ERCOT Renewable Impact

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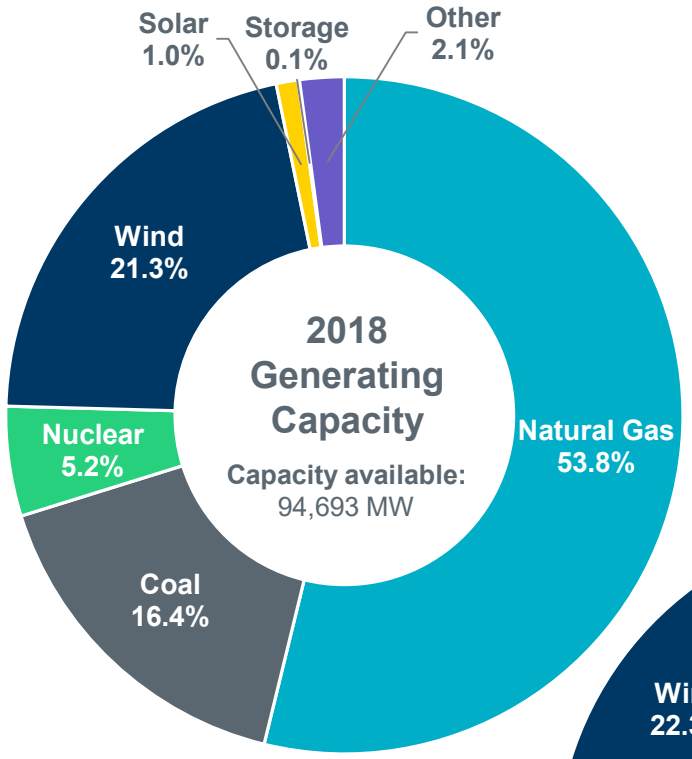
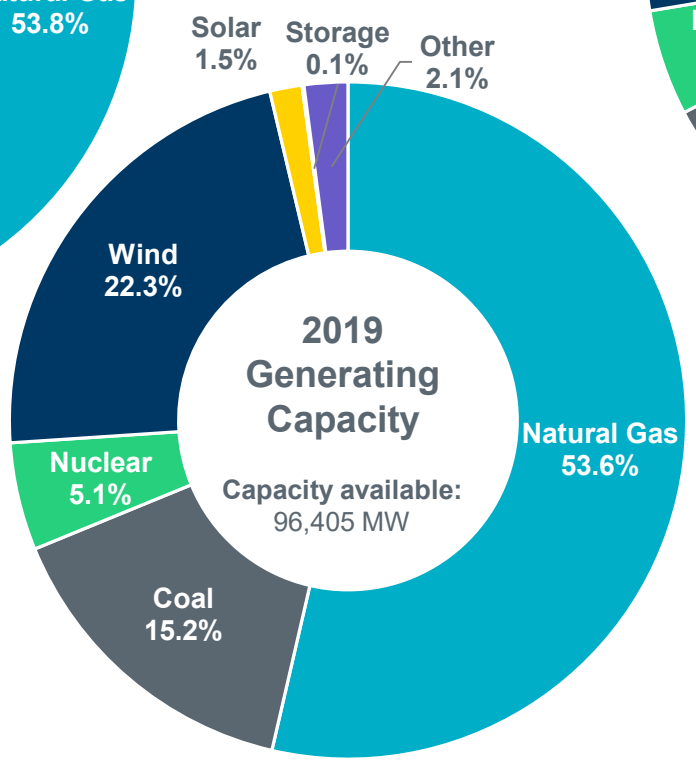
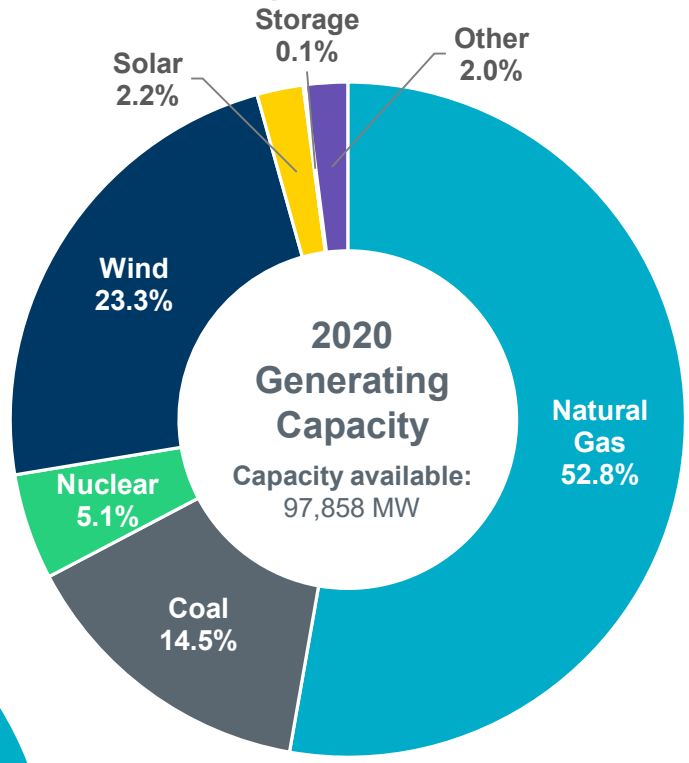
CDR Report: Longer-Term Outlook

- Planning reserve margin is expected to increase for summer 2020
- ERCOT region continues to experience above-normal load growth
- Peak load forecast for summer 2020 may exceed the record set in August 2019
- Majority of new generation projects are renewable and small, flexible gas-fired resources

Forecasted Summer Installed Resource Capacity in ERCOT

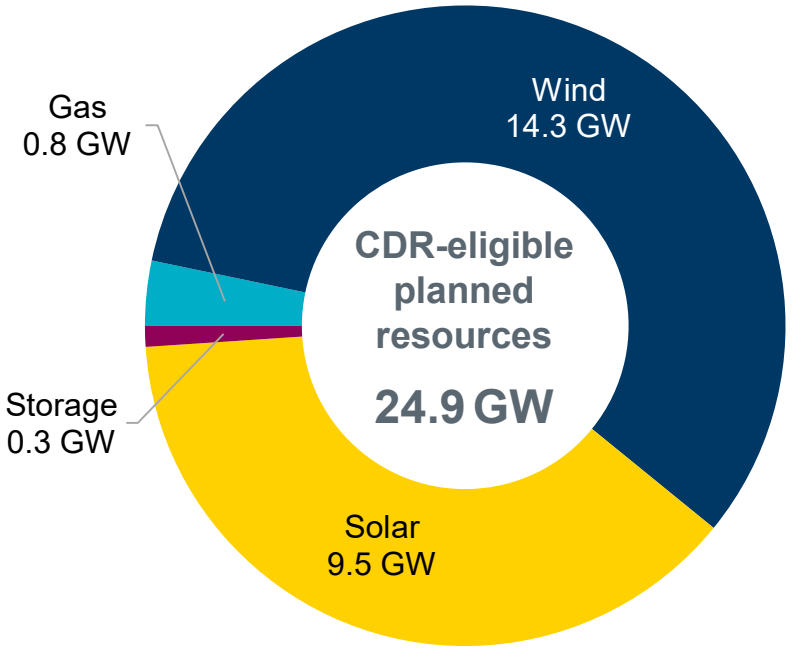


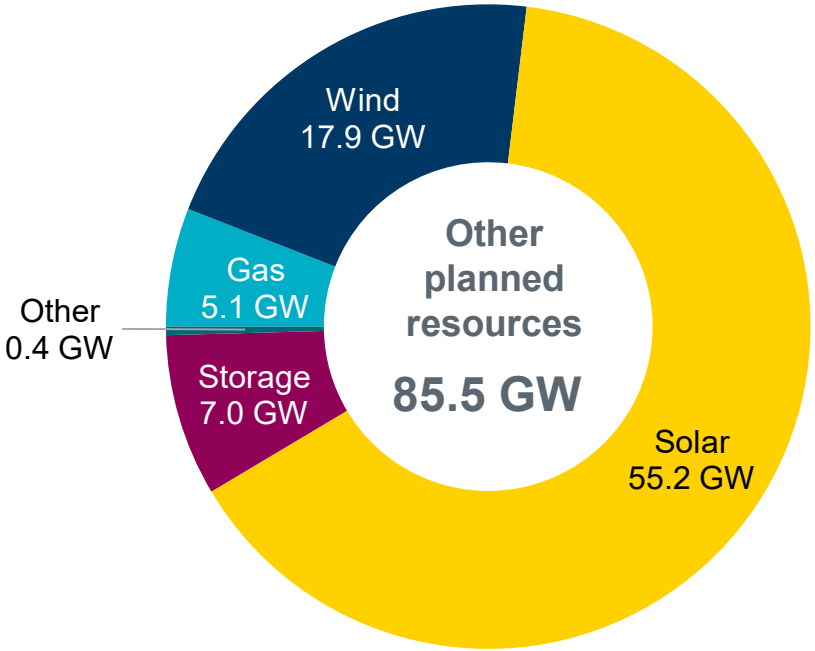




- *Summer installed generation capacity information provided by December CDR Reports for 2017, 2018, and 2019.*
- *Reflects operational installed capacity — excludes units designated as indefinitely mothballed or under extended outage, and accounts for rating changes reported by resource owners.*
- *Other category includes hydro, biomass-fired units, and DC tie capacity.*

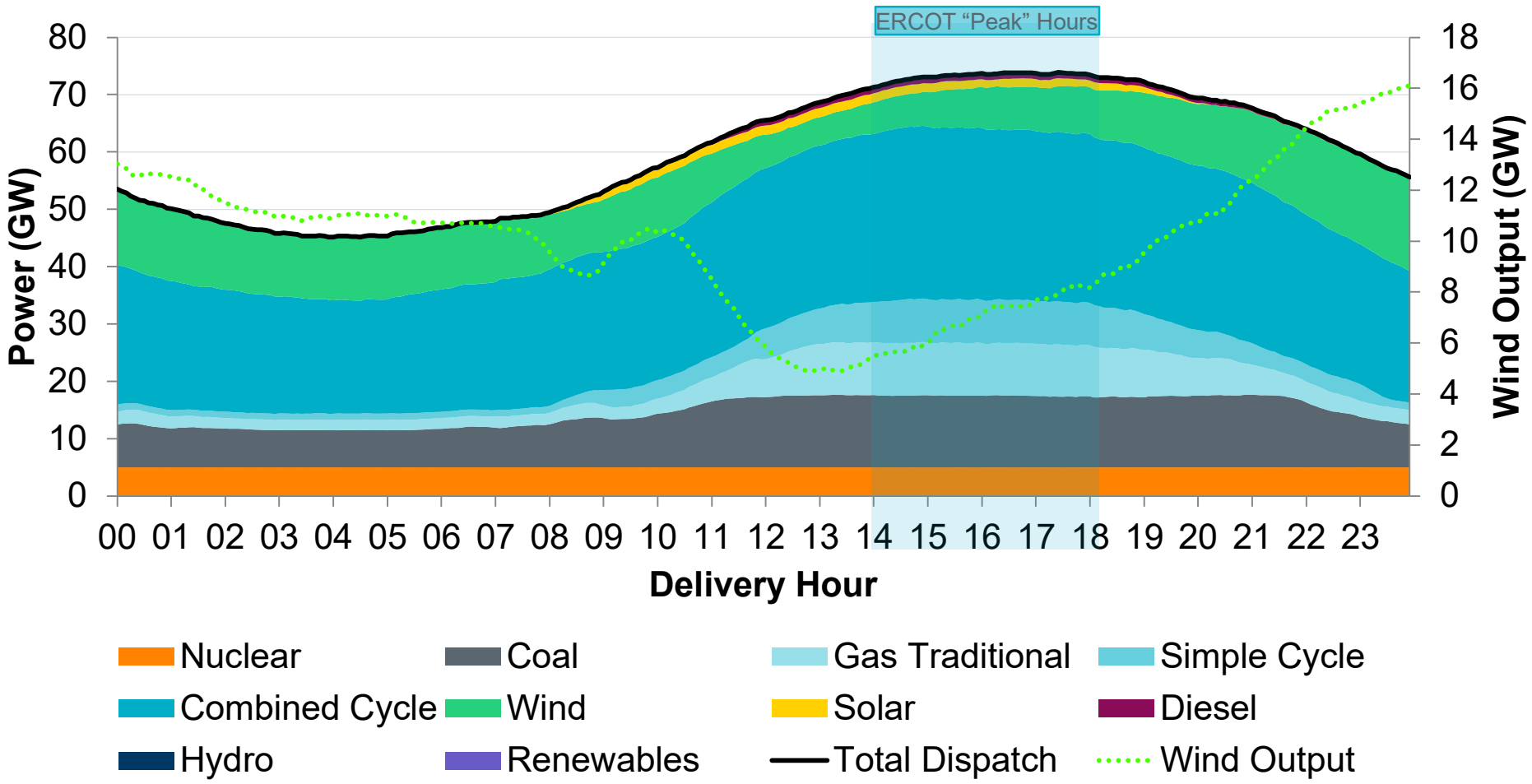
Looking Ahead: Planned Project Resource Mix



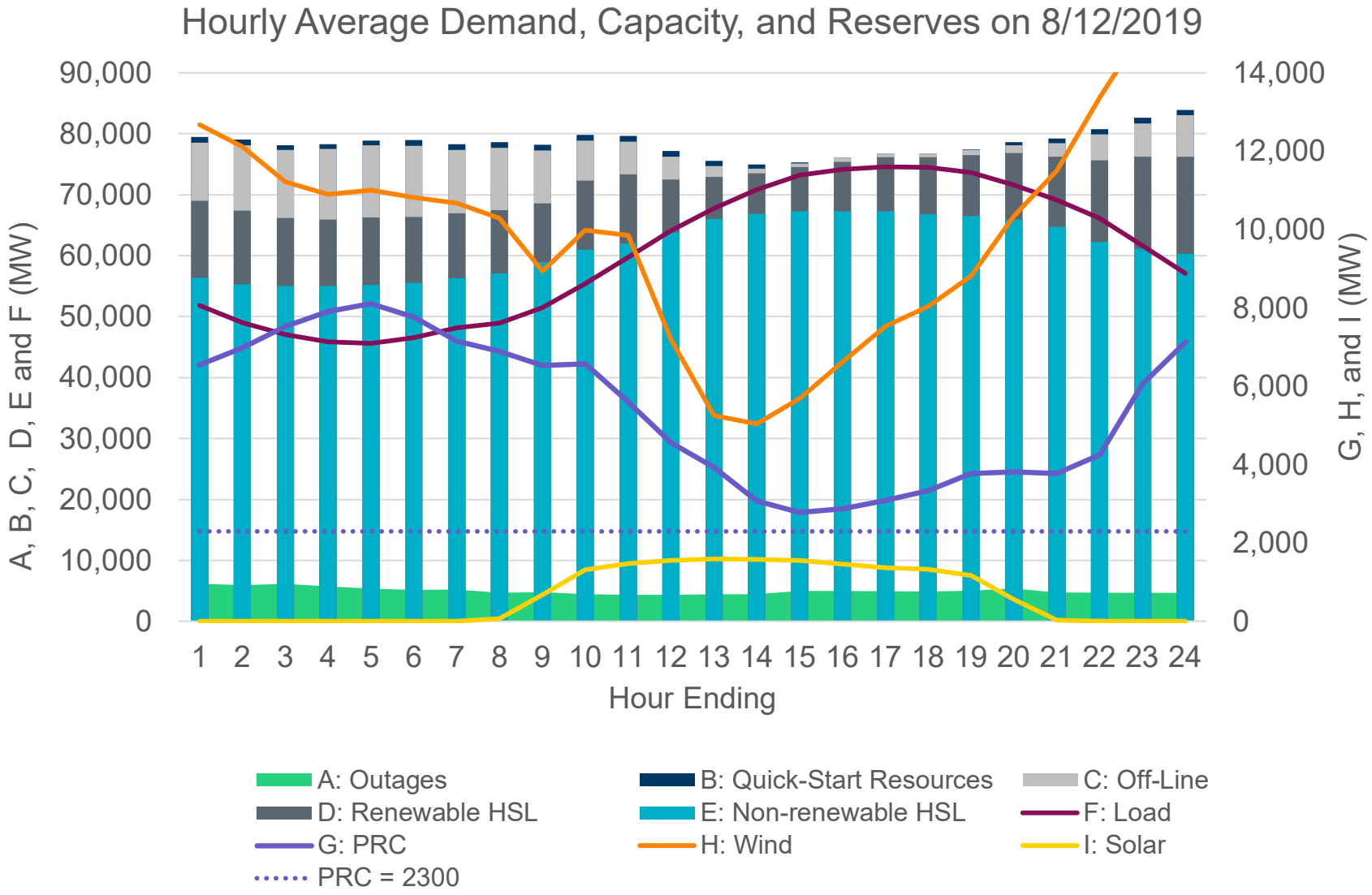


- *Installed capacity data from November 2019 GIS report.*
- **Other includes DC tie capacity, hydro, biomass, petroleum coke (pet coke), hydroelectric, fuel oil, geothermal energy, other miscellaneous fuels reported by developers, and fuel cells that use fuels other than natural gas.*

Closer Look at Peak Demand Day of Aug. 12



Closer Look at Aug. 12 – Peak Day



Experienced Tight Conditions in 2019

Peak Demand Record: 74,820 megawatts (MW)

- August 12, 2019, 4-5 p.m.

Weekend Peak Demand Record: 71,930 MW

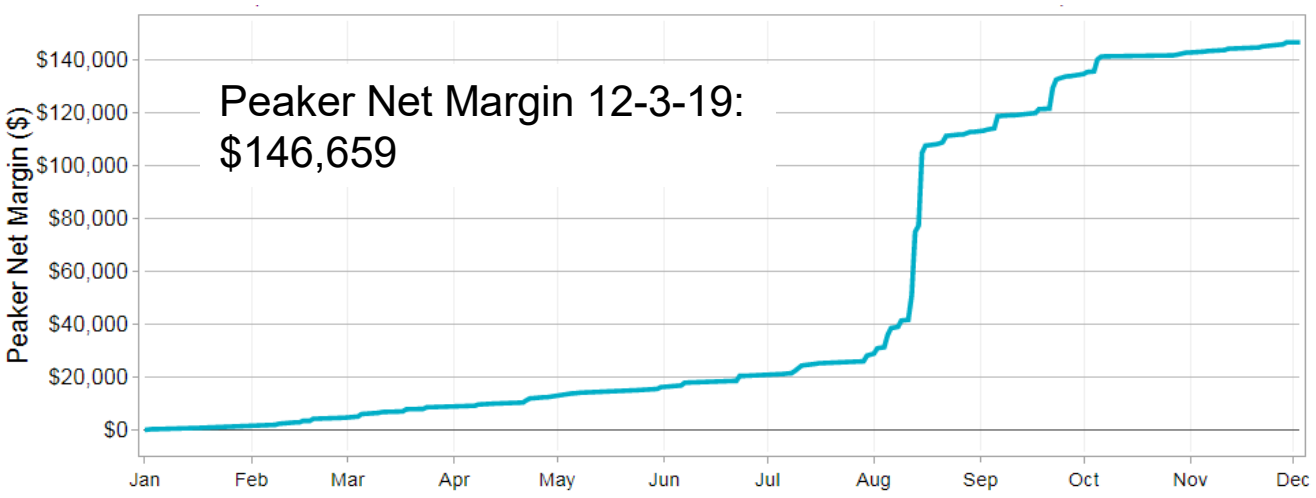
- Sunday, August 11, 2019, 5-6 p.m.

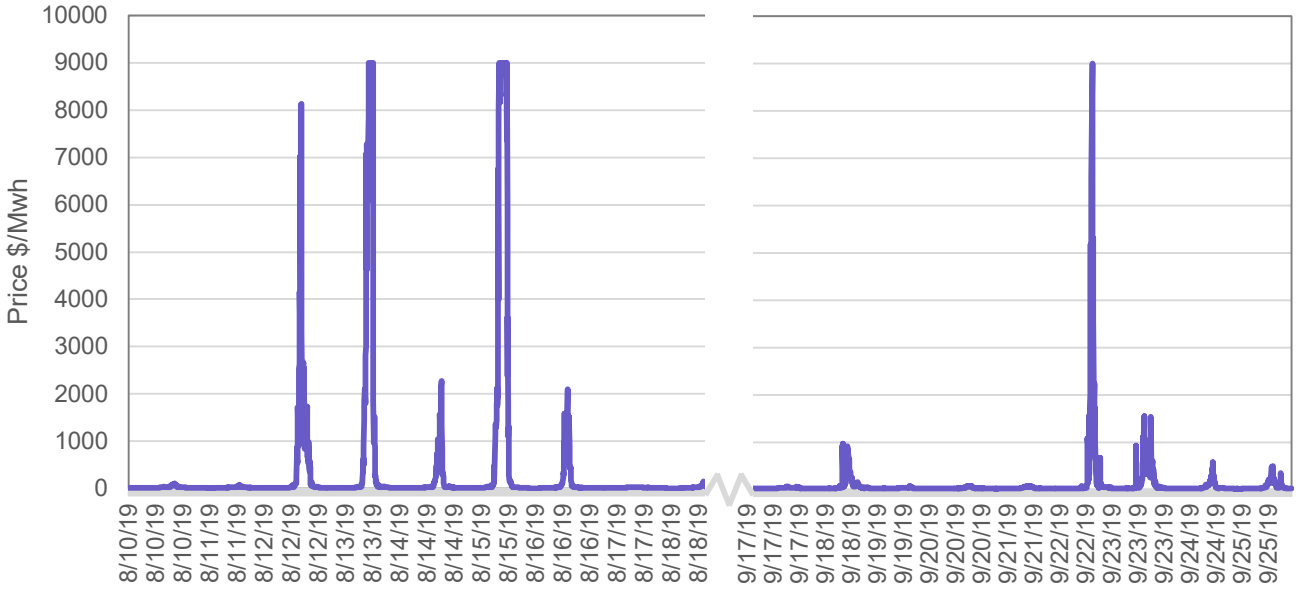
Winter Peak Demand Record: 65,915 MW

- Jan. 17, 2018, 7-8 a.m.

Wind Generation Records (instantaneous)

- Output: 19,672 MW
  - Jan. 21, 2019, 7:19 p.m.
- Penetration (load served): 56.16%
  - January 19, 2019, 3:10 a.m.
  - Total MW Served by Wind = 17,406 MW





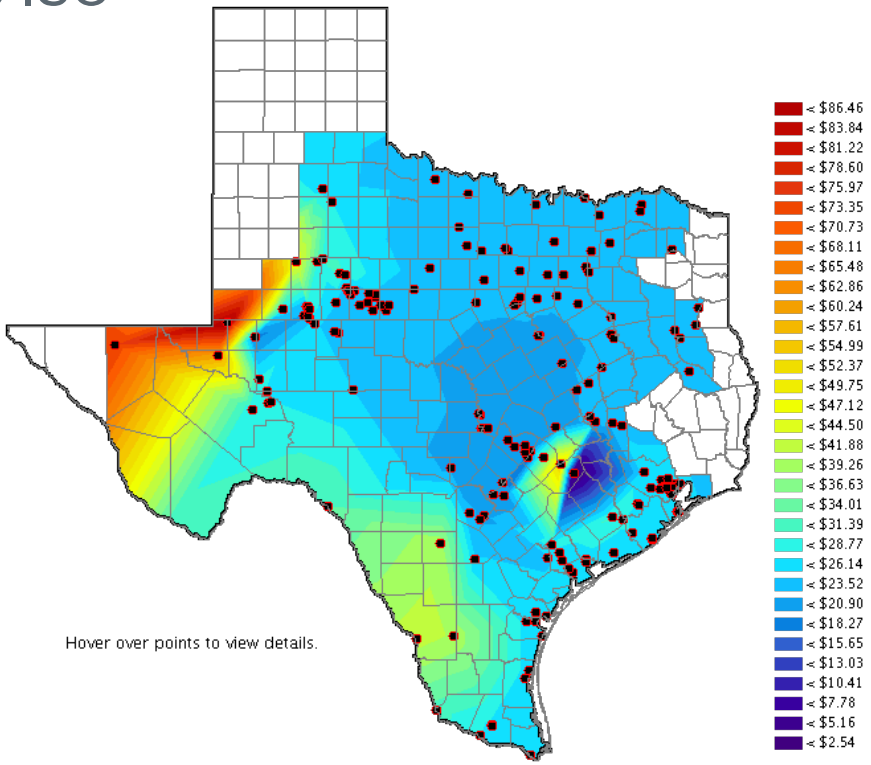
*Price is System Lambda + price adders

Battery Energy Storage

- Expect an increasing number of Energy Storage Resources to be built
- ERCOT Goals for integrating Energy Storage Resources include:
  - Increase system awareness of storage device operation and limitations in the control room
  - Identify and reduce barriers to energy and ancillary service markets
  - Adapt ERCOT system models to facilitate the integration of storage technologies
- The development of operational and market design policies to include Energy Storage Resources is being considered in the Battery Energy Storage Task Force (BESTF)
  - Will be implemented in the short term under a “combination model” structure
  - Developing rules to use a “single model” structure long-term

ERCOT Goals for Managing DERs on the Grid

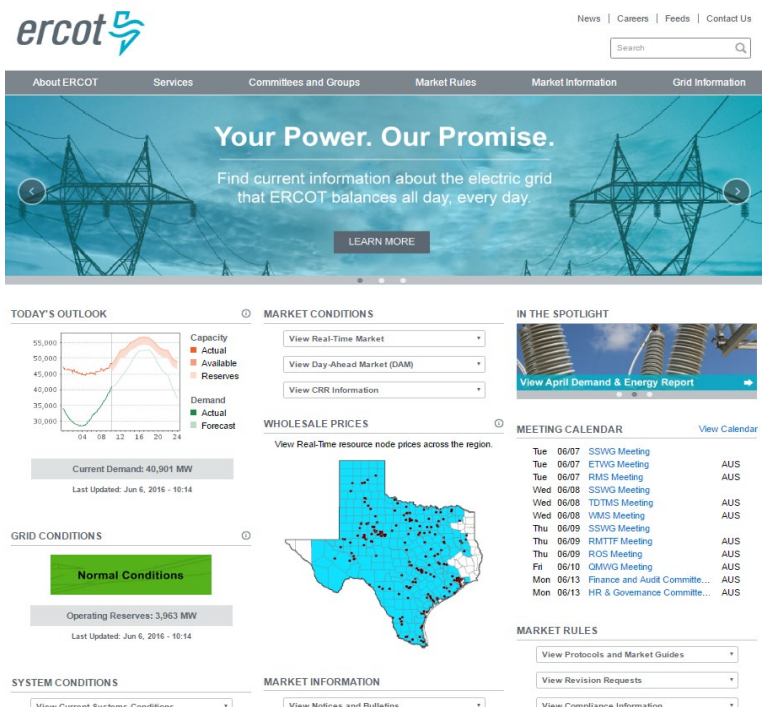
- Improved reporting
- Mapping of larger DERs to the transmission grid
  - Requires cooperation among TSPs, DSPs, REs and the ISO
  - Will improve situational awareness
  - Underway now
- Nodal pricing for larger DERs
  - Registered DGs (>1 MW) currently are paid Load Zone price
  - Local price signals would enhance reliability and would align DER behavior with overall market design.



ERCOT Communication Channels

ERCOT website – www.ercot.com

- Today's Outlook and grid conditions
- Daily and seasonal weather
- Market information, prices and more



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- LinkedIn: ERCOT

ERCOT mobile app

- Real-time updates
- Wholesale pricing
- Information sharing