

Priorities for the Evolution of an Energy-Only Electricity Market Design in ERCOT

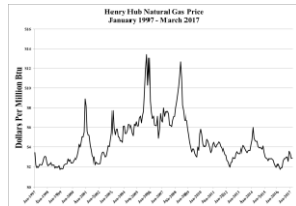
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Austin TX

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FACTORS AFFECTING ENERGY-ONLY PRICES IN ERCOT

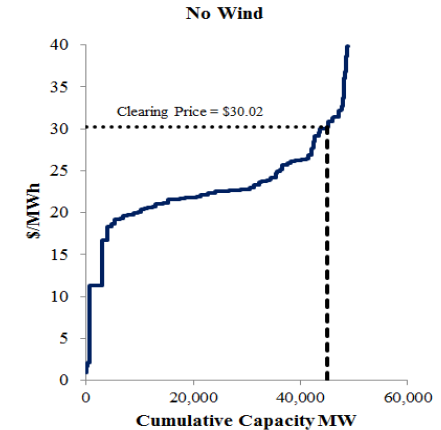
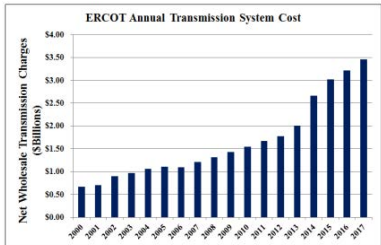
Are prices incenting efficient entry and exit of suppliers, including dispatchable generation?



Macro-Economy

- Declining gas prices

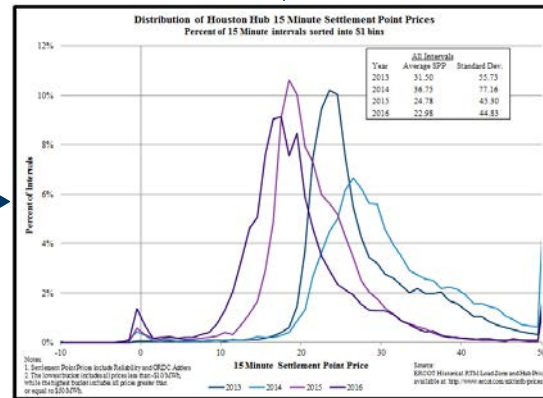
market factor



State of Texas Policies

- Centralized transmission planning rules
- 4CP transmission cost allocation

out-of-market within Texas



out-of-market out of Texas

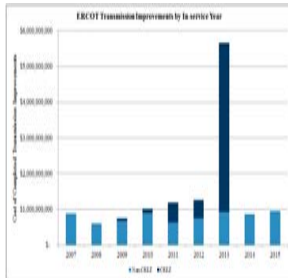
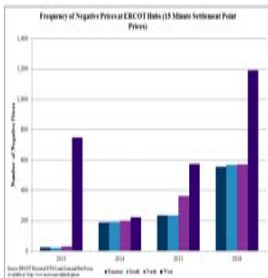
Federal Policies

- Production and Investment Tax Credits for wind and solar

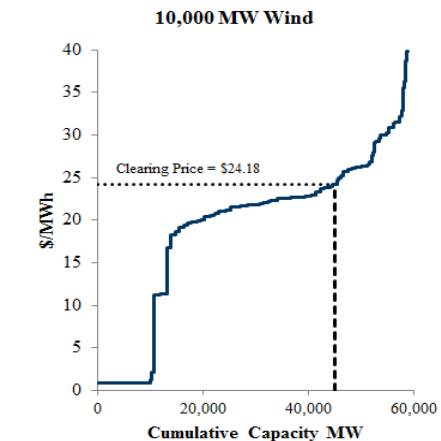
within market

ERCOT Market Rules

- Marginal Loss Pricing
- Local Scarcity Pricing
- ORDC Details



| Total PJM Costs Congestion and Marginal Losses (2009-2016) | | |
|---|------------------------|-----------------|
| Year | Percent of PJM Billing | |
| | Congestion | Marginal Losses |
| 2009 | 2.7% | 4.8% |
| 2010 | 4.1% | 4.7% |
| 2011 | 2.8% | 3.8% |
| 2012 | 1.8% | 3.4% |
| 2013 | 2.0% | 3.1% |
| 2014 | 3.9% | 2.9% |
| 2015 | 3.2% | 2.3% |
| 2016 | 2.6% | 1.8% |

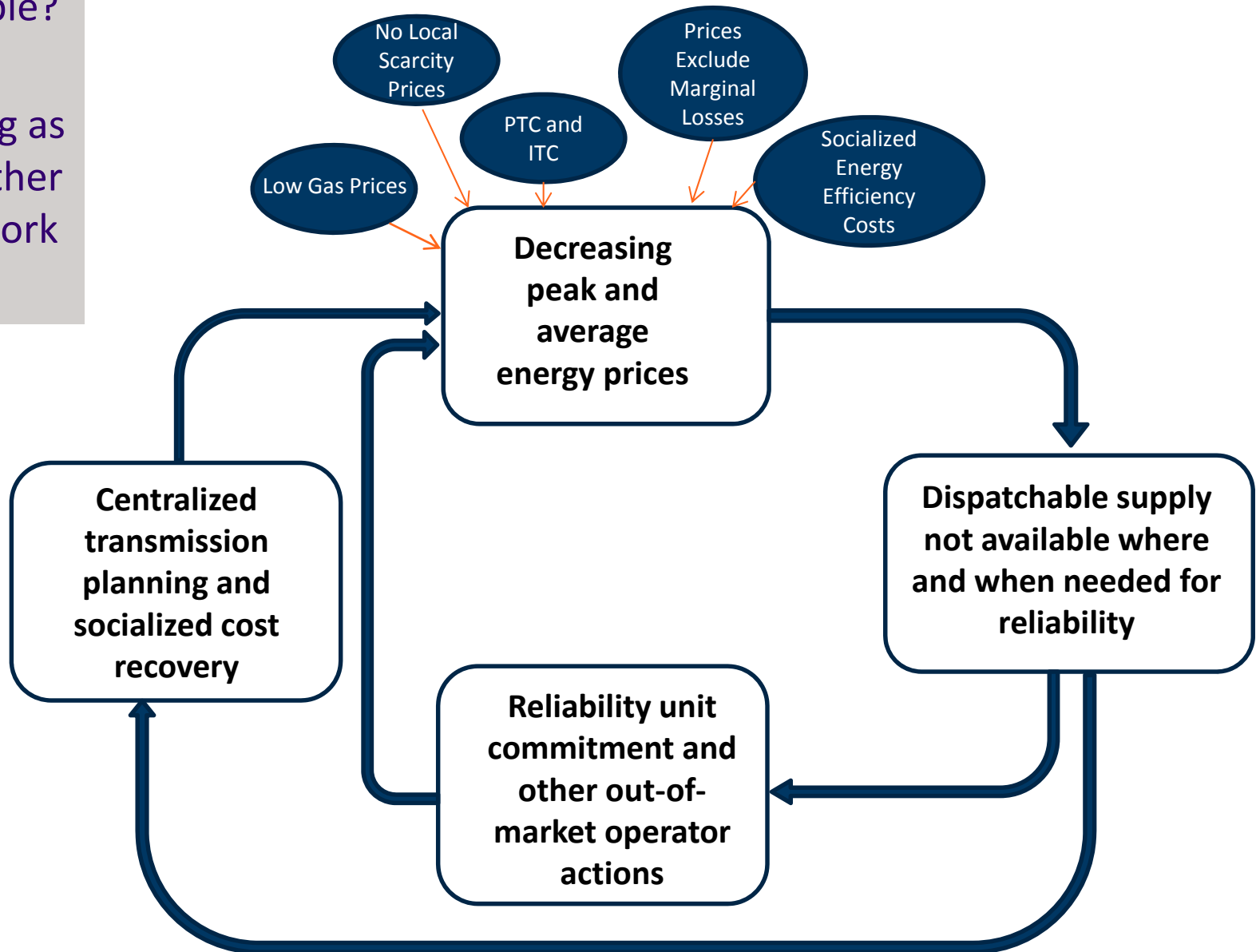


Source: Monitoring Analytics, LLC, "2016 State of the Market Report for PJM: Section 11: Congestion and losses", March 2017

CYCLE INCONSISTENT WITH MARKET OBJECTIVES

Is this sustainable?

ORDC is working as intended but other factors are at work



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