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Item 16.2: System Planning and Weatherization Update

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Board of Directors Meeting

September 22-23, 2025

* Revised 9/18/25 (Slide 10 updated)

- **Purpose**

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

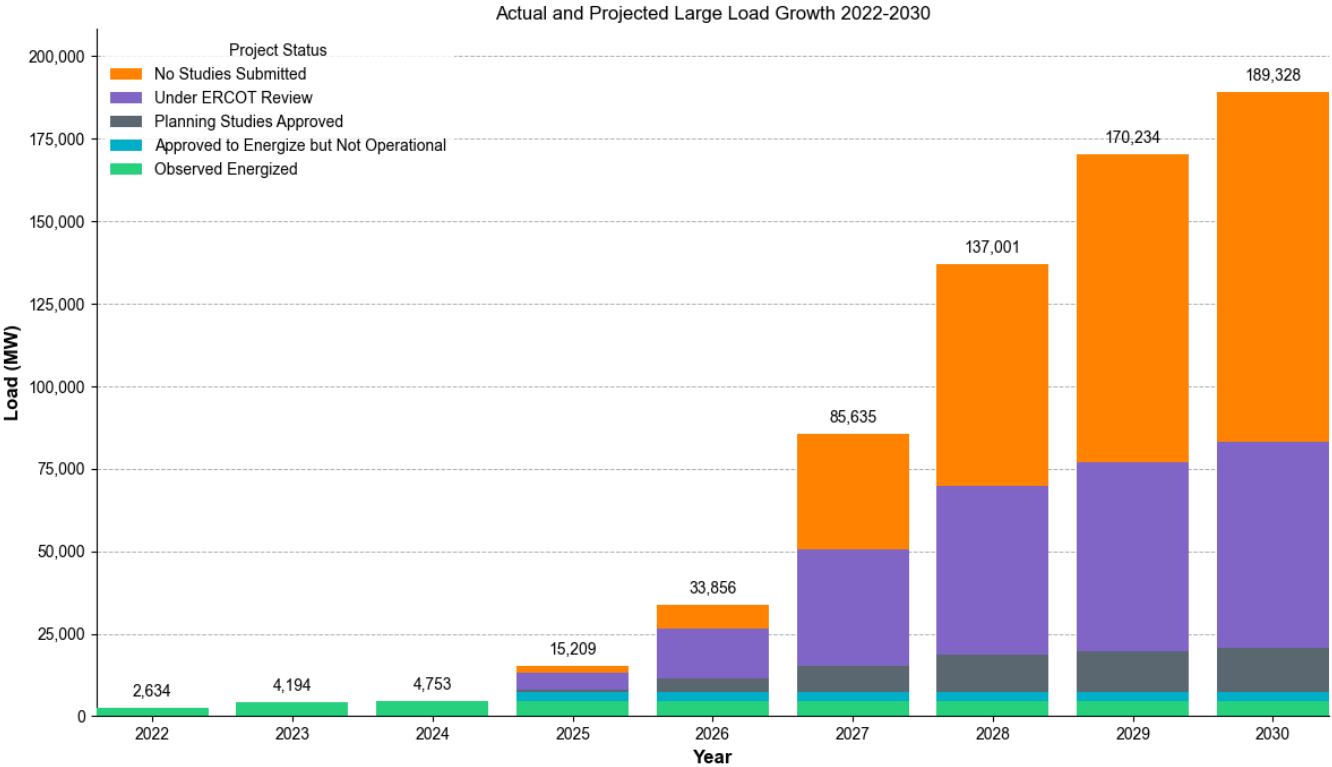
- **Questions for the Board**

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

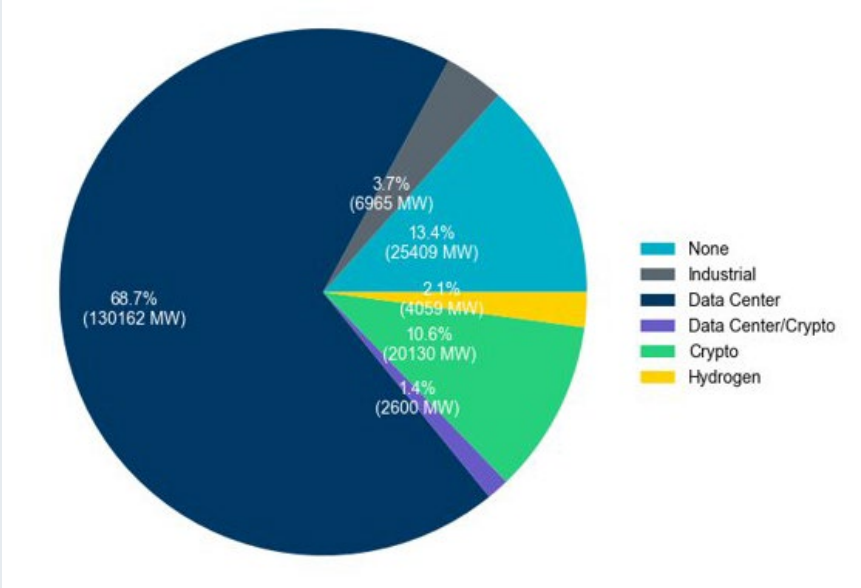
- ERCOT is tracking over 3 times as many large load interconnections compared to September 2024 as well as over 2,000 new generation requests of which almost 80% are solar and energy storage resources.
- Two Texas Energy Fund projects are near completion.
- ERCOT is on track to review more than double 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



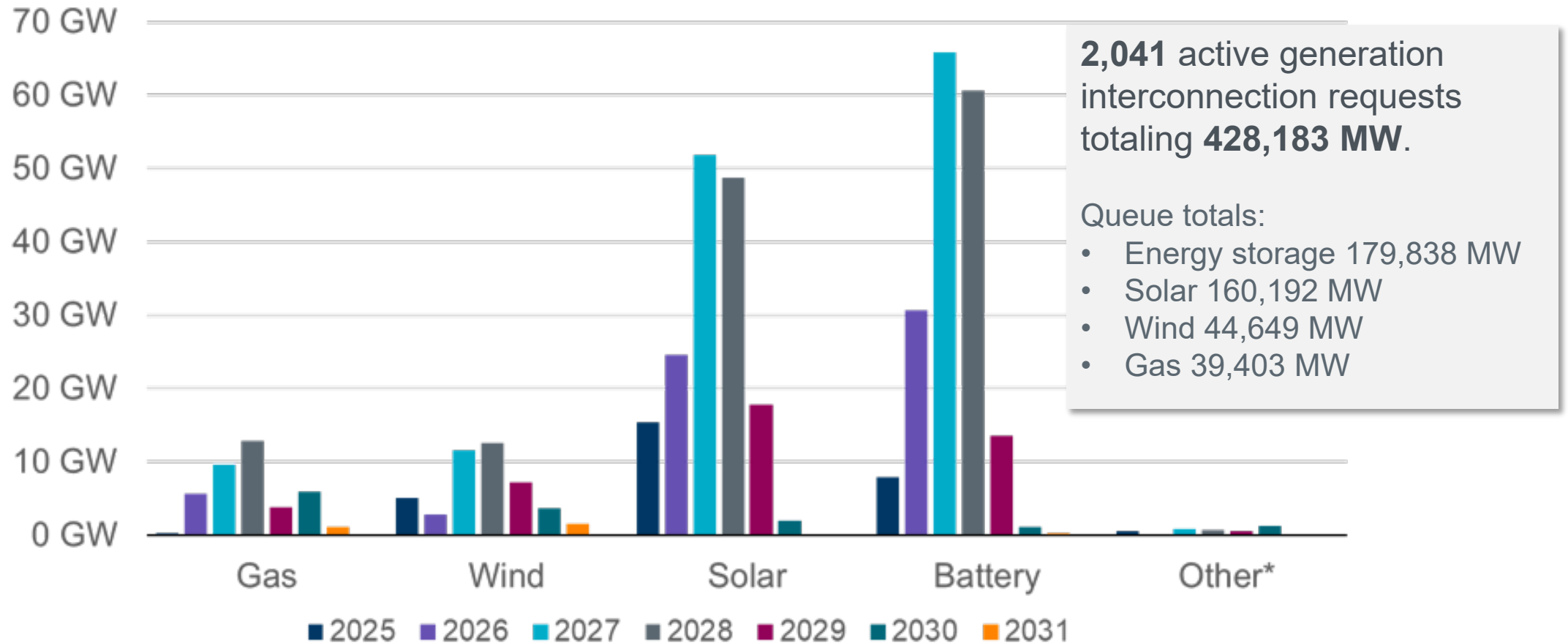
Key Takeaway: ERCOT is tracking approximately 189 GW of Large Loads seeking interconnection (compared to 56 GW in September 2024) of which ~69% are data centers.

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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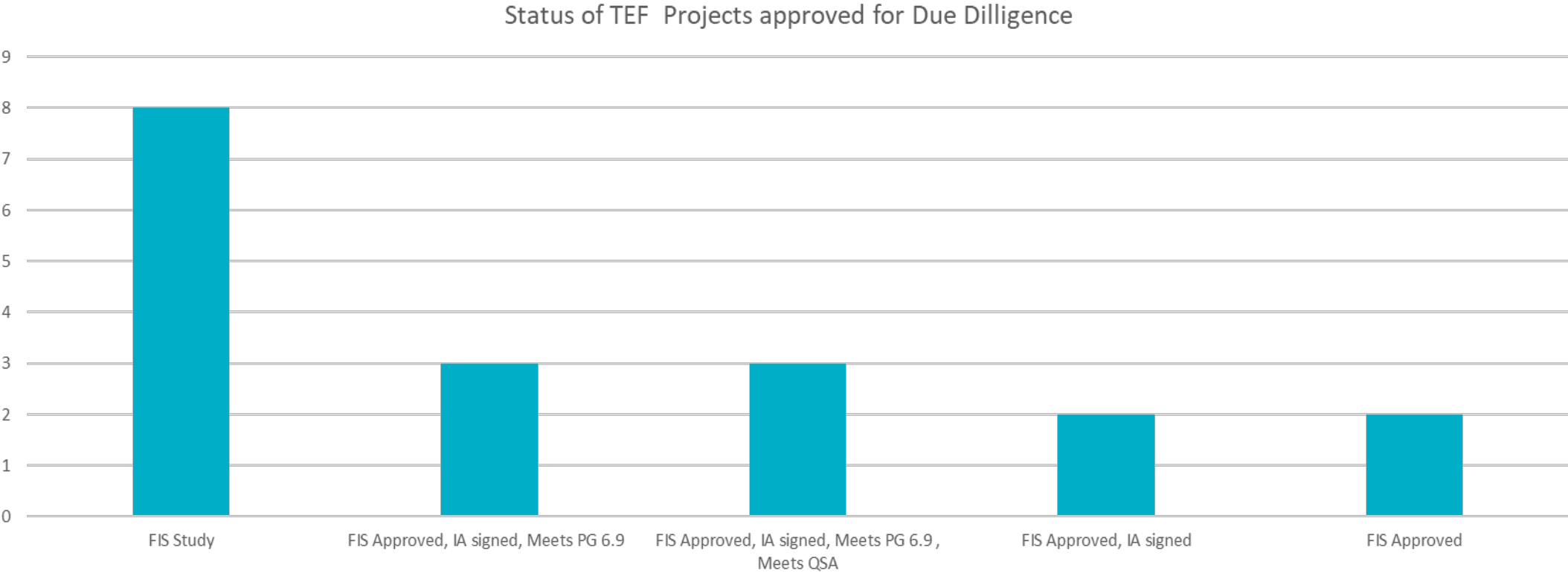


Other includes petroleum coke (pet coke), hydroelectric, fuel oil, geothermal energy, other miscellaneous fuels reported by developers, and fuel cells that use fuels other than natural gas. (Numbers exclude capacity associated with projects designated as Inactive per Planning Guide Section 5.2.5).

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)

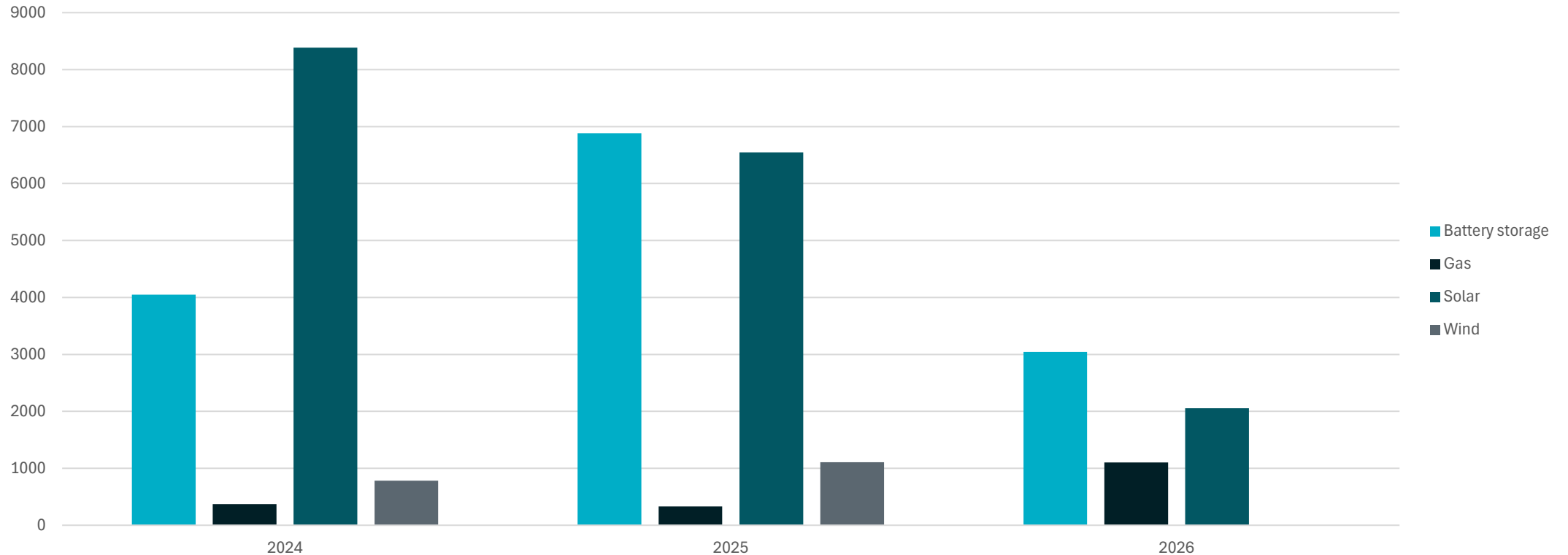


Key Takeaway: All eighteen projects which represent just over 7 GW have submitted Full Interconnection Study (FIS) applications with ERCOT and are advancing through the interconnection process.

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



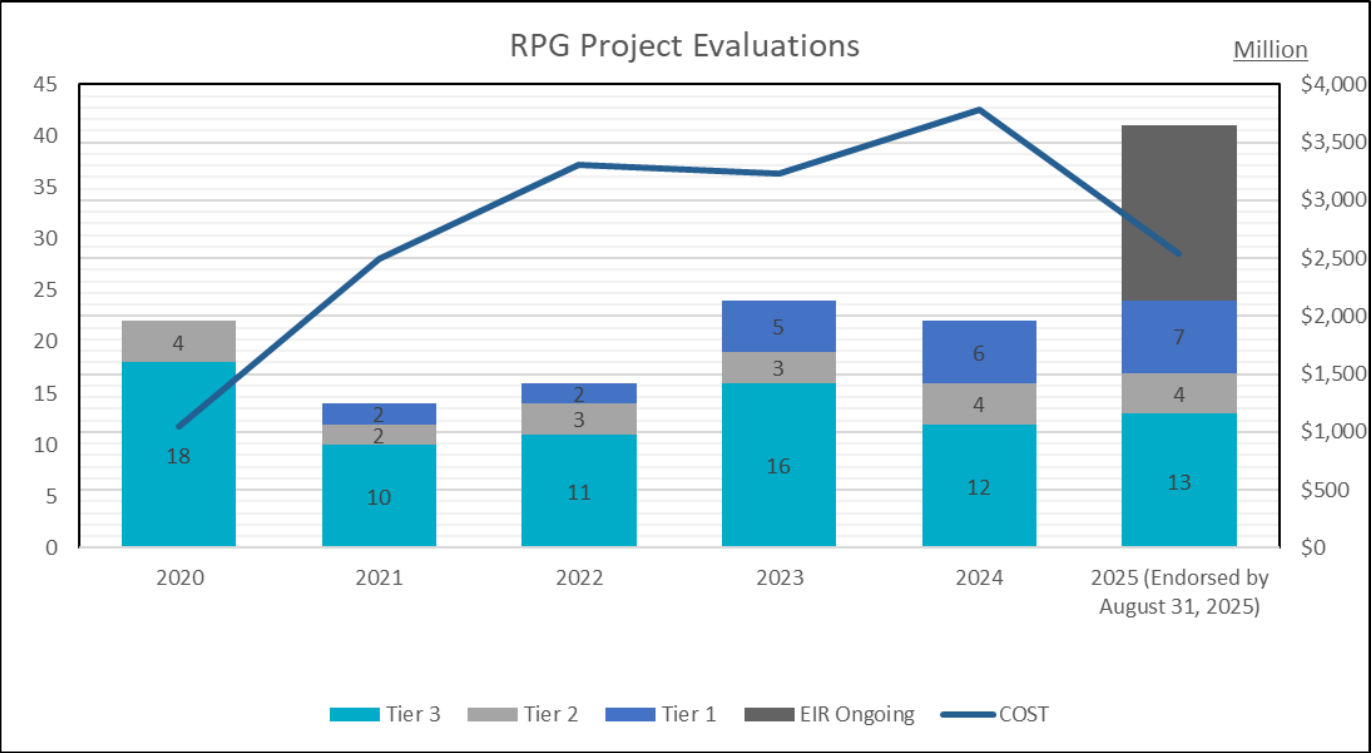
Generation Resource Project MWs by Fuel Type that have achieved Quarterly Stability Analysis (QSA) since 2024



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.

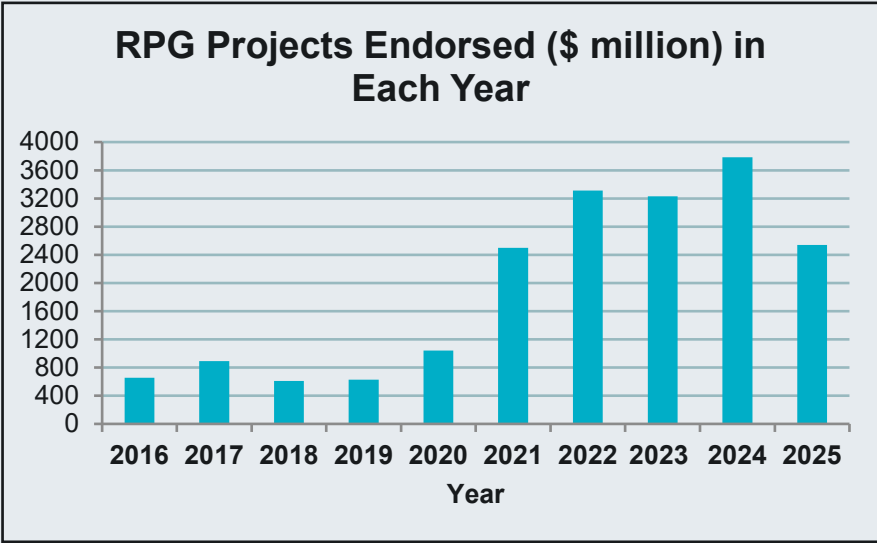
As of June 1, 2025, projects energized in 2025 total about \$1.354 billion.

- \$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

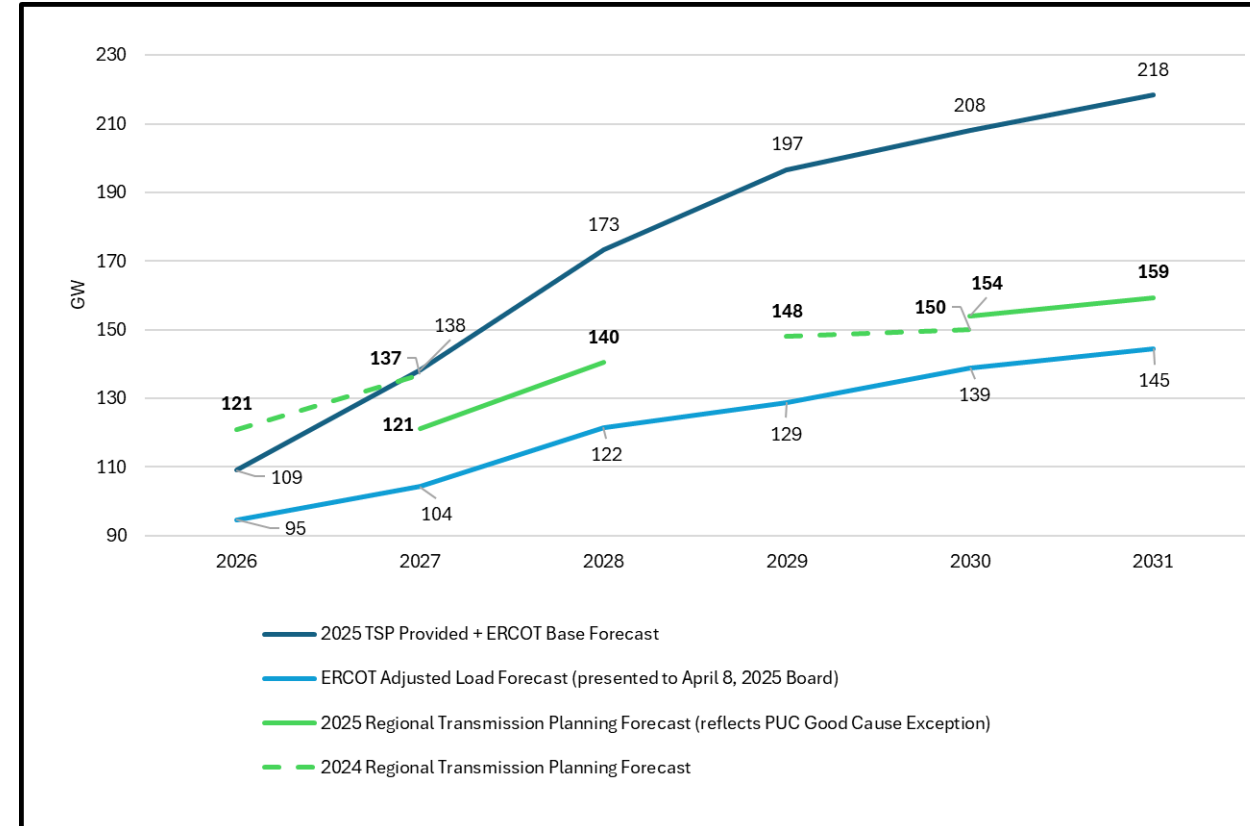


As of August 2025



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.

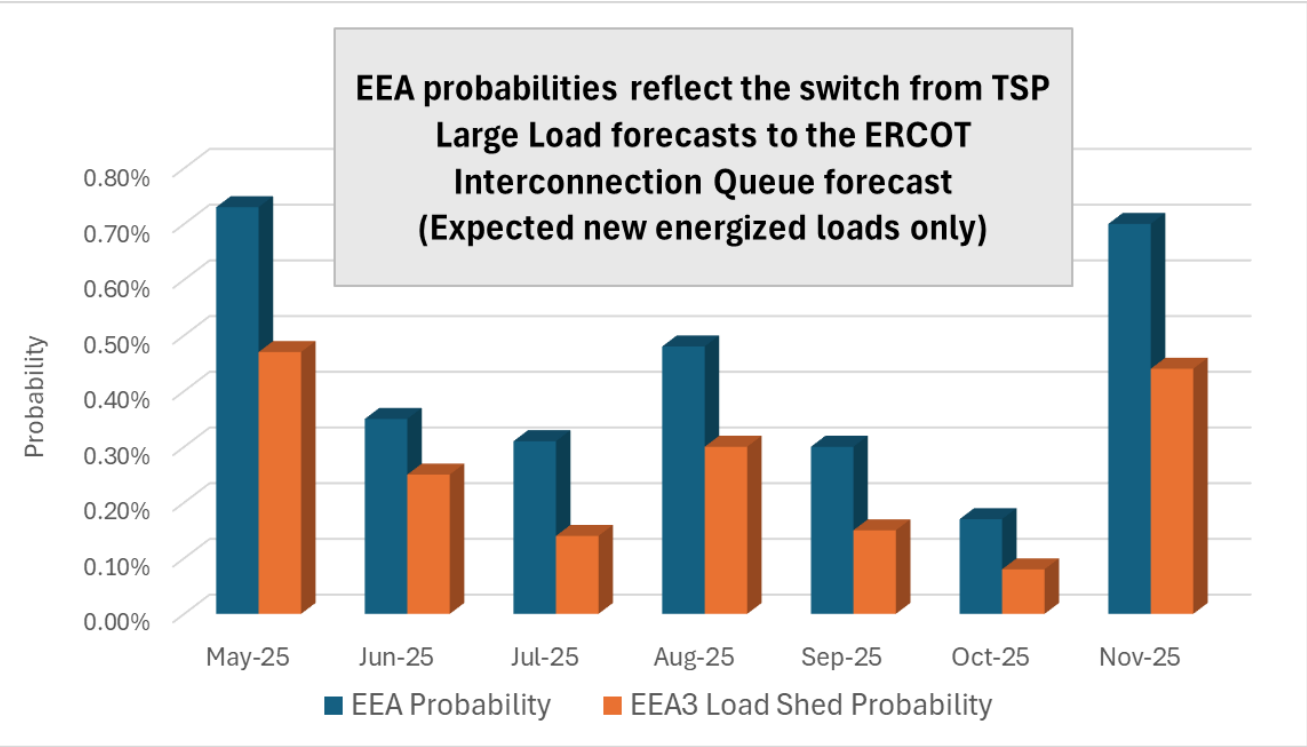


Key Takeaway: The 2031 ERCOT Transmission Planning adjusted load forecast is approximately 159 GW.



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 Probability of CAFOR being above 3,000 MW	EMERGENCY LEVEL	
		Chance of an Energy Emergency Alert Probability of CAFOR being less than 2,500 MW	Chance of Ordering Controlled Outages 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.

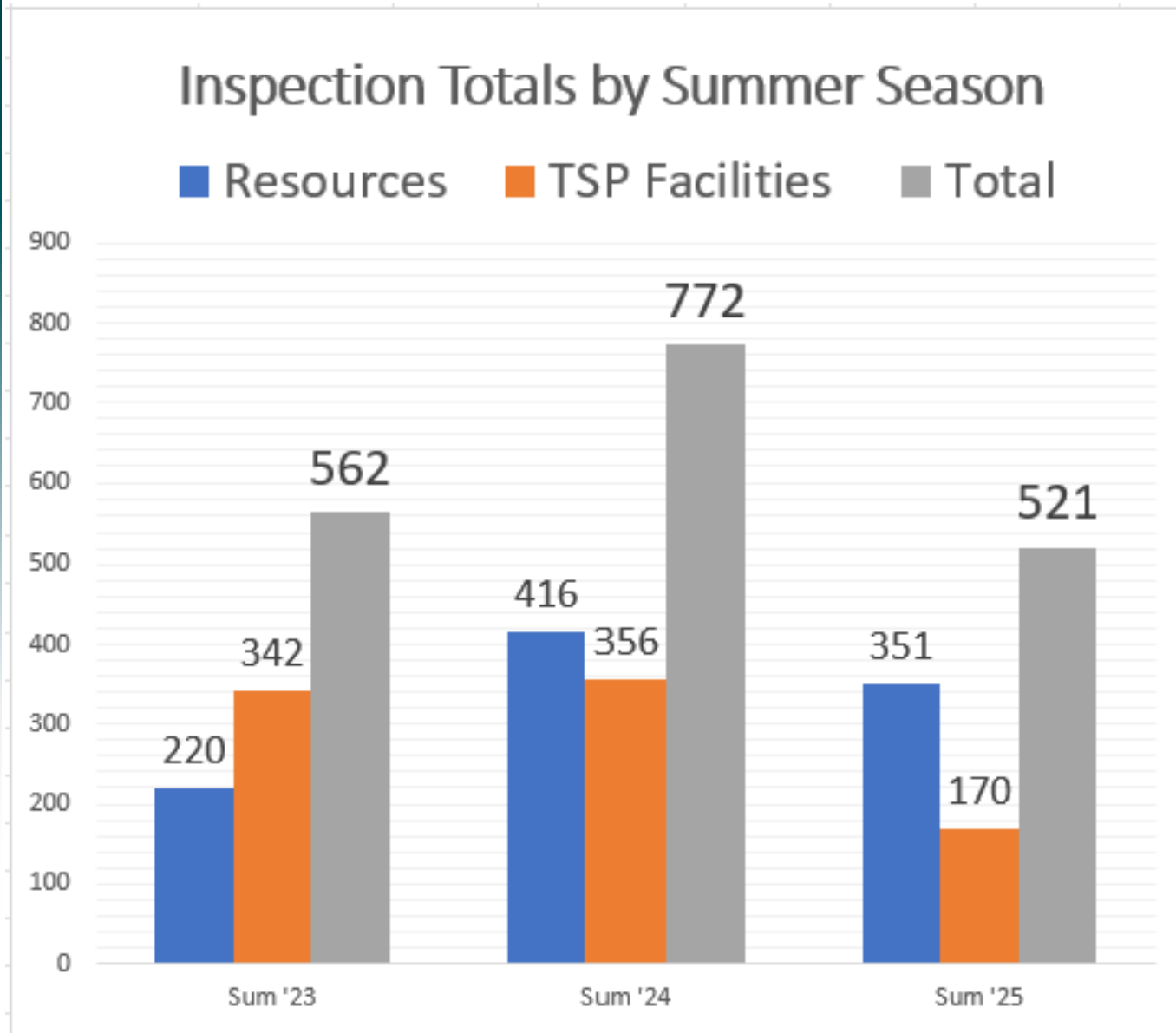
CAFOR is Capacity Available for Operating Reserves

ERCOT Resource Adequacy work is also underway to support:

- NERC Winter Reliability Assessment
- PUC Reliability Standard Assessments



Weatherization Update



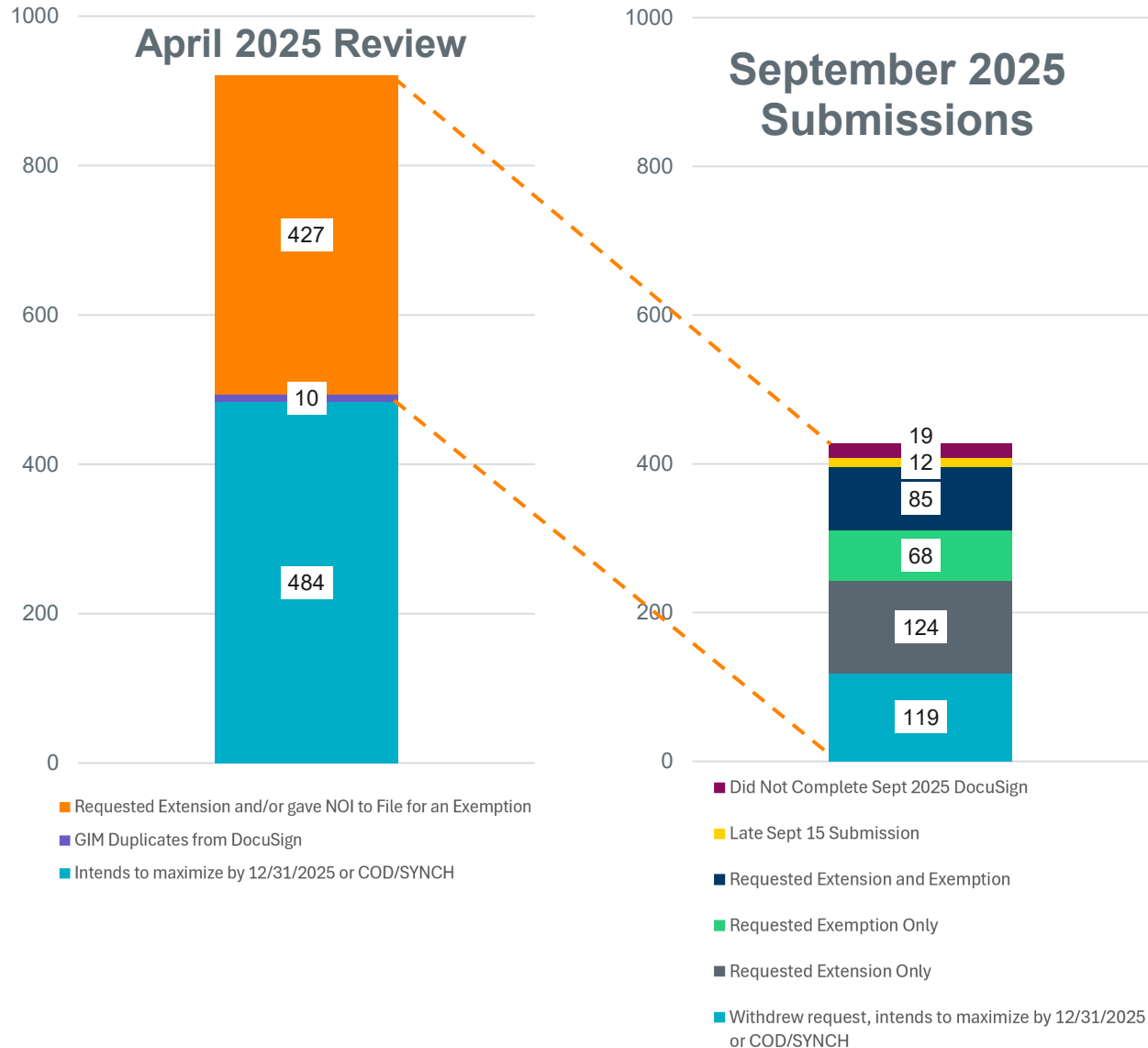
- Focus placed on inspecting new Resource Entities to assure familiarity and compliance with the PUC Weather Emergency Preparedness rule.
- Compliance levels have remained high with most deficiencies being corrected within days of discovery.
- Numbers reported are through August. With September inspections,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



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



- After processing April IBR responses, ERCOT issued a Market Notice highlighting deficiencies in submitted ride-through data and announced a new deadline of September 15, 2025, for IBRs to provide required supplemental data.
- To support stakeholders, ERCOT hosted a workshop in August with supplemental materials to assist IBRs in addressing identified deficiencies.
- Additionally, ERCOT provided a Resource-specific list of identified deficiencies to guide corrective actions for the September submissions.
- ERCOT is currently reviewing updated data submissions and will work with IBRs to correct potential data deficiencies in preparation for the reliability assessment.

Key Takeaway: 603 submissions (or ~60,000 MW) intend to maximize by 12/31/2025 or the Resource's Commercial Operations Date/Synchronization (COD/SYNCH).

277 submissions (or ~31,500 MW) requested an Extension and/or Exemption.

- 124 Extension only (~14,800 MW)
- 68 Exemption only (~7,000 MW)
- 85 Extension & Exemption (~9,700 MW)

