



ERCOT Overview

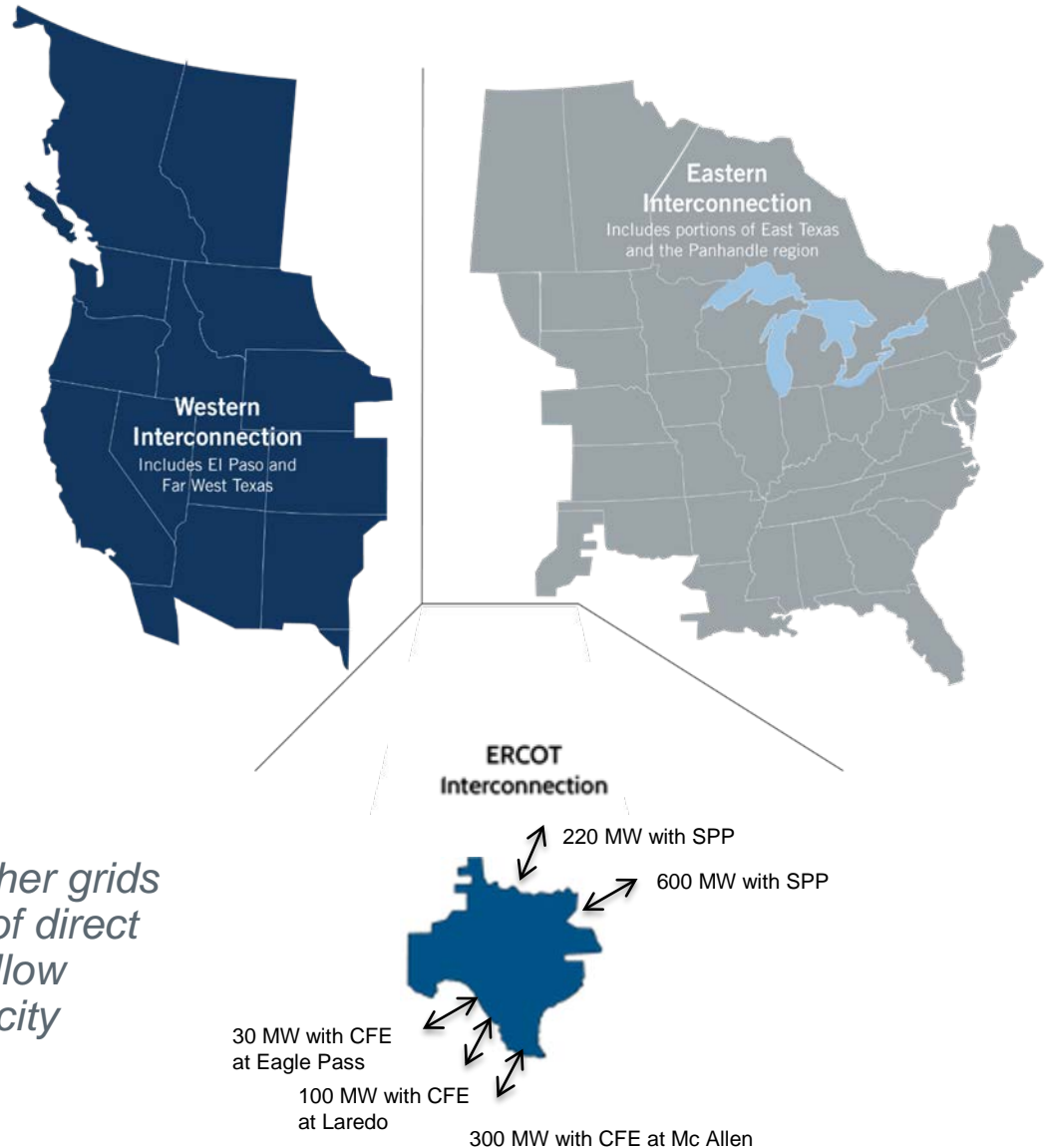
Kenneth Ragsdale
Market Design and Development
ERCOT

May 10, 2017

The ERCOT Region

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

- 90% of Texas electric load; 75% of Texas land
- 71,110 MW peak, August 11, 2016
- More than 46,500 miles of transmission lines
- 550+ generation units



ERCOT connections to other grids are limited to ~1250 MW of direct current (DC) ties, which allow control over flow of electricity

Current Records

Peak Demand Record: 71,110 megawatts (MW)

- Aug. 11, 2016, 4-5 p.m.

Weekend Record: 66,921 MW

- Sunday, Aug. 7, 2016, 5-6 p.m.

Winter Peak Record: 59,650 MW

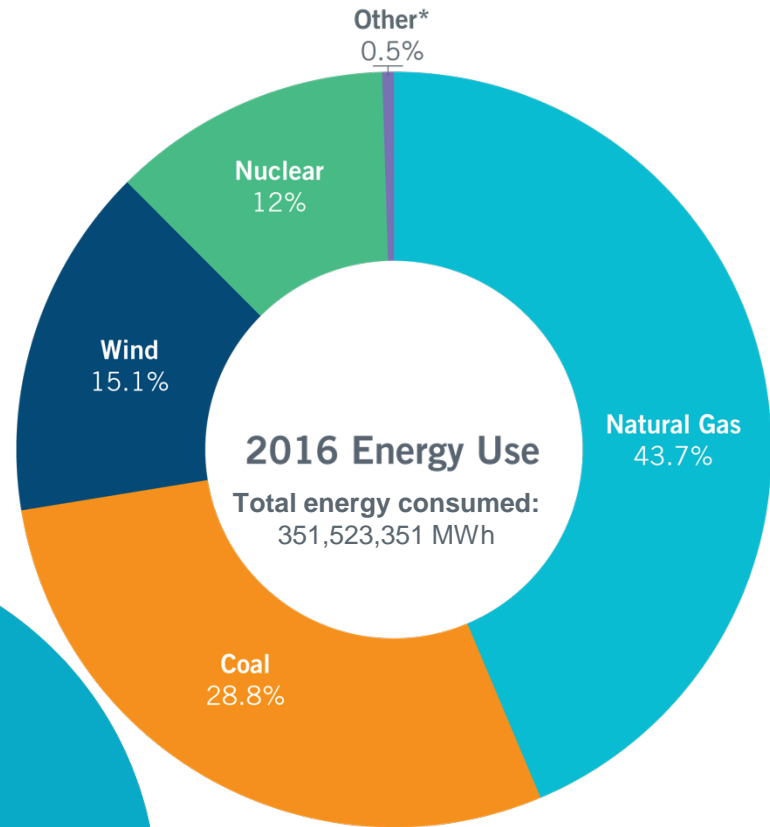
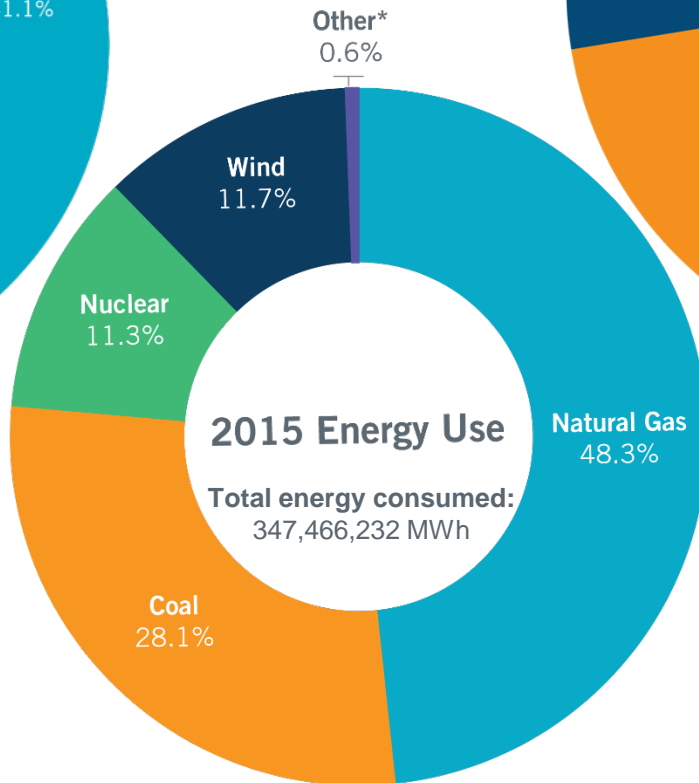
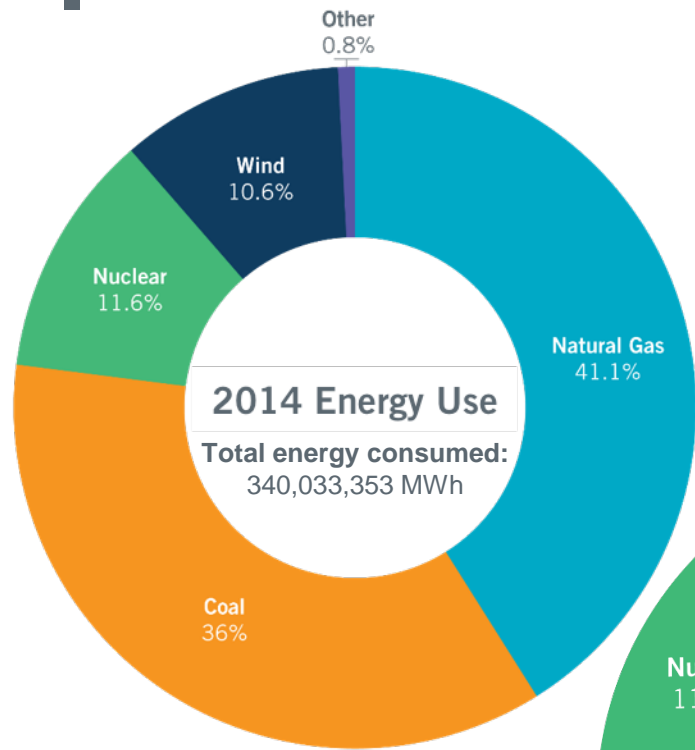
- Jan. 6, 2017, 6-7 p.m.

Wind Generation Records (instantaneous)

- Output: 16,022 MW
 - Dec. 25, 2016, 10:40 a.m.
- Penetration (load served): 50.00%
 - March 23, 2017, 3:50 a.m.
 - Total Wind Output = 14,391 MW

** Totals subject to change based on final settlement*

Energy Use Comparison



*Includes solar, hydro, petroleum coke, biomass, landfill gas, and DC Ties

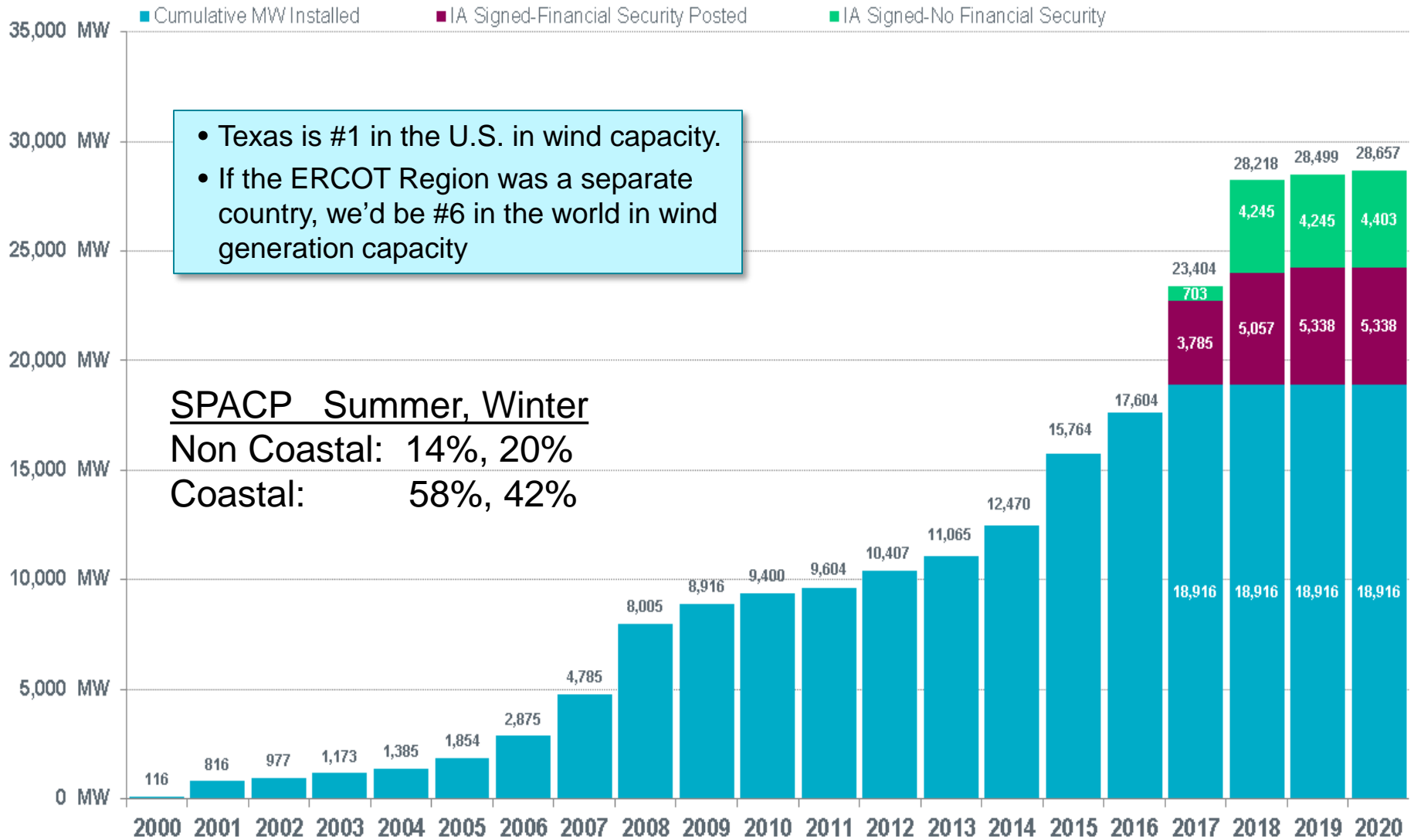
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Summary of Generation Interconnection Requests – May 1, 2017

Fuel Type	Screening Study (MW)*	FIS Pending or Completed (MW)	IA Executed, FIS Pending or Approved (MW)	Grand Total (MW) ***
Natural Gas	300	4,813	13,369	18,482
Coal	0	0	240	240
Wind	3,501	15,197	9,742	28,440
Solar	6,611	8,575	1,858	17,054
Compressed Air Storage	0	270	324	594
Battery	0	0	30	30
Total	10,412	28,855	25,573	64,840

Wind Generation Queue

ERCOT Wind Additions by Year (as of May 1, 2017)



- Texas is #1 in the U.S. in wind capacity.
- If the ERCOT Region was a separate country, we'd be #6 in the world in wind generation capacity

SPACP Summer, Winter
 Non Coastal: 14%, 20%
 Coastal: 58%, 42%

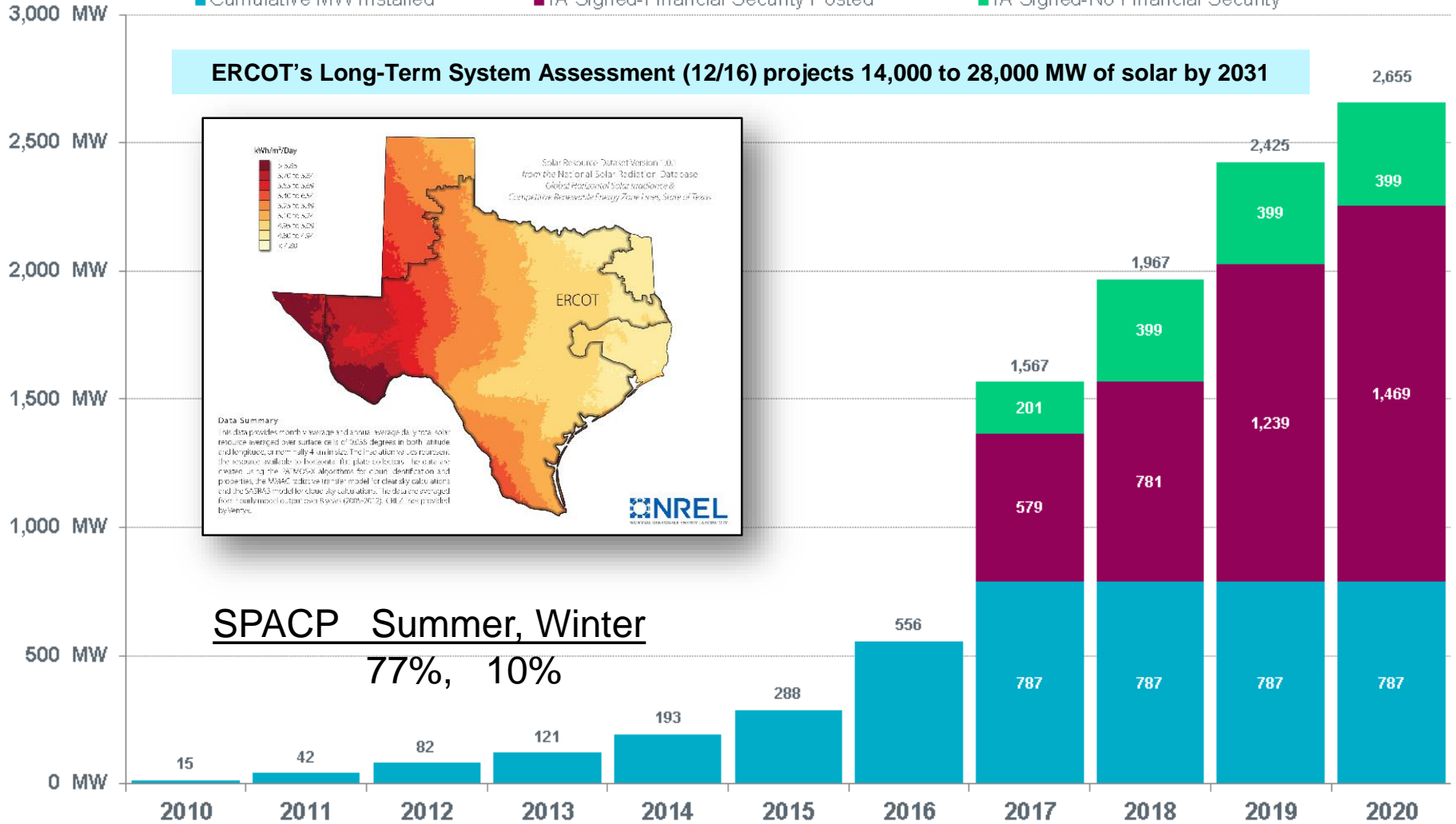


Utility Scale Solar Generation Queue

ERCOT Solar Additions by Year (as of May 1, 2017)

■ Cumulative MW Installed ■ IA Signed-Financial Security Posted ■ IA Signed-No Financial Security

ERCOT's Long-Term System Assessment (12/16) projects 14,000 to 28,000 MW of solar by 2031

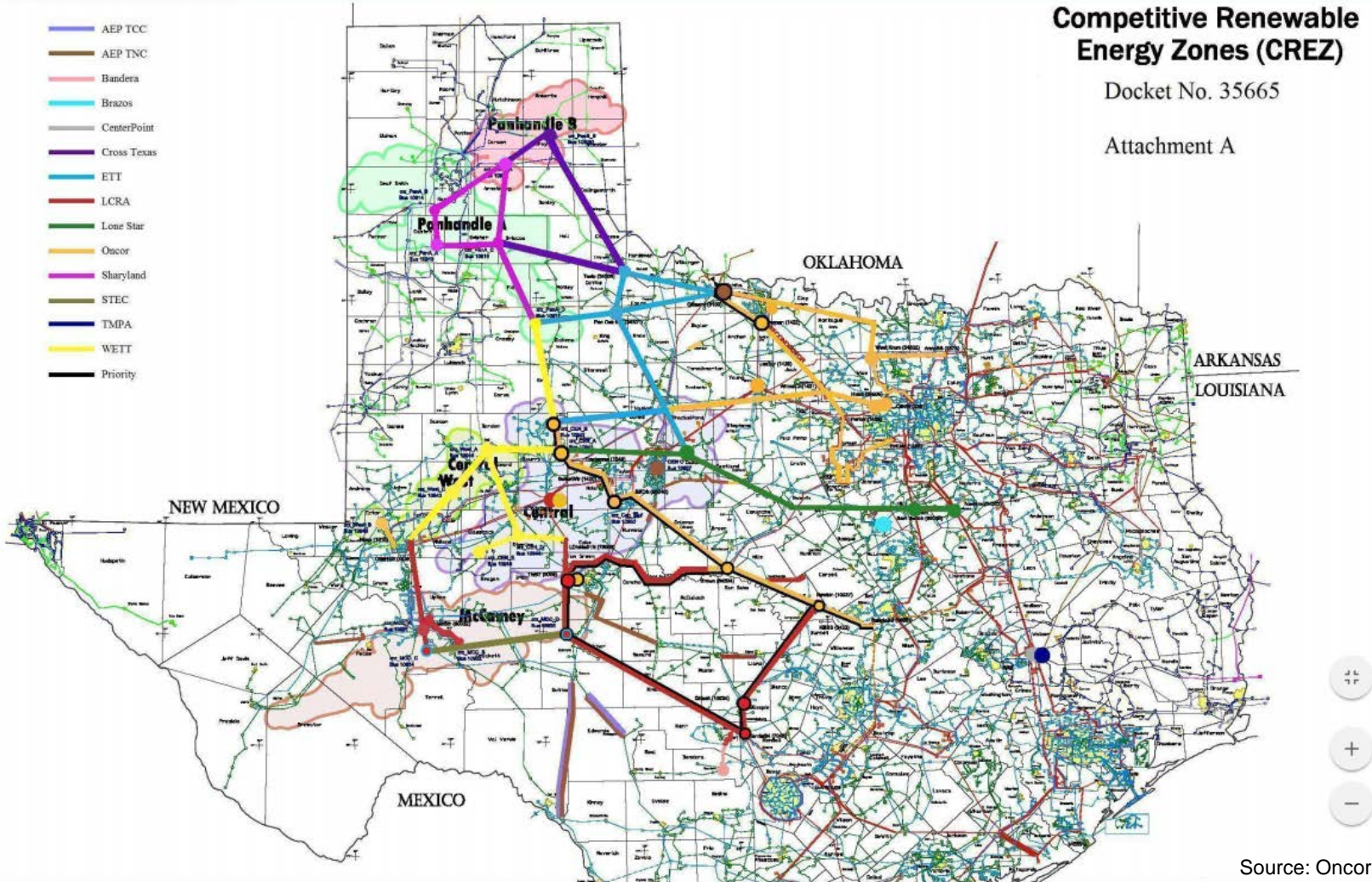


CREZ Transmission

Competitive Renewable Energy Zones (CREZ)

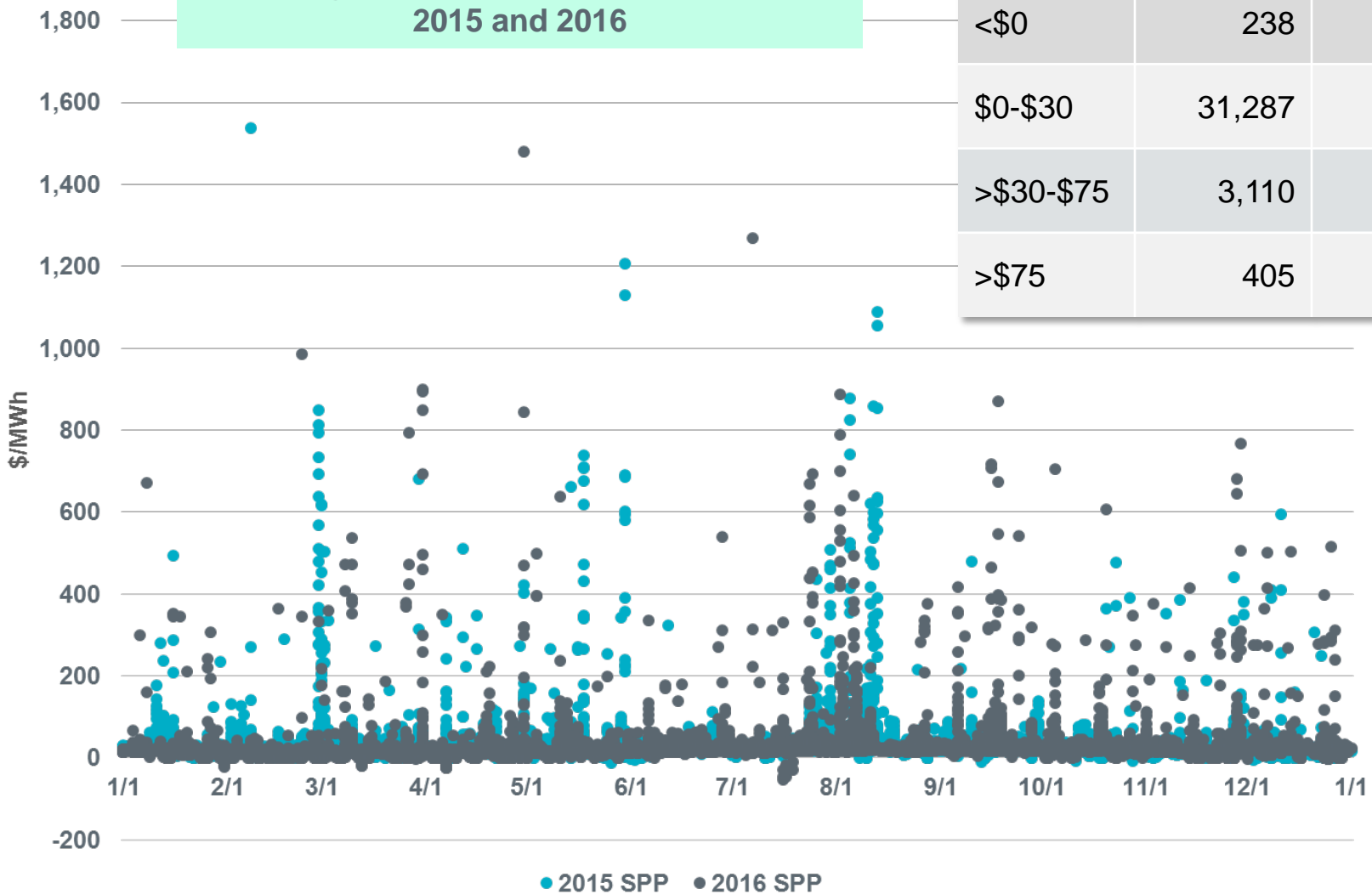
Docket No. 35665

Attachment A



Real-Time Energy Prices

HUB Avg 15-min. Settlement Point Prices
2015 and 2016



Intervals	2015	2016
<\$0	238	569
\$0-\$30	31,287	31,562
>\$30-\$75	3,110	2,605
>\$75	405	400





Questions?