

# Global Leaders in Procurement and Utility Management



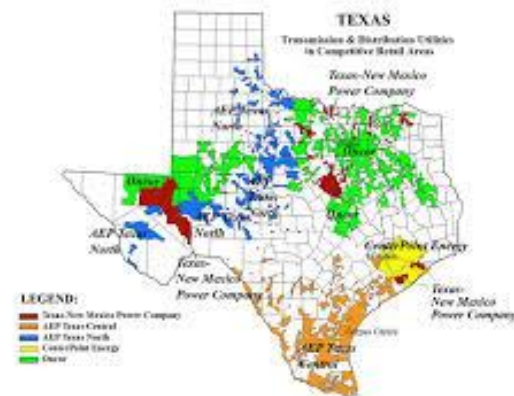
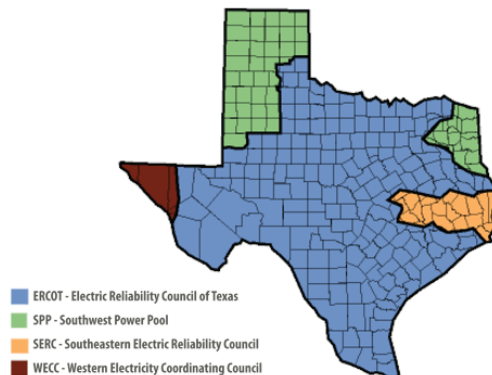
Houston Area Association for  
Hospital Engineering

# Agenda

- Overview of electricity deregulation in TX
- Uniqueness of TX Power Market
- Market Landscape
- Market Discussion
- Importance of access to wholesale market
- Questions?

# Walk down the memory lane

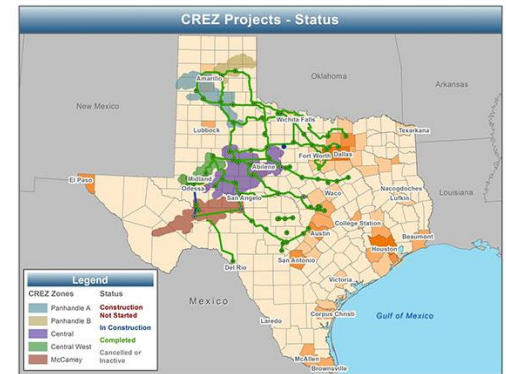
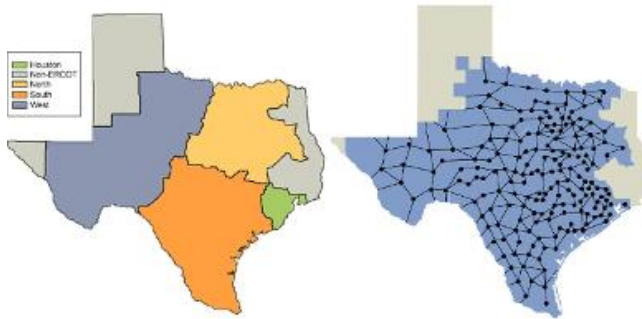
- Senate Bill 7 introduced in 1999 (Gov George W Bush)
- January 1, 2002 implementation – 13 years ago!!!
- ERCOT only (90% of load in TX)



- Separation of monopolies & unbundling (followed by re-bundling) of value chain
  - Generation: deregulated – allows for merchant plants
  - Transmission: regulated – common access
  - Retail: deregulated

# Changes Since Day 1

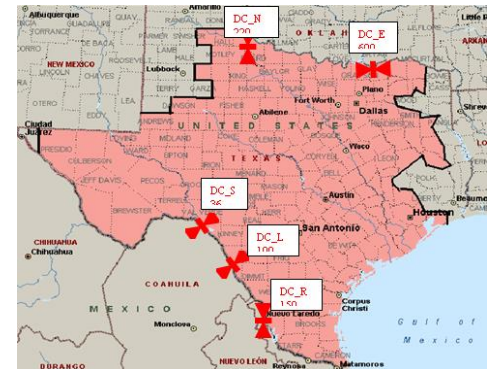
- Nodal to zonal restructure in December 2010
  - Efficiency of congestion management & new generation build
  - Ultimately cost savings to consumers



- Competitive Renewable Energy Zones (CREZ)
  - Infrastructure to transport renewable power
  - \$5 billion of transmission projects to transmit 18.5 TW of wind from West Texas & Panhandle to metro areas

# Texas IS an Island!

- If Texas was a country, rank #11 in the world
- Highest consumption state in US and comparable to Great Britain and Spain
- ERCOT is its own interconnection (1 of 3 in US)
  - 43,000 miles of transmission lines & 550 generation units
  - Beyond reach of FERC which regulated interstate electric transmission
- Limited ties with outside world
  - 3 ties with Mexico
  - 2 ties to Eastern grid



# Why is Texas so unique?

- Energy-only market
  - Capacity market suggested as option after Feb 2011 storm and wide-spread outages to stimulate investment both in maintaining existing generation and in development of new capacity
  - PUC voted down in 2014 to keep consumer prices low
- No safety net = high switch rates
  - Over 90% of residential consumers
  - Over 91% of small non-resi consumers
  - Over 97% of large non-resi consumers



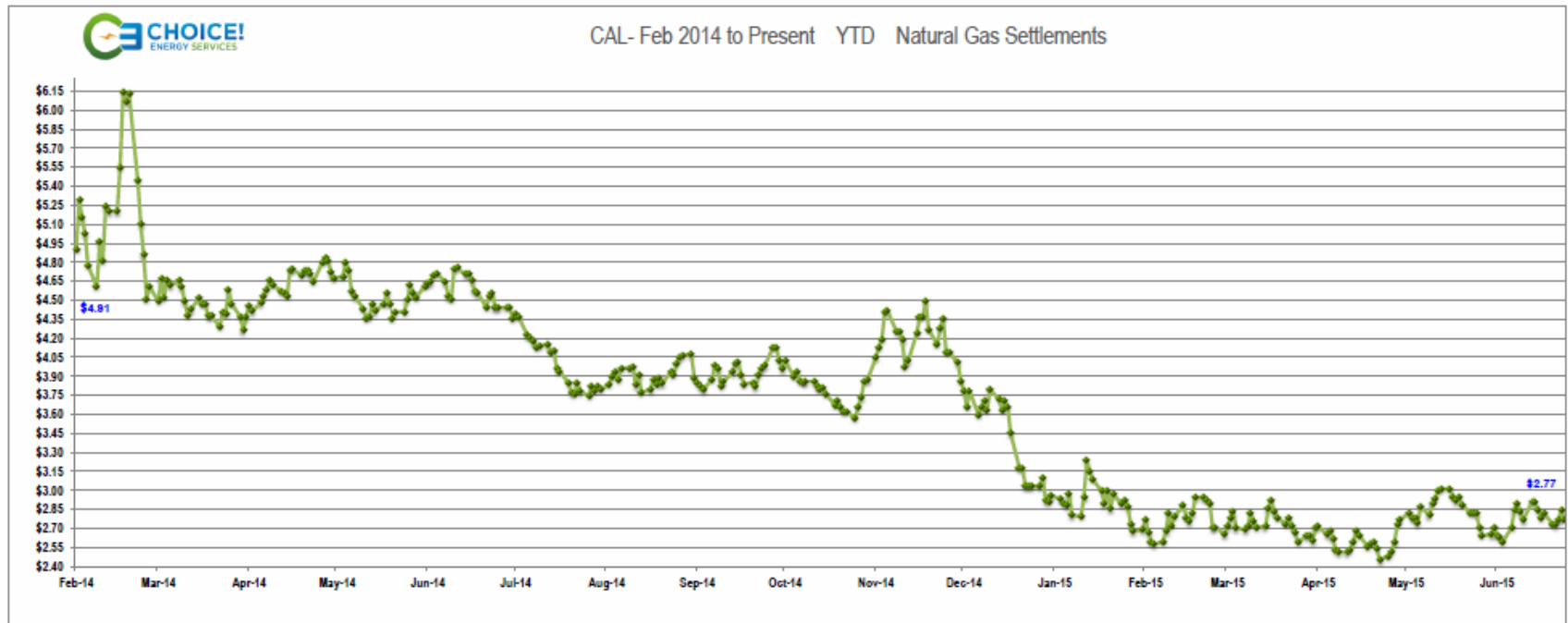
# It's a Rat Race

- Wholesale
  - 283 Power Generation Companies (generator of electricity intended to be sold at wholesale)
  - 63 self-generators (generator of electricity for own use)
  - 16 Investor-owned utilities
  - Distributed generation: interconnected with the grid or stand-alone
- Wholesale Intermediary
  - 247 Power Marketers (owner of electricity for the purpose of selling it wholesale but does not own generation, transmission, or distribution)
- Retail
  - 113 certified Retail Electric Providers (buyer of wholesale electricity to be sold retail; delivers retail services – contract, customer support)
  - 80 municipalities: captive consumers (regulated)
  - 74 co-ops: captive consumers (regulated)
- Retail Intermediary
  - 283 registered Aggregators
  - Estimated > 300 consultants/brokers

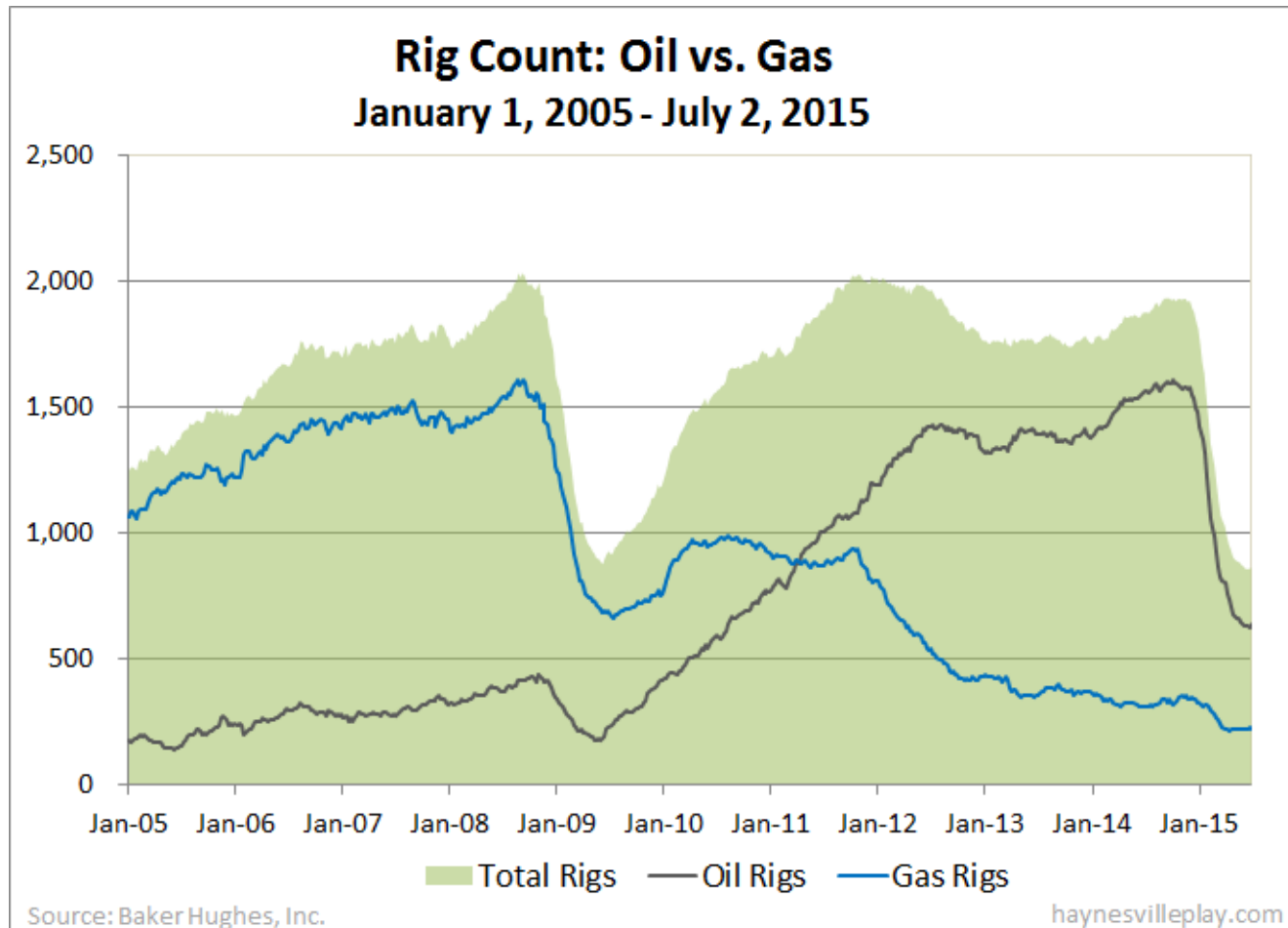
# Southern Hospitality

- Everybody is welcome to come to Texas!
  - Pro-business environment
  - Low barriers to entry at all levels but generation (requires hard assets and hard dollars)
  - No regulation for intermediaries
- You are welcome, consumer!
  - Unprecedented competition at all levels – wholesale, retail & intermediary
  - Low prices for consumers of all sizes
  - Flexible contracts (extended payment terms, little restriction on usage)
  - Operational excellence and customer support

# Market Discussion



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- Market high & low since 2002 is \$2 & \$14 USD
- First terminal to export LNG will open in 2015 with at least two to follow by the end of 2017 = INCREASE IN PRICES
- Industrial investment along gulf coast = \$100 billion (due to cheap NG) with many of the projects coming online by 2017 = INCREASE IN PRICES
- Obama EPA regulations will lead to coal plants closing and new ones being built to run on cleaner burning NG = INCREASE IN PRICES
- We see support for long-dated US NG prices. Over the next 4 years we see 13bcf/d of demand growth, or 18%, predominantly from LNG exports, power generation, pipeline exports to Mexico and industrial demand growth. Hence we expect long dated NG prices (2017-2020) to rise by \$1-\$2 USD as producers have to move back into higher cost plays to meet rising demand = INCREASE IN PRICES