

Resource Adequacy in ERCOT

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The ERCOT Region

The interconnected electrical system serving most of Texas, with limited external connections

- 90% of Texas electric load; 75% of Texas land
- 74,820 MW peak, Aug. 12, 2019
- More than 46,500 miles of transmission lines
- 650+ generation units (excluding PUNs)

ERCOT connections to other grids are limited to ~1,250 MW of direct current (DC) ties, which allow control over flow of electricity





Impact of Reserve Margin on Consumers

\$26,900 **Economically Optimal Reserve Margin at 9.0%** \$26,700 Firm Load Shedding Regulation Shortages Non-Spinning Reserve Shortages **Lotal System Costs (\$M/year**) \$26,300 \$26,300 \$26,100 Spinning Reserve Shortages Price-Responsive Demand TDSP Load Management Non-Controllable LRs 30-Minute ERS 10-Minute ERS Emergency Generation External System Costs (Above Baseline) Production Costs (Above Baseline) Marginal CC Capital Costs \$25,900 \$25,700 4% 5% %9 7% 8% %6 10% 11%12% L3% 14%15%16%17%18%**ERCOT Reserve Margin (%)**

Total System Costs Across Planning Reserve Margins

A recent study indicates that a 9% reserve margin results in the lowest system cost to consumers.

This study also indicates that the current market design should support an 11% reserve margin as a long-run equilibrium.

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