2024 RTP Economic Study Preliminary Results

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Summary

- ERCOT has developed the 2024 RTP economic base cases (2026 and 2029 study year).
    - Worked with LCG to improve the dispatch models for batteries.
- The next step is to evaluate the transmission projects to address potential economic needs for the ERCOT grid identified in the 2024 RTP economic study.
  – Evaluations based on Production Cost Savings Test, Generator Revenue Reduction Test and Congestion Cost Savings Test*.
  – The study will be completed by the end of this year.

* The evaluation results for Congestion Cost Savings Test will be presented for information only.

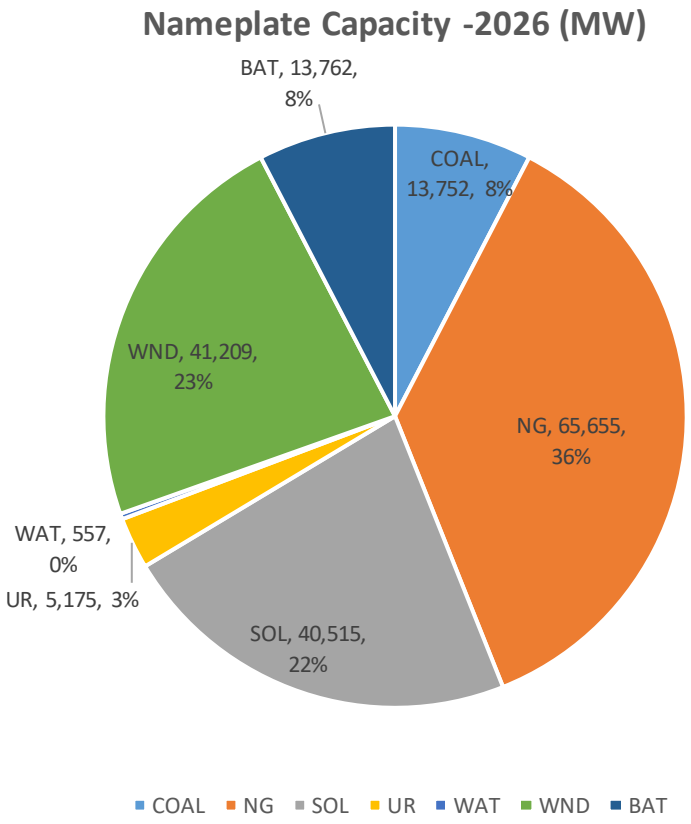
System Summary of 2026 and 2029 Economic Cases

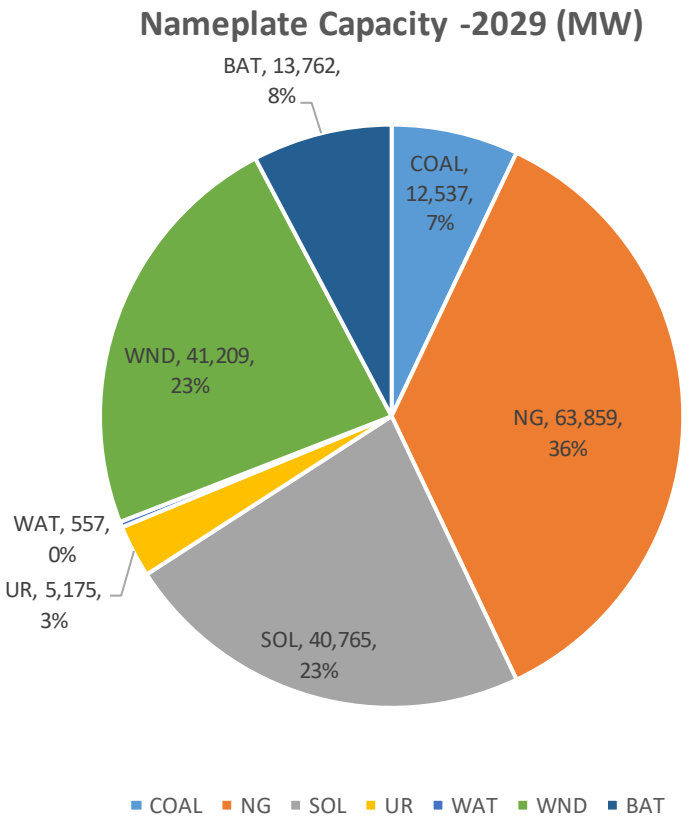
- The 2026 and 2029 economic cases were created based on the 2013 weather conditions.

Description	Unit	2026	2029
Coincident Peak Load	MW	90,702	94,410
Peak Net Load*	MW	72,285	78,477
Annual Served Demand	GWh	537,766	581,538
Annual Storage Charging	GWh	6,184	6,825
Annual Transmission Losses	GWh	12,880	14,523
Annual Generation	GWh	556,830	602,886
Load-Weighted Average LMP	$/MWh	25.67	28.21

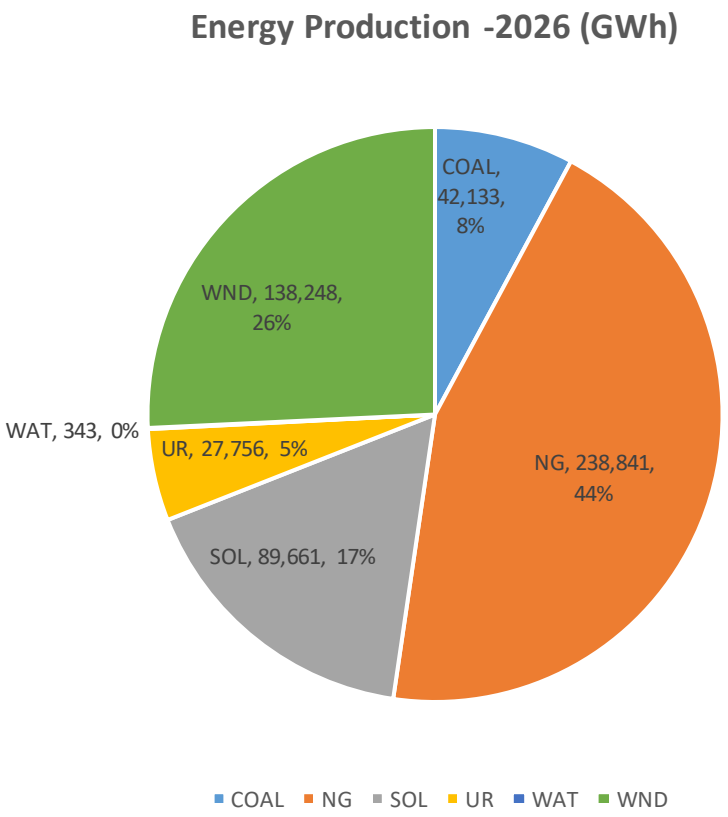
*Peak Net Load = Hourly Load Forecast – Hourly Wind Output – Hourly Solar Output

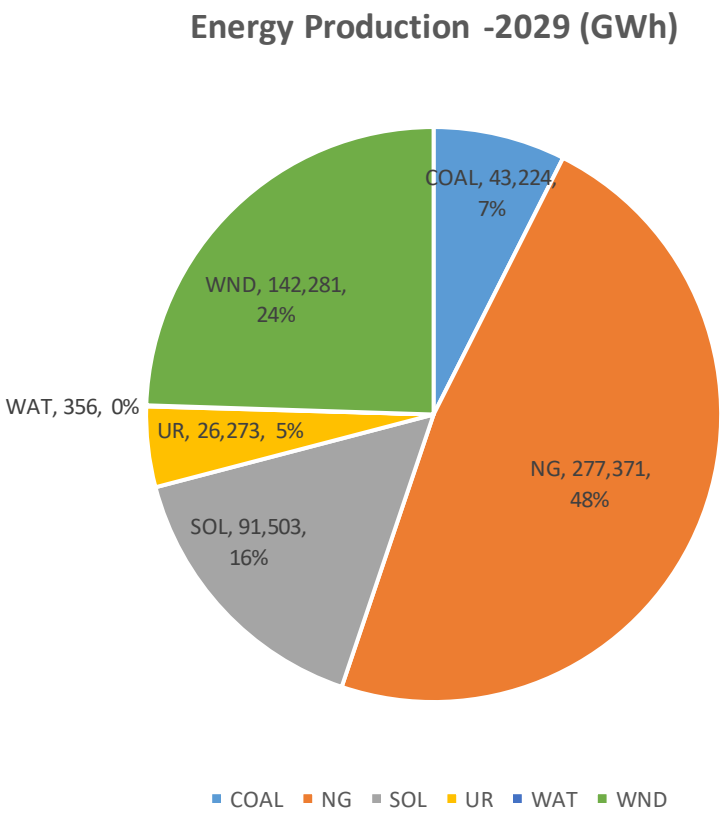
Nameplate Capacity per Fuel Type





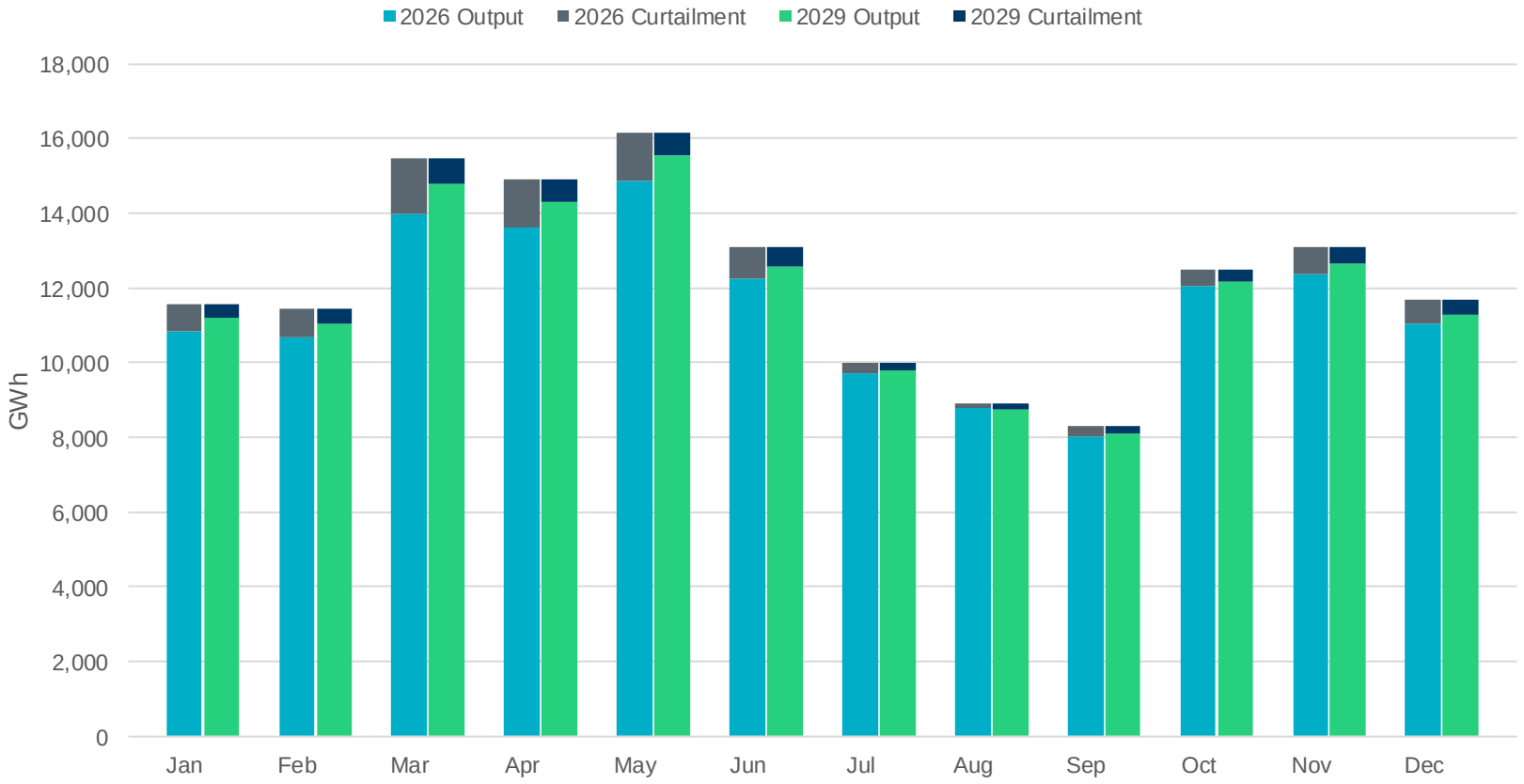
Energy Production per Fuel Type





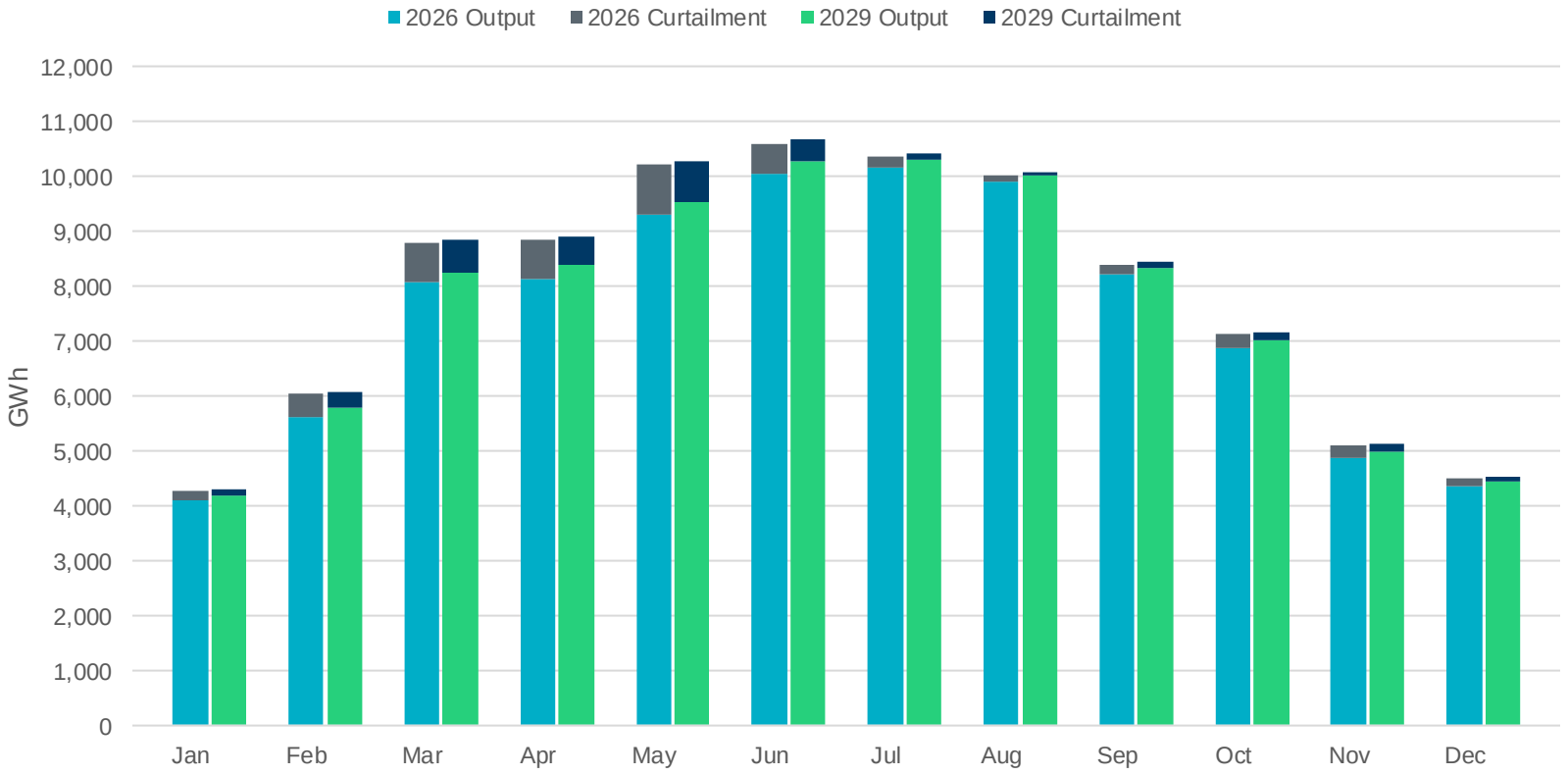
Wind Monthly Energy Production and Curtailment

- In the 2026 base case, wind generation resources produced 138,248 GWh of energy with 8,922 GWh (6.45%) of curtailment, while in the 2029 base case, wind generation resources produced 142,281 GWh of energy with 4,889 GWh (3.44%) of curtailment.



Solar Monthly Energy Production and Curtailment

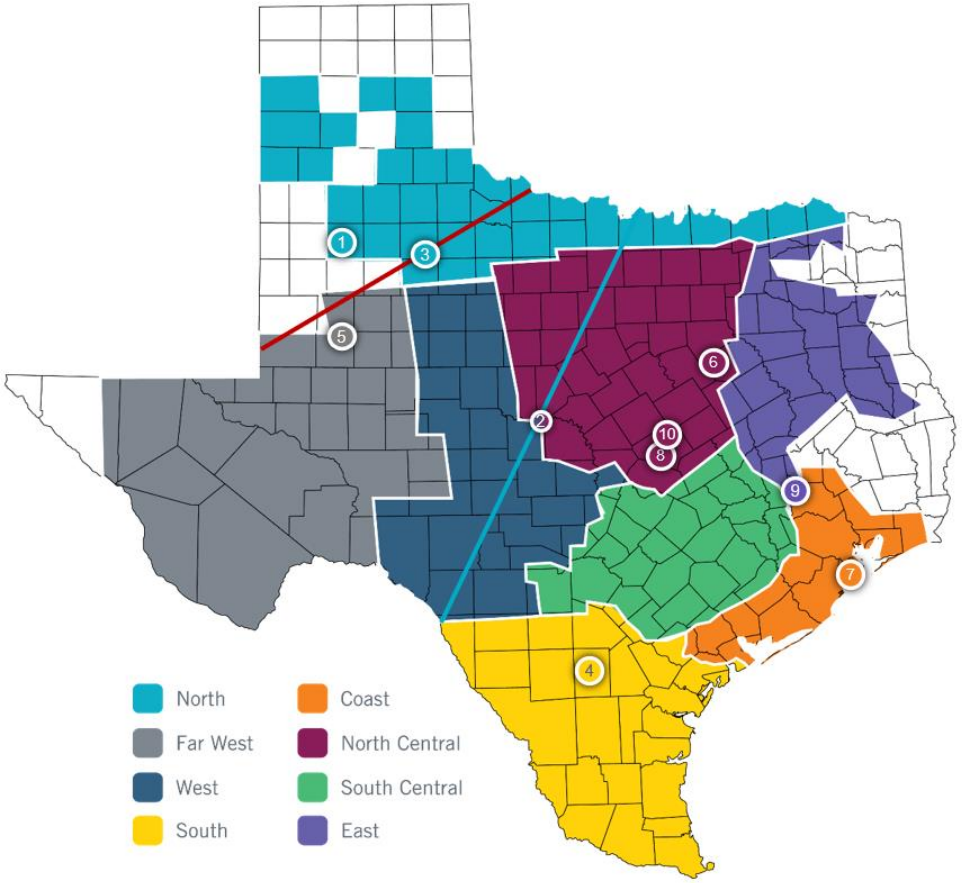
- In the 2026 base case, solar generation resources produced 89,660 GWh of energy with 4,585 GWh (5.11%) of curtailment, while in the 2029 base case, solar generation resources produced 91,503 GWh of energy with 3,308 GWh (3.62%) of curtailment.



Top Congested Constraints from 2026 and 2029 Study Years

- The total congestion rent for 2026 and 2029 is $1.1B and $928M, respectively.

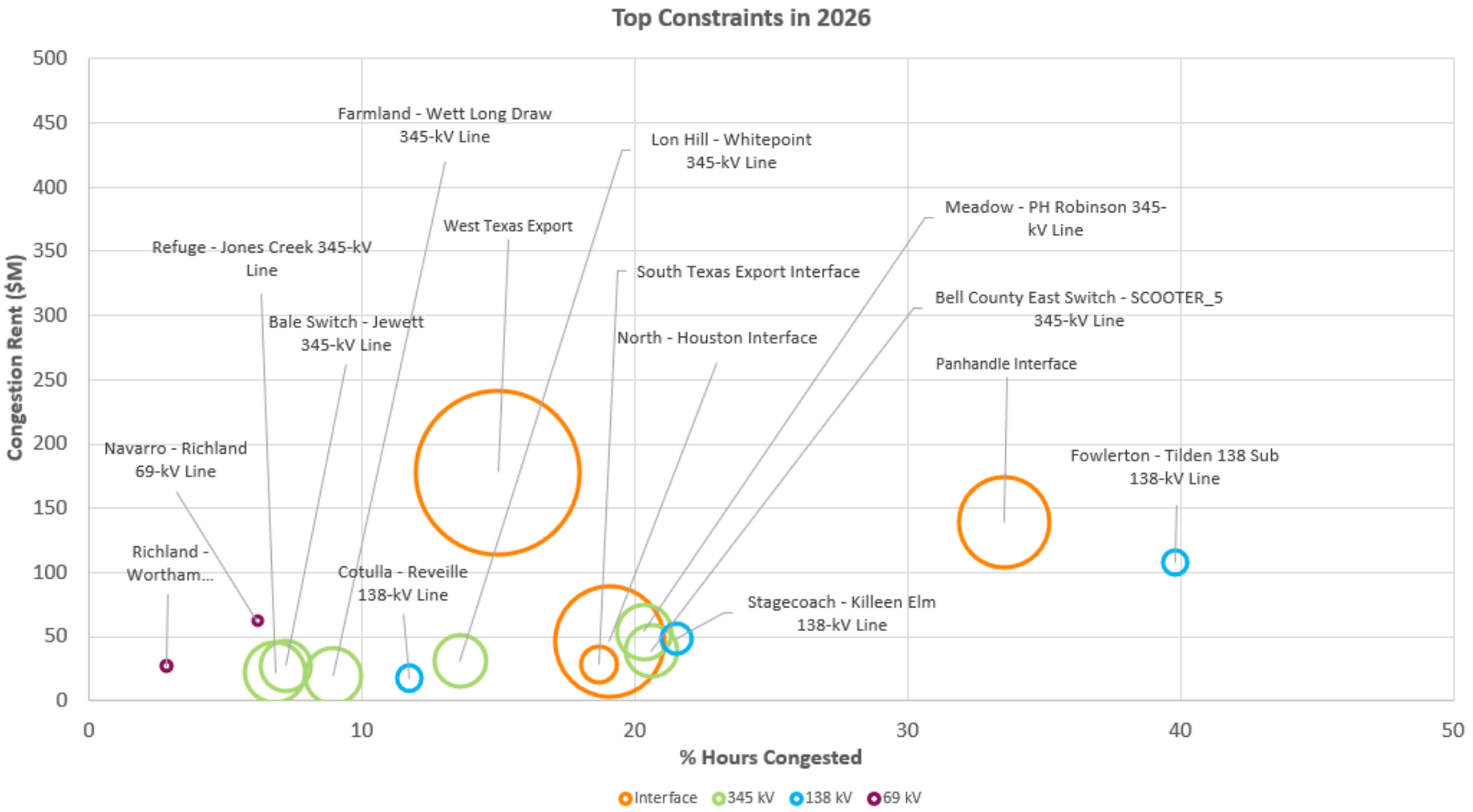
		Congestion Rent* ($M)	
Index	**Constraint**	**2026**	**2029**
1	MacKenzie Substation - Northeast Substation 115 kV Line	15	181
2	West Texas Export Interface	178	49
3	Panhandle Interface	139	100
4	Fowlerton - Tilden 138 Sub 138-kV Line	108	19
5	Farmland - Wett Long Draw 345-kV Line	19	64
6	Navarro - Richland 69-kV Line**	62	-
7	Meadow - PH Robinson 345-kV Line	54	42
8	Stagecoach - Killeen Elm 138-kV Line	49	24
9	North - Houston Interface	46	34
10	Temple North - Pepper Creek Switch 138-kV Line	-	40



*Congestion rent indicates areas of the system where economic transmission projects may be beneficial. It is not an indication of whether a project to reduce specific congestion would or would not meet the ERCOT economic planning criteria.
**A placeholder RTP proposed project (2023-NC39) was recommended in 2023 RTP to resolve the reliability issue on Navarro - Richland 69-kV Line in 2028.

Top Constraints – 2026

- For the 2026 base case, the top congested elements are four interfaces, six 345-kV elements, three 138-kV elements and two 69-kV elements.



Top Constraints – 2029

- For the 2029 base case, the top congested elements are three interfaces, five 345-kV elements, five 138-kV elements, one 115-kV element and one 69-kV element.

Key Findings

- Major interfaces continue to experience heavy congestions in 2026 and 2029, i.e., West Texas Export interface, Panhandle interface, North-Houston interface.
- As the power produced from the renewable resources in Panhandle is transferred to serve the growing loads in West and Far West, the constraint on MacKenzie Substation - Northeast Substation 115 kV Line in the Lubbock area becomes one of top congestions in 2029.

Questions

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