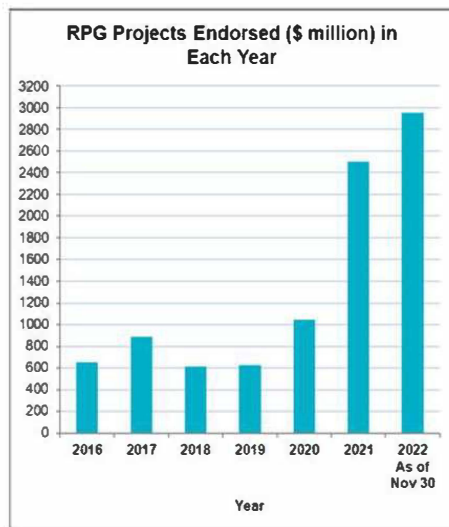
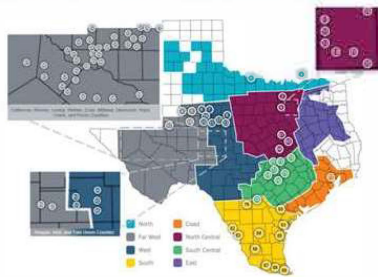


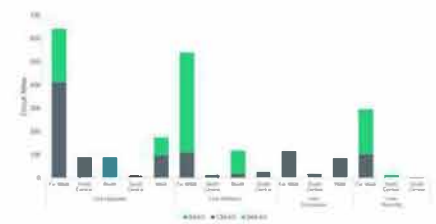
Texas Builds Plenty of Transmission



2022 RTP Reliability Project Locations



Line Upgrades, Additions, and Conversions

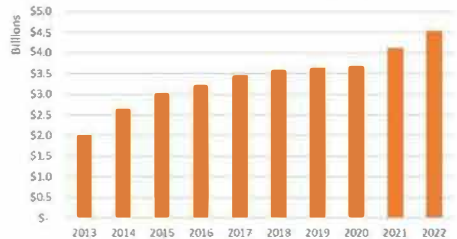


Planned Batteries

- There are about 150 batteries in-service or in the interconnection queue that have an interconnection Agreement.
- Average interconnection size is 75 MW.



Annual ERCOT Transmission System Cost



Congestion Signals Matter for Generation Siting, Project 18703 (1999)

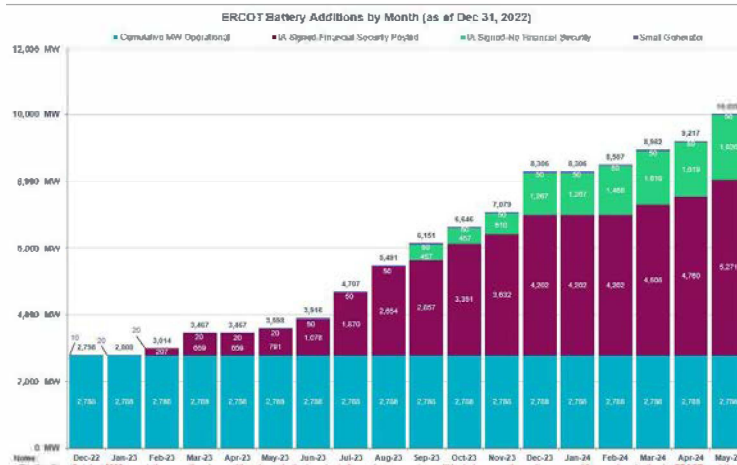
“If system upgrades were costs that a generation developer must bear, rather than an external cost, a developer would make more efficient decisions, from a societal perspective, with respect to siting of generation.”

“Simply the risks and delay inherent in the licensing process should create a self discipline that will deter developers from building new generation in areas that are likely to be seriously constrained. While the transmission upgrade costs would remain external costs, congestion and the risk of inadequate delivery capability would be internal costs and risks for the generation developer.”

“System upgrades are clearly transmission costs, but the licensing process and the risks inherent in it should be adequate to preclude the construction of generating facilities in areas where the costs of alleviating transmission constraints are significant.”

Battery Storage Development in ERCOT

- 2,808 MW of operational energy storage as of January 2023
 - 2,788 MW Interconnected at Transmission Voltage
 - 20 MW Interconnected as “Small Generator” (Distribution Voltage)
- 10,028 MW expected by May 2024
 - 50 MW of that interconnected as “Small Generator”



Source: ERCOT Dec. 2022

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Distribution-Interconnected Resources: Regulatory Treatment has been Uncertain

TDSP Interconnection Process

- No standardization of interconnection agreements. Each utility has developed its own agreement.
- Interconnection study process and timeline varies among utilities.
- Treatment of Interconnection Costs varies.
- Many of the TDSPs are proposing monthly tariff charges to be paid by DESRs for transmission service at distribution voltage.

All these uncertainties led to:

- Joint Petition for Initiation of a Project filed in PUC Project No. 52373 on March 3, 2022.
- PUCT Project No. 54224: Cost Recovery For Service To Distributed Energy Resources
- PUCT Project No. 54233: Technical Requirements and Interconnection Processes For Distributed Energy Resources

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Comparison of Utility Cost Treatment for Power Generation Companies

	Generator PGC	Energy Storage Resource (ESR) PGC
Transmission Voltage PGC Transmission Service Charges	No Monthly Tariff Charges for Transmission Service.	No Monthly Tariff Charges for Transmission Service
Distribution Voltage PGC Transmission Service Charges	No Monthly Tariff Charges for Transmission Service provided at Distribution Voltage	DSPs filing for Monthly Tariff Charges for Transmission Service provided at Distribution Voltage
Transmission Voltage PGC Interconnection Capital Costs	Generator Posts Collateral that is returned upon COD	ESR Posts Collateral that is returned upon COD
Distribution Voltage PGC Interconnection Capital Costs	DGRs typically required to pay capital costs up front through Contribution In Aid of Construction (CIAC) (some utilities may require security for a portion)	DESRs typically required to pay capital costs up front through Contribution In Aid of Construction (CIAC) (some utilities may require security for a portion)

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Legal Impact of Differential Treatment of DESRs

- PURA §35.004(b) provides:

“The commission shall ensure that an electric utility or transmission and distribution utility provides **nondiscriminatory access to wholesale transmission service** for qualifying facilities, exempt wholesale generators, power marketers, **power generation companies**, retail electric providers, and other electric utilities or transmission and distribution utilities.”

- PURA defines “transmission service” as including transmission service provided using distribution facilities. (PURA §31.002(20))
- Are DESRs receiving nondiscriminatory access to wholesale transmission service?

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