4,616   | 4,616   | 4,616   |
| Total (MW)                               | 2,634 | 4,194 | 4,753 | 15,209 | 33,856 | 85,635 | 137,001 | 170,234 | 189,328 |

## Large Loads by Project Type



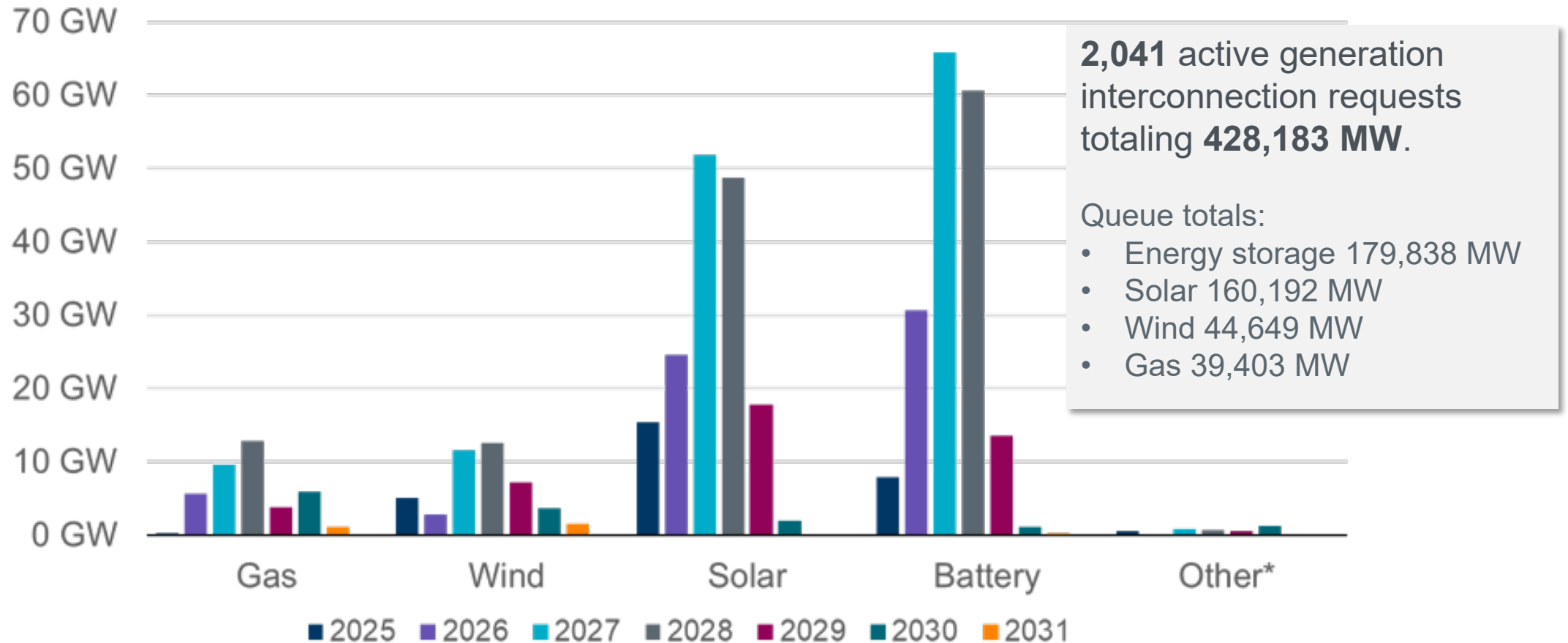
**Key Takeaway:** ERCOT is tracking approximately 189 GW of Large Loads seeking interconnection (compared to 56 GW in September 2024) of which ~69% are data centers.

ERCOT is an active participant in the PUC process to implement Senate Bill 6 legislation.



# Generation Interconnection Requests (as of August 31, 2025)

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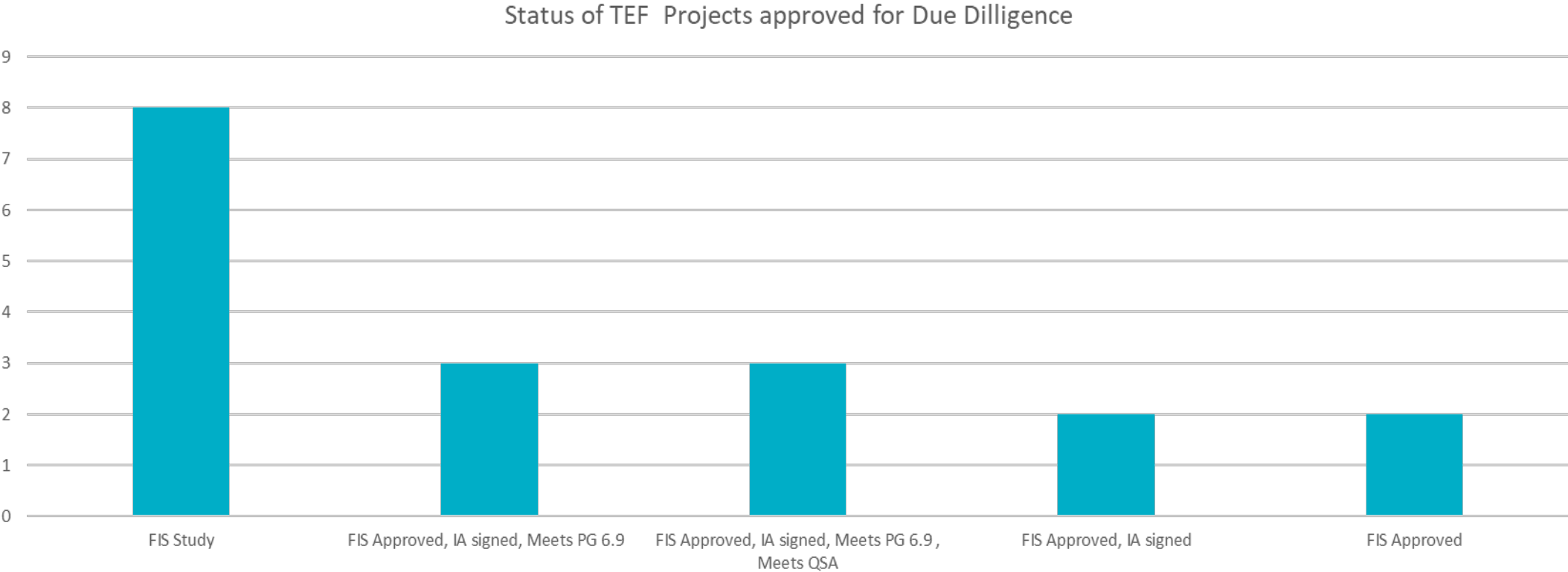


Other includes petroleum coke (pet coke), hydroelectric, fuel oil, geothermal energy, other miscellaneous fuels reported by developers, and fuel cells that use fuels other than natural gas. (Numbers exclude capacity associated with projects designated as Inactive per Planning Guide Section 5.2.5).

**Key Takeaway:** Solar and Energy Storage account for 79% of the amount of generation seeking interconnection.



# Texas Energy Fund Status (as of September 2, 2025)

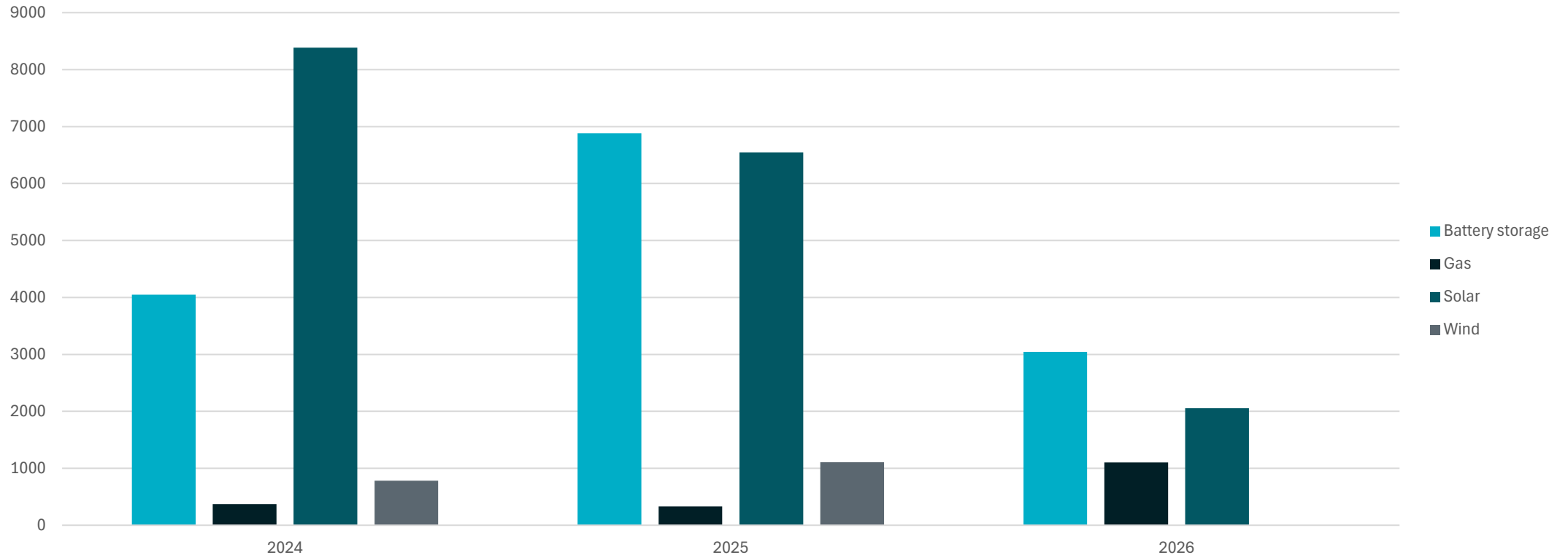


**Key Takeaway:** All eighteen projects which represent just over 7 GW have submitted Full Interconnection Study (FIS) applications with ERCOT and are advancing through the interconnection process.

Pin Peaking and Cedar Bayou have met August 1<sup>st</sup> Quarterly Stability Assessment (QSA) review and are slated to be in the Network Operations Model in October and December, respectively.



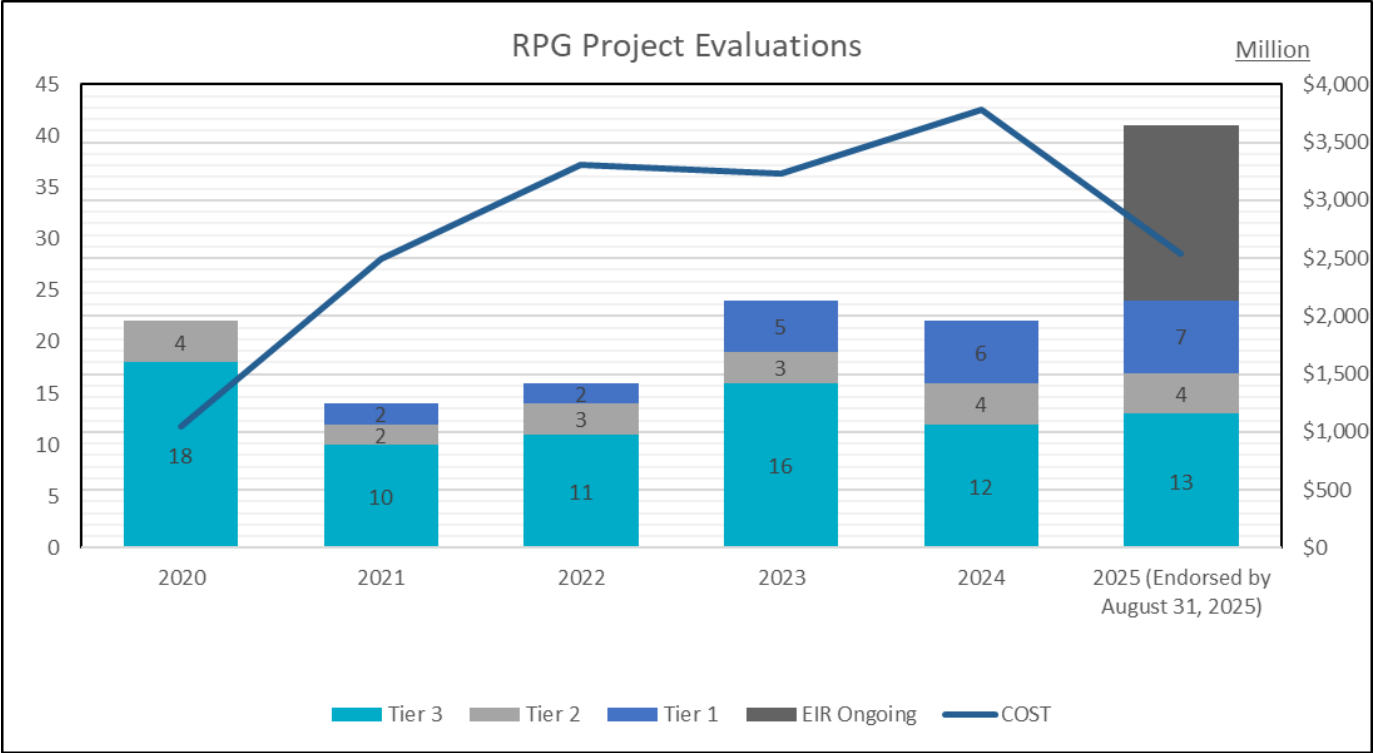
## Generation Resource Project MWs by Fuel Type that have achieved Quarterly Stability Analysis (QSA) since 2024



**Key Takeaway:** Since 2024, 191 new Resource projects have met QSA review requirements, totaling about 34 GW. The highest quarterly review count was on August 1, 2025, with 33 projects adding up to 6 GW, intending to synchronize in Q1 of 2026.



# Transmission Planning Summary



**Key Takeaway:** ERCOT has reviewed and endorsed more Regional Planning Projects (RPG) in 2025 than in 2024 and on pace to more than double the projects reviewed in 2024.

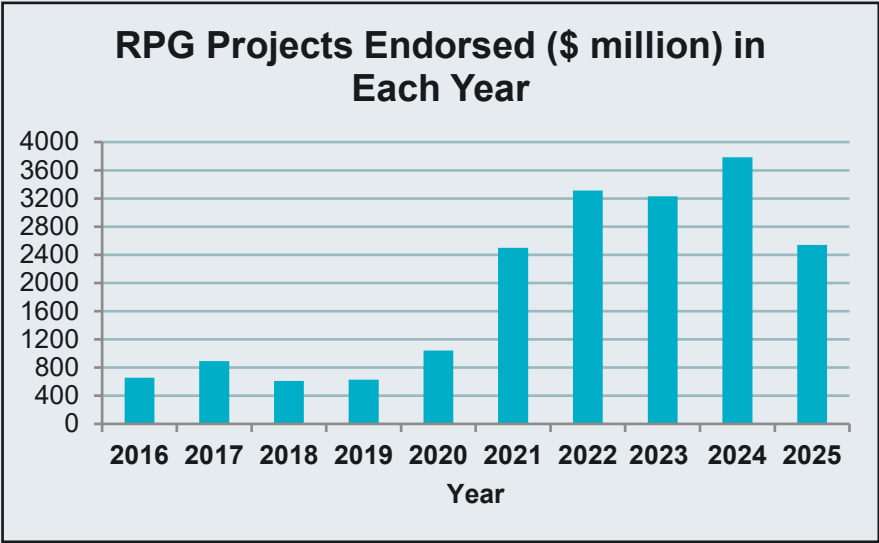
As of June 1, 2025, projects energized in 2025 total about \$1.354 billion.

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

As of August 31, 2025, ERCOT has endorsed transmission projects totaling \$2.539 billion in 2025.

Total endorsed transmission projects in:

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

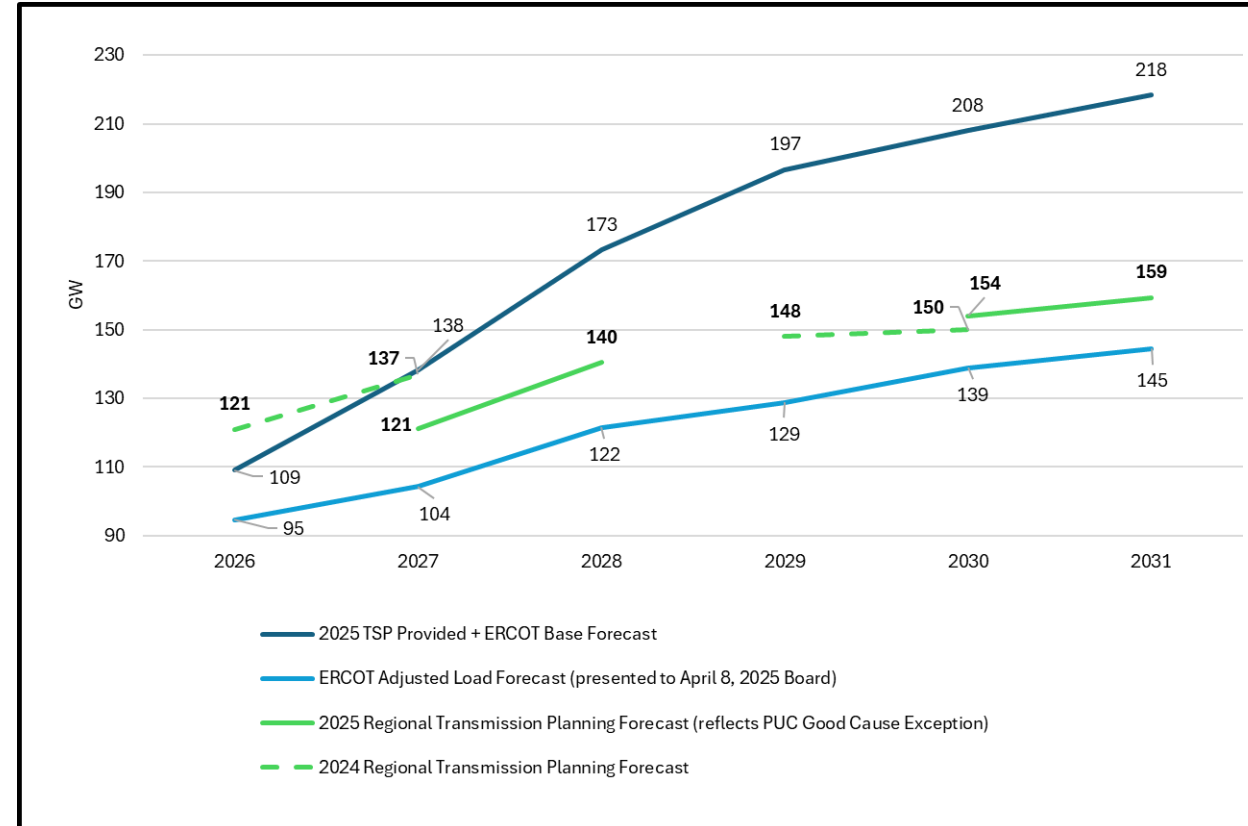


As of August 2025



## 2025 Regional Transmission Plan (RTP)

- The ERCOT Transmission Planning Adjusted Load Forecast for use in the 2025 RTP has been finalized.
- The 2025 RTP will continue to study potential additional 765-kV system needs to build on the endpoints approved by the PUC in the Permian Basin Reliability Plan.
- After further analysis, the remaining 765-kV endpoints from the 2024 RTP are also being considered as starting points for the 2025 RTP.
- ERCOT will be working to balance projected load and resource growth in the transmission plan.

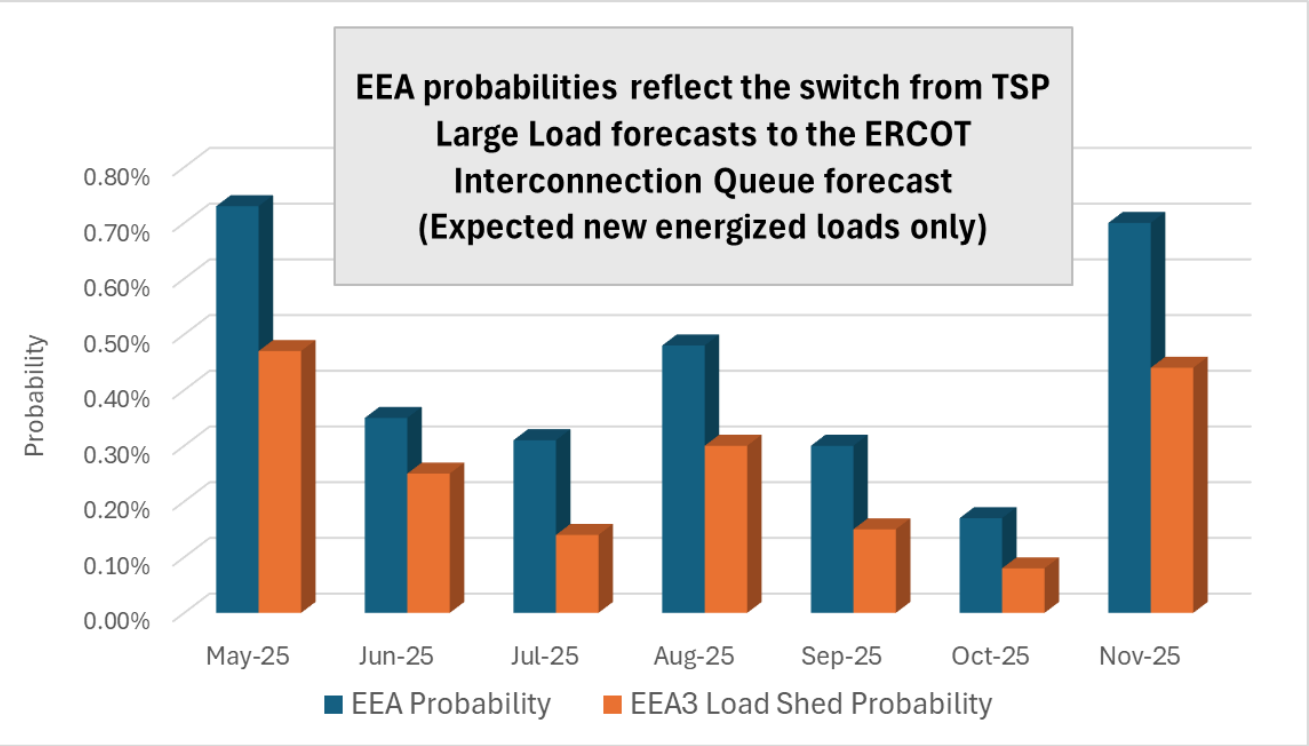


**Key Takeaway:** The 2031 ERCOT Transmission Planning adjusted load forecast is approximately 159 GW.



# Resource Adequacy Reporting

## Monthly Outlook on Resource Adequacy (MORA) Energy Emergency Alert (EEA) Comparison



**Key Takeaway:** MORA EEA risk during peak demand is reduced due to lower and more accurate short-term Large Load in-service forecasts, along with increased battery storage capacity and availability during hours at most risk of experiencing EEAs.



November 2025 MORA  
(Hours with non-zero probabilities shown)

| Hour Ending (CST) | Chance of Normal System Conditions<br><br>Probability of CAFOR being above 3,000 MW | EMERGENCY LEVEL  |  |
|-------------------|---|--|--|
|                   |   | Chance of an Energy Emergency Alert<br><br>Probability of CAFOR being less than 2,500 MW | Chance of Ordering Controlled Outages<br><br>Probability of CAFOR being less than 1,500 MW |
| 7 a.m.            | 99.91%  | 0.06%  | 0.06%  |
| 8 a.m.            | 99.94%  | 0.02%  | 0.02%  |
| 7 p.m.            | 97.78%  | 0.70%  | 0.44%  |
| 8 p.m.            | 99.34%  | 0.16%  | 0.09%  |
| 9 p.m.            | 99.72%  | 0.07%  | 0.03%  |

Note: Probabilities are not additive.

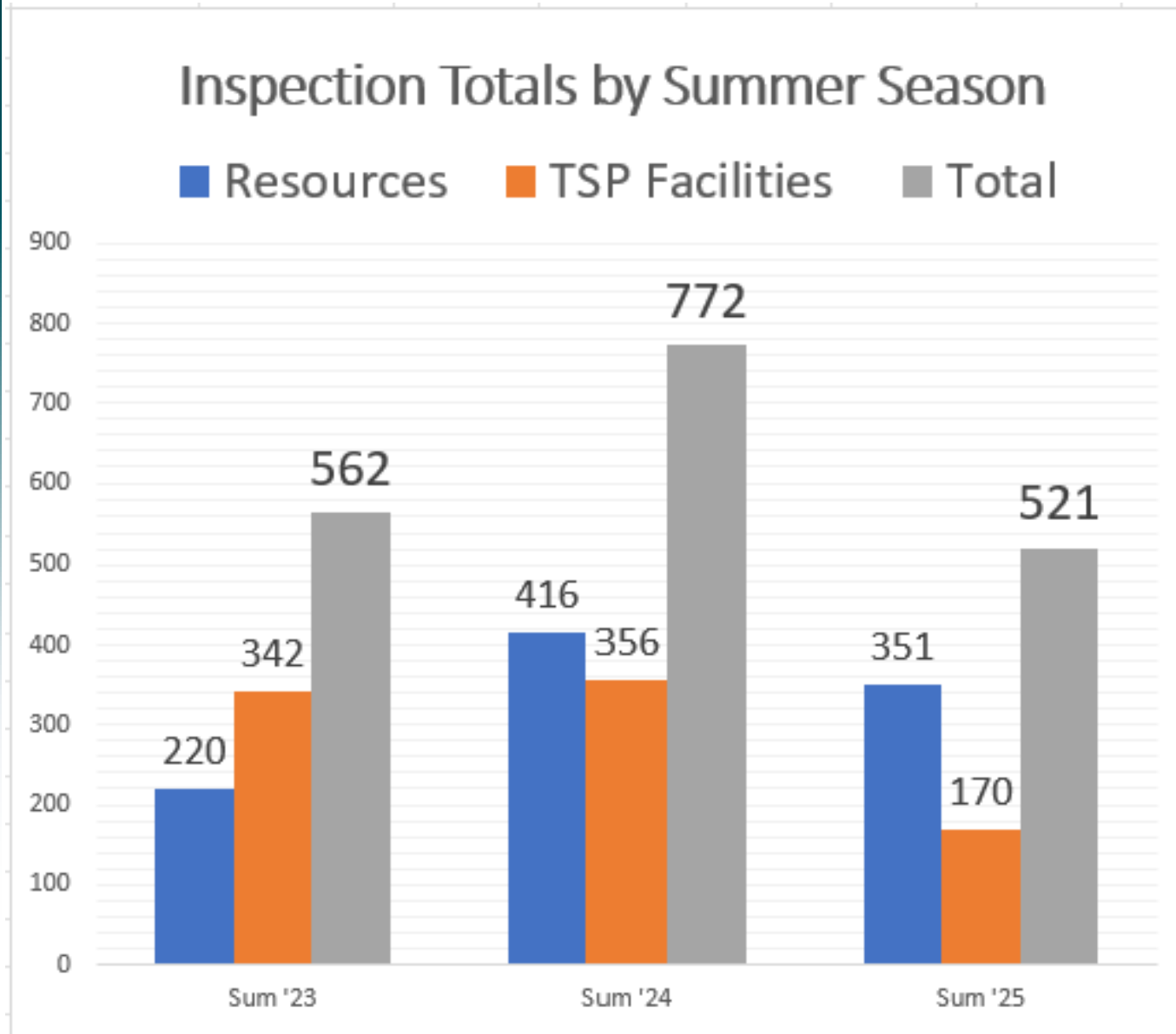
CAFOR is Capacity Available for Operating Reserves

ERCOT Resource Adequacy work is also underway to support:

- NERC Winter Reliability Assessment
- PUC Reliability Standard Assessments



# Weatherization Update



- Focus placed on inspecting new Resource Entities to assure familiarity and compliance with the PUC Weather Emergency Preparedness rule.
- Compliance levels have remained high with most deficiencies being corrected within days of discovery.
- Numbers reported are through August. With September inspections, total summer inspections is expected to be over 650.

**Key Takeaway:**

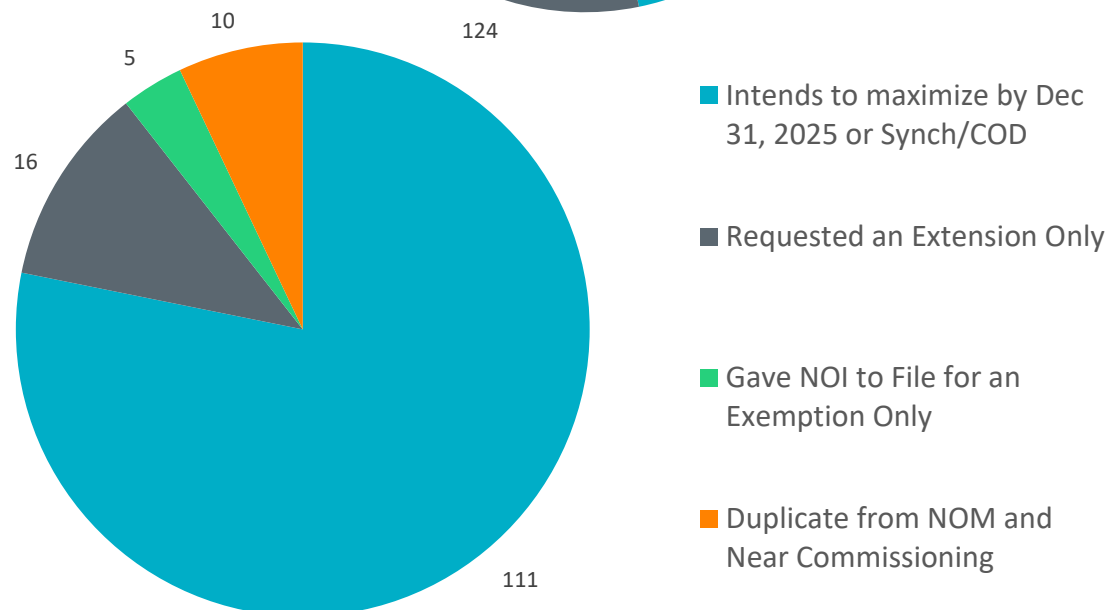
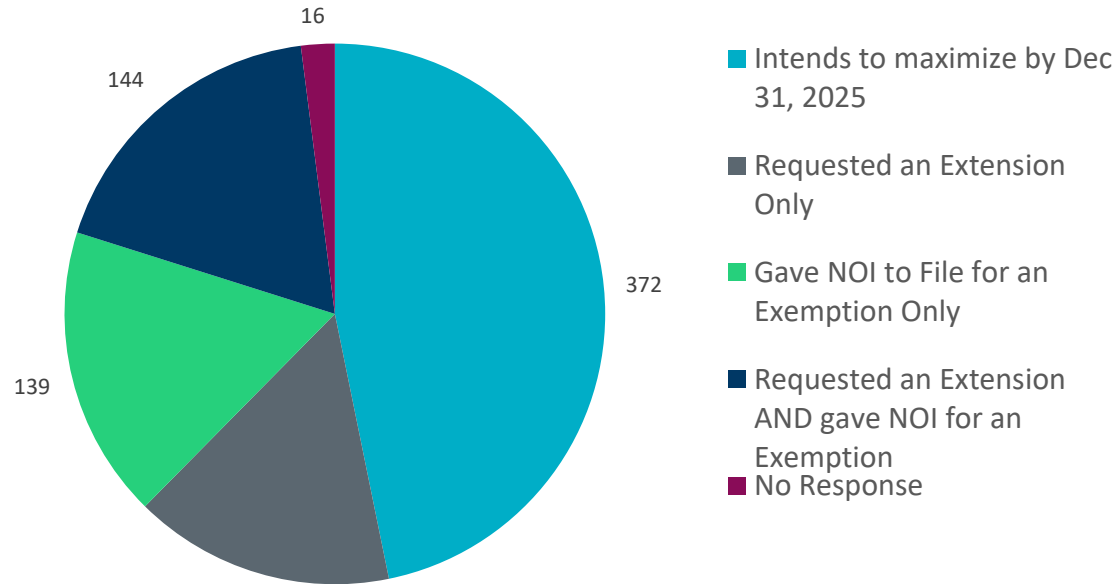
ERCOT is on track to exceed our summer weatherization inspection target of 600 inspections.



## Item 16.2

# NOGRR245, Inverter-Based Resource (IBR), Ride Through Requirements

**Current IBRs**



**New IBRs**

- After processing April IBR responses as noted in graphs, ERCOT issued a Market Notice highlighting deficiencies in submitted ride-through data and announced a new deadline of September 15, 2025, for IBR Resources to provide required supplemental data.
- To support stakeholders, ERCOT hosted a workshop in August and provided supplemental materials to assist IBR Resources in addressing identified deficiencies.
- Additionally, ERCOT provided a Resource-specific list of identified deficiencies to guide corrective actions for the September 15, 2025 submissions.

**Key Takeaway:** As ERCOT's initial assessment indicated that none of the IBR submissions met all Nodal Operating Guide requirements, ERCOT continues to work with IBRs via market notices, workshops, guidance materials, and tailored deficiency lists to help guide corrective actions.

