ERCOT GCPA Spring Conference

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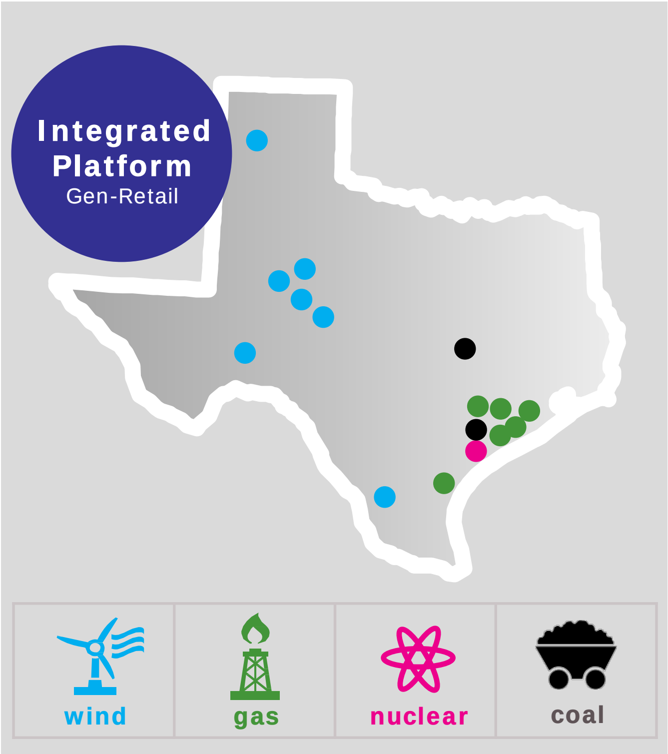
NRG in ERCOT – A Balanced Portfolio



Largest Retailer

~2.1 Million Mass Retail Customers Served
Reliant – Leading Retail Brand
35 TWh Mass Load Served
18 TWh C&I Load Served

Second Largest Generator

~10,100 MW total thermal generation
700 MW wind generation
~1,500 MW under development wind and solar

Significant Presence

Close to **3,000** employees
~$1.5B capital invested in past 3 years

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Texas Energy Policy

Vast resources

Diverse natural resources (gas, oil, wind, solar)

Embrace competition

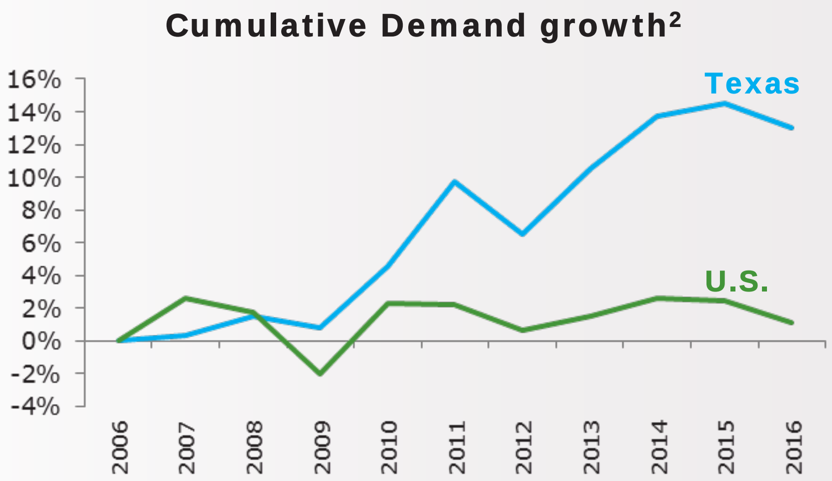
A pro-business government and regulatory environment

Transmission focused

Policy to bring vast resources to market

Thriving economy

Strong population and electric demand growth



[1] Source: ERCOT CDR's; Reserve margins based on the Dec CDR update prior to the year in question. [2] Source: EIA; TX demand includes the entire state

Current Market Concerns

1 **Price Formation**

2 **Renewables**

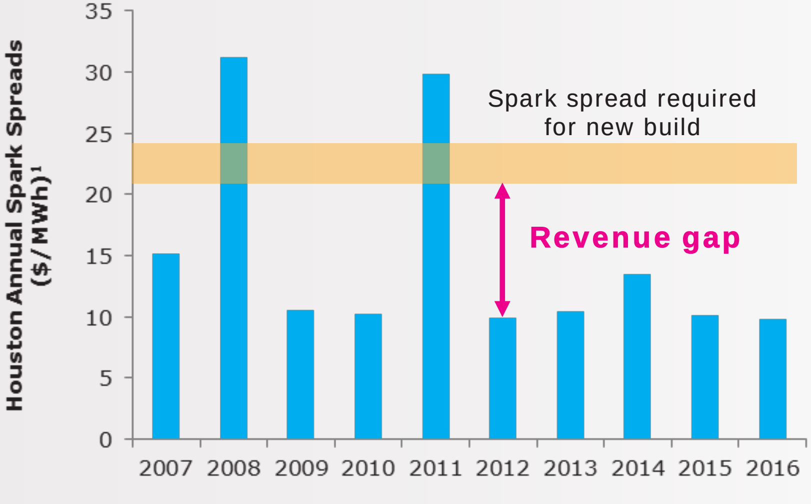
3 **Transmission**

- Annual transmission spend has increased 4x since 2002
- Inherent preference for transmission over market solutions
- Consumers bear the burden of these increasing costs

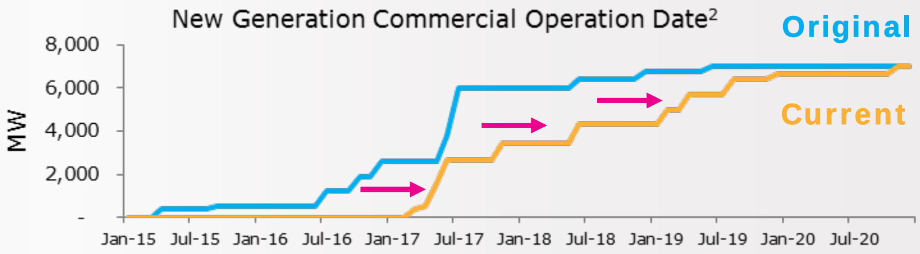
Changes are needed today to ensure
a sustainable market structure in the future

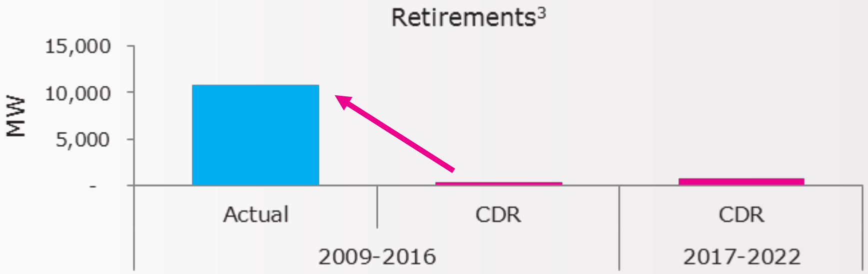
1 Price Formation

Market prices do not incentivize new dispatchable generation, now and haven't for the past five years…



…delaying new projects and putting existing generation at risk



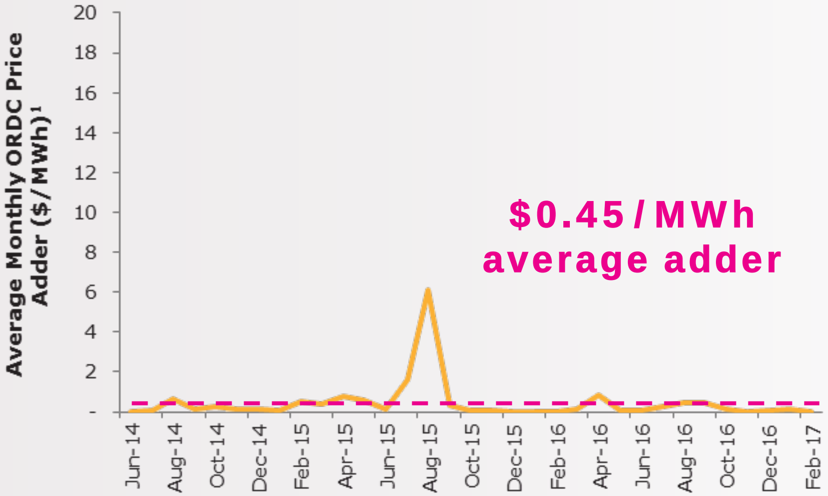


Prices insufficient to attract or maintain dispatchable generation

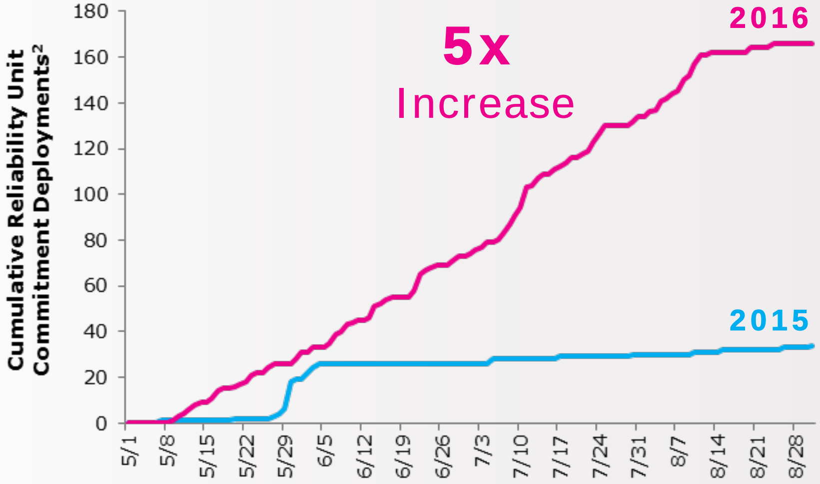
[1] Source: ERCOT, NRG estimates; Spark spreads based on actual real time on-peak clears vs HSC GDA.. Spark spread needed for new build based on the revenue requirement for a 6.8 HR NGCC at $800/kW. [2] Source: ERCOT GIS reports; Graph includes only those assets that are listed as new thermal generation in the Dec 2016 CDR. [3] Source: Energy Velocity, ERCOT CDR's; CDR retirements represent retirements identified in prior and current CDR's.

1 Price Formation – Additional Concerns

ORDC has not provided the right price signals…



…resulting in significant out-of-market actions by ERCOT

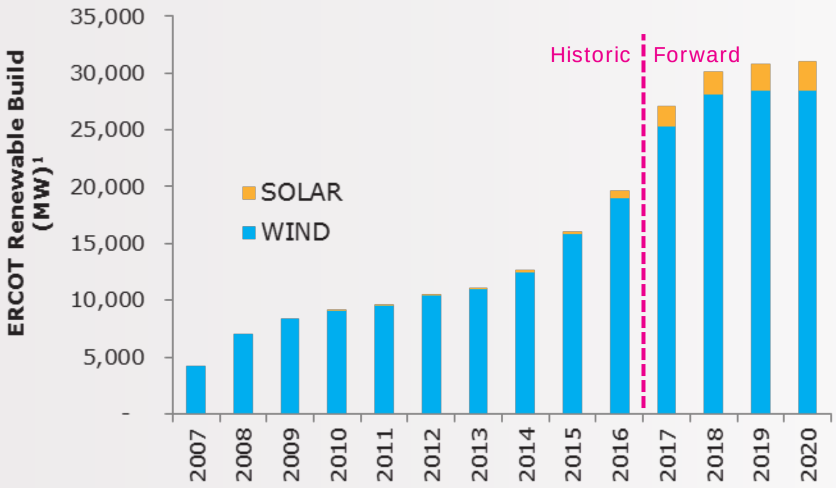


Improvements in price formation are needed

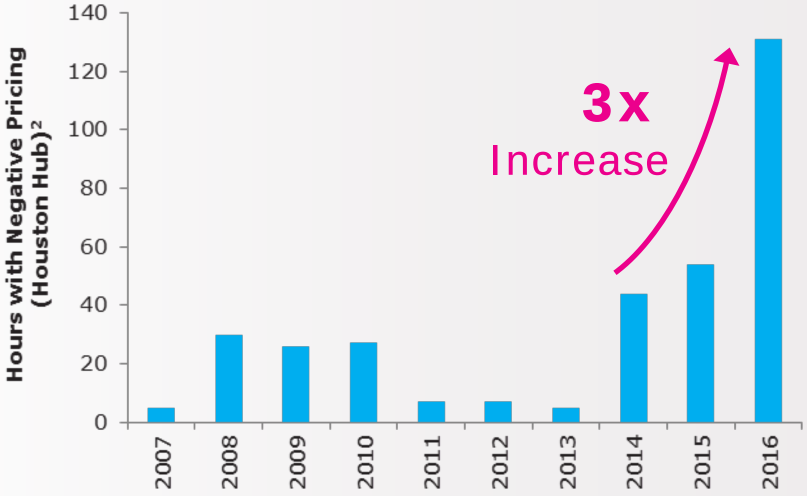
[1] Source: ERCOT [2] Source: ERCOT; Each count represents one resource RUC 'd per day

2 Renewables

Wind is growing rapidly and will make up ~30% of total capacity by 2020…



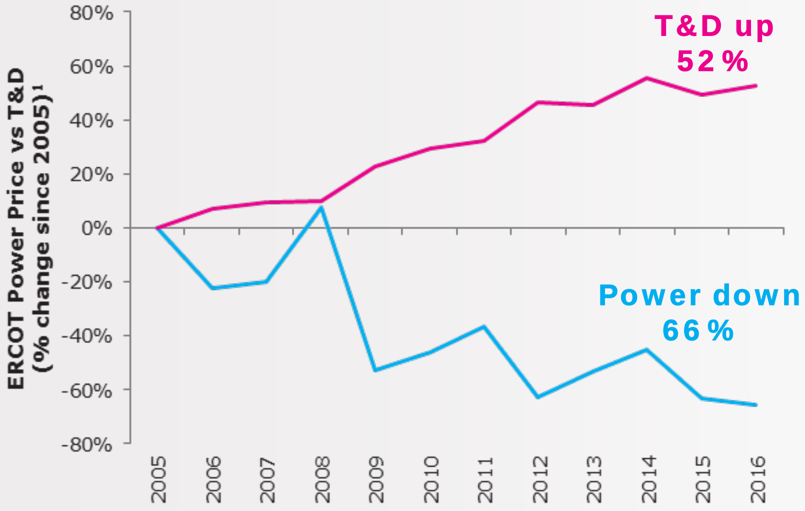
…increasing significantly the frequency of negative prices



Abundant wind is causing substantial disruption to marginal cost price formation…and more is coming

[1] Source: ERCOT December 2016 CDR; Numbers based on the COD year of new and existing wind and solar resources in the Dec 2016 CDR [2] Source: ERCOT

3 Transmission



- Electric policy has been centered around a robust transmission system to bring ERCOT's vast resources to the market
- Transmission costs are socialized across consumers
- Transmission and distribution charges to residential consumers up over 50% since 2005
- More efficient, market-based solutions should be considered beyond transmission

Increasing transmission costs keep consumers from realizing the value of competition in reducing their electricity bill

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[1] Source: ERCOT, Centerpoint; Power price represents the Houston average RT on-peak power price. T&D price represents the average cost/MWh for a residential customer in the Centerpoint service territory assuming 1,000 kWh monthly usage.

Recommendations

Price Formation

Renewables

Transmission

1. Improve ORDC price signal and implement locational component
2. Include marginal losses in ERCOT prices
3. Minimize the use of out-of-market actions
4. Address mitigation rules for RMR units
5. Balance transmission investment with market-based solutions

Changes are needed today to ensure
a sustainable market structure in the future

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