

# TEXAS ENERGY: 2008

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Public Utility Commission  
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- A CNBC study recently ranked Texas as “America’s Top State for Business.”
- Texas is home to more Fortune 500 companies than any other state
- For the third year in a row, CEO Magazine named Texas the “Best State to do Business”
- In the past five years, Texas has created 1.2 million jobs
- Last year alone, Texas created half of all the jobs that were created in the US

Energy:

Critically important to  
the future economic  
health of Texans

# Governor's Competitiveness Council

- ▣ Governor Perry appointed a 29 member Council in November of 2007 to study competitiveness
- ▣ Council was comprised of leaders from the private sector – all major growth industries – and leaders from the state agencies that affect the economic strength of the state and its businesses
  - Broad group of industry leaders, from Dell to Texas Instruments to Luminant Energy
  - Broad group of agency leaders, from TEA to TWC to PUC, RRC, and TCEQ

# Governor's Competitiveness Report

- ▣ Council presented Governor with Competitiveness Report on August 6, 2008
- ▣ The Report studied the six fastest growing clusters, including Energy and Petrochemical
  - The Report looks at what businesses in Texas need to succeed in a global economy
  - It covers the following critical areas: talent development (workforce and education), innovation, infrastructure, resources, and governance
- ▣ Because of the Council's work, the Governor intends to evaluate all legislation to determine if it makes the state more or less competitive

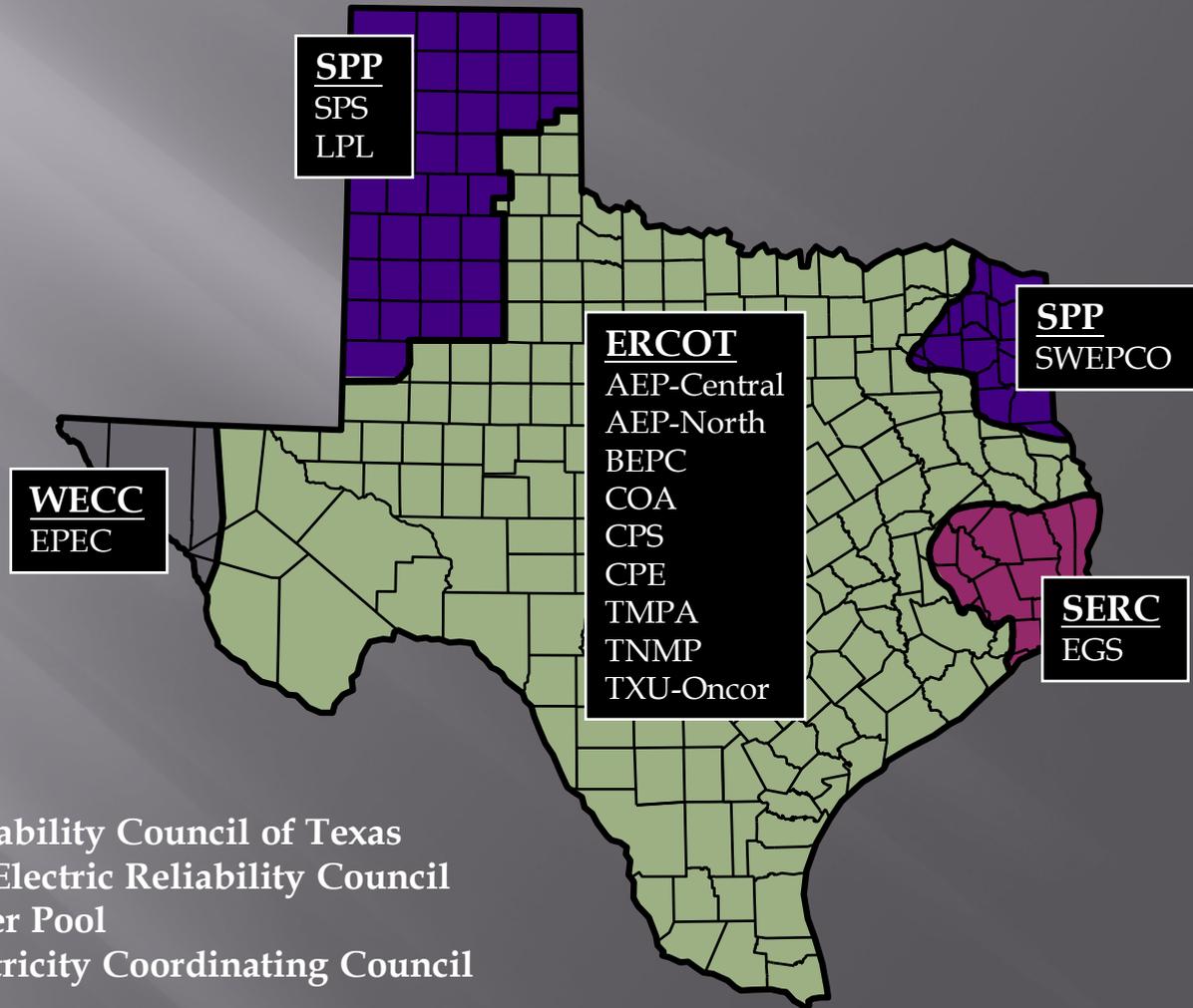
# Texas State Energy Plan

- ▣ Council also presented Governor with Texas State Energy Plan on August 6, 2008
- ▣ The Energy Plan focused on keeping a strong energy market in Texas
  - to support the growth of the state and
  - to ensure that Texas businesses remain or become more competitive in a global economy
- ▣ The Plan includes recommendations in the areas of generation, transmission and distribution, retail, energy efficiency and demand side management, and governance

# The Texas Electric Market

- ▣ Texas electric market like no other
  - Majority of Texans live in the area served by the Electric Reliability Council of Texas
    - ▣ ERCOT lies entirely within the state boundaries
    - ▣ Public Utility Commission oversees the electric market in Texas – FERC has limited jurisdiction

# Texas Electric Area Map



ERCOT - Electric Reliability Council of Texas  
SERC - Southeastern Electric Reliability Council  
SPP - Southwest Power Pool  
WECC - Western Electricity Coordinating Council

# The Texas Electric Market

- ▣ Texas opened a portion of the wholesale electric market to competition in 1995
- ▣ Texas opened all of the wholesale and retail electric markets located within ERCOT to competition in 2002
  - Legislation gave municipalities and coops ability to “opt in” to electric competition

# Texas Electricity Market

- ▣ 85% of load in Electric Reliability Council of Texas
  - Approximately 6 million customers open to competition
  - Peak demand of approximately 63,000 MW
  - Installed generation capacity of 82,185 MW, reserve margin of 13.8 percent (12.5 percent target)

# Texas Electricity Market

- ▣ 38,000 miles of transmission lines
- ▣ 550 generation units
- ▣ 21 million Texans served
- ▣ 307 billion kilowatt-hours of power delivered annually
- ▣ \$30 billion market size
- ▣ 95% bilateral wholesale market
- ▣ 5% ERCOT-run balancing energy and ancillary services market
- ▣ \$1.9 billion in annual billings

# Texas Electricity Market

- ▣ 6,200 circuit miles of transmission built since 1999
- ▣ 2,538 circuit miles of transmission under study
- ▣ \$3.9 billion investment in transmission placed in service since 1999
- ▣ \$3 billion under development
- ▣ 15% of load outside of ERCOT distributed in the North, West, Northeast and Southeast – still vertically integrated

# Challenges in Energy: What lies ahead?

# Financial Situation:

- ▣ Creates many questions, including
  - Will energy industry have access to capital markets to:
    - ▣ Make the much needed investment in generation and transmission infrastructure;
    - ▣ Foster continued growth of the industry
  - Will efforts to regulate the competitive markets intensify as we seek to protect electric customers?
  - How will the current financial situation affect Texas, a state that largely has been cushioned from the economic decline in other states?

# How can Texas address the financial situation?

- ▣ Let markets work, with only minimal “redirection”
- ▣ Legal and regulatory certainty signals investment community
- ▣ Ignore the “naysayers”
- ▣ Continue welcoming economic growth
  - Without business growth there is no job growth
  - Job growth is fundamental to a health stat economy

# Regulatory and Legal Certainty

- ▣ Related but distinct from financial issues
- ▣ Efforts to re-regulate add uncertainty
- ▣ Coops are self governing. Will the legislature reconsider that decision?
- ▣ Will the actions of a few have consequences for the many?

# Addressing Regulatory and Legal Uncertainty

- ▣ Coops were given the ability to self govern
- ▣ Should consider doing a bottoms-up analysis of their business to ensure that it would pass the “headline” test
  - Review governance and management structures for potential conflicts of interest
  - Review policy regarding membership participation to ensure open access and sunlight on decision making
  - Review contracts and dealings to ensure that no wrongdoing is taking place
- ▣ Always be forthcoming with the Texas legislature and state leadership

# Electricity Demand

- ▣ How will Texas meet this demand?
- ▣ Has the competitive wholesale market spurred investment in the past?

# The rising cost of energy

## ▣ Generation

- Continued price volatility of natural gas
  - ▣ Texas relies heavily on natural gas in its fuel mix, causing price volatility, customer confusion and a perception that competition has failed
- Uncertainty created by potential federal carbon legislation
- Increase in the cost of plant construction

# Transmission Expansion

- ▣ Necessary to meet increased electric demand
- ▣ For build out of competitive renewable energy zones
  - What steps are necessary to integrate wind to the electric grid while maintaining reliability?

# Policies with Rising Interest

- ▣ Hardening of the transmission and distribution infrastructure to “storm proof”
- ▣ Energy efficiency and demand response

# Talent Development

Some experts estimate that the energy industry will lose half of its engineers and skilled laborers in the next 5 to 10 years

How does Texas address the rising demand for energy in an environment of increasing costs? What can Texas do to ensure sufficient workforce?

# Texas State Energy Plan Recommendations



# Wholesale Market Recommendations

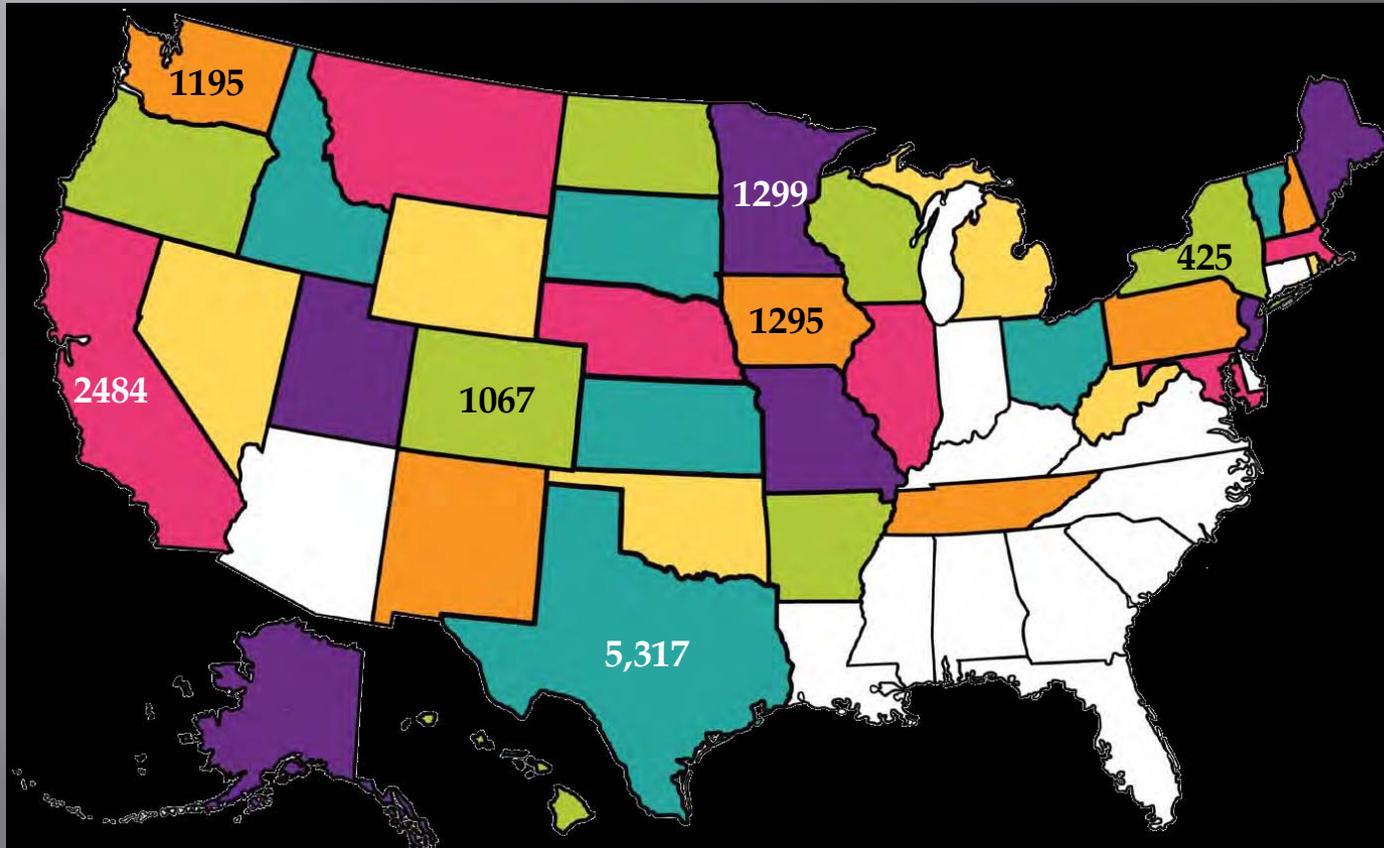
- ▣ Instead of re-regulation, we need more generation diversity to lessen Texas' reliance on natural gas
  - Competitive wholesale market works to incent diversity
  - Don't fix what is not broken

Investment in generation since  
the opening of the retail and  
wholesale markets?

**\$20-25 billion**

**All at the expense of private  
investors**

# Installed wind capacity





# Wholesale Market Recommendations

- ▣ Texas needs to find ways to encourage the deployment of fuels like nuclear, solar, biomass, and other sources that will lessen that dependence
  - Establish partnership between universities and industry to research entire nuclear fuel cycle, including spent fuel



# Wholesale Market Recommendations

- ▣ Texas should develop a clean coal technology using its vast resources of lignite
  - State should create a state innovation prize, funded with private/public dollars, for the development of a clean coal technology that use Texas lignite
  - State should provide sales tax exemption for equipment used to capture and store carbon dioxide from facilities using Texas lignite



# Wholesale Market Recommendations

- ▣ Texas should establish an innovation prize or prizes, funded with private-public revenue, for the commercialization of large-scale energy storage.



# Wholesale Market Recommendations

- State should have incentives in place, limited in scope and time, to encourage further deployment of solar
  - Texas Department of Housing and Community Affairs should offer additional points to applicants who install solar panels and other solar products on housing available to those of limited income
  - Texas should provide a sales tax exemption for the purchase and installation of solar generation systems
- Texas should identify and resolve barriers to accelerating development of in-state natural gas assets



# Wholesale Market Recommendations

- ▣ Potential carbon legislation will cost Texans more than those living in other states
  - What will potential carbon legislation cost Texas?
    - ▣ Texas emits about 700 tons of carbon per year
    - ▣ Based on one of the most conservative proposals, Texas would ultimately pay **over \$18 billion a year**
    - ▣ If one of the more draconian proposals were to be enacted, that figure would almost quadruple



# Wholesale Market Recommendations

- ▣ Let's put the \$18 billion + into perspective:
  - Some experts are expecting the devastation caused by Ike to result in costs of \$22 billion
  - The Ike cost is a one-time cost
  - The penalties in potential federal carbon legislation are **yearly**



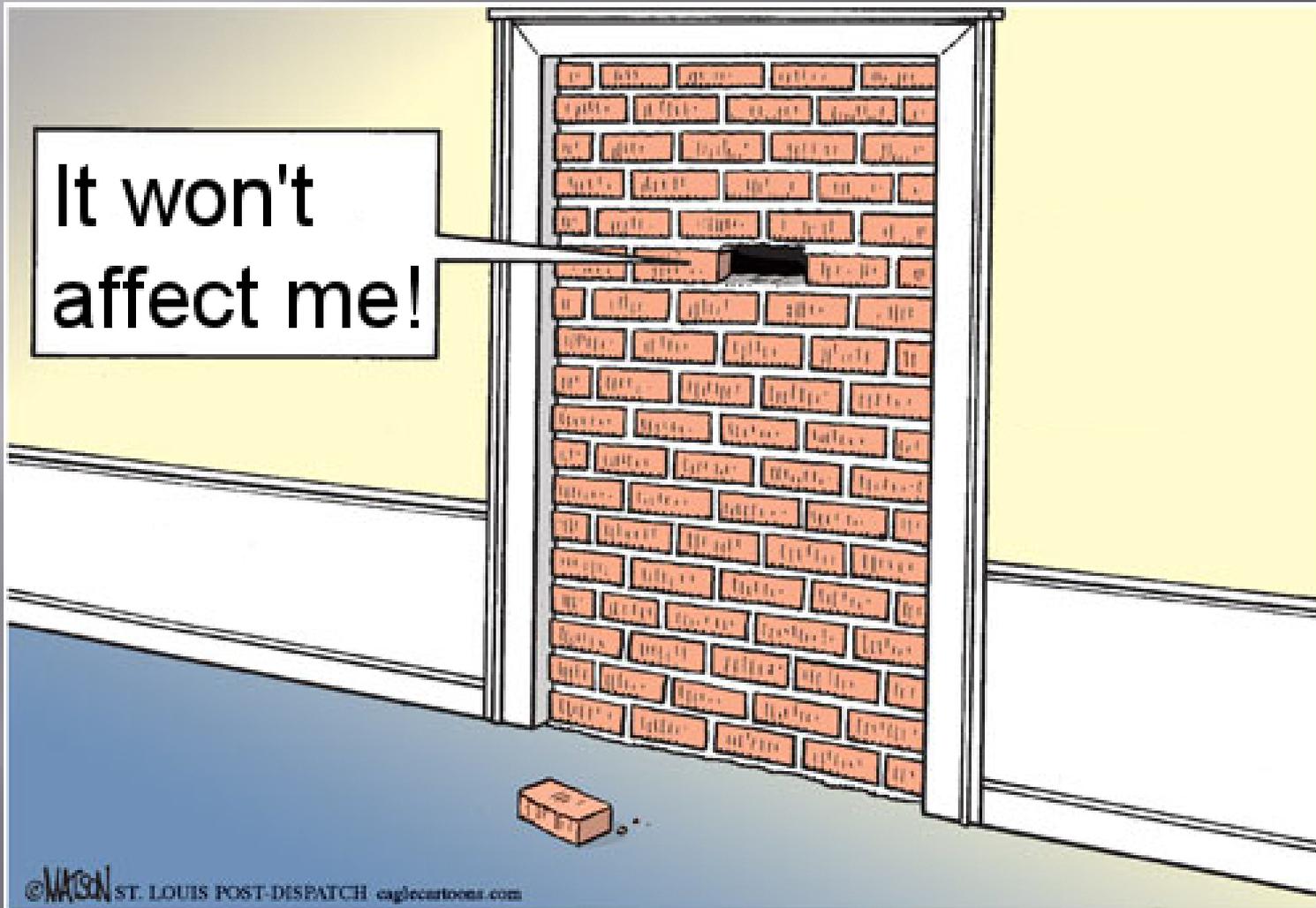
# Wholesale Market Recommendations

- ▣ Carbon recommendations:
  - The State should form a public/private partnership to educate the public on the cost of carbon regulation to Texans. The partnership should inform its work by conducting a study highlighting the cost versus the environmental benefit
  - State policy makers should bring a Texas perspective to federal carbon policy debates and educate Washington on the economic value of Texas' energy production to the nation

# Energy Efficiency & Demand Response Recommendations

- ❑ The state should require TDUs to deploy advanced meters, with an appropriate cost recovery mechanism
- ❑ The PUC should ensure that ERCOT cost-effectively ensures that all retail customers have the option to be settled on 15-minute increments
- ❑ If the PUC study indicates a greater potential for cost-effective energy efficiency reductions, Texas should raise the energy efficiency goals to the higher levels contemplated under current law
- ❑ PUC should incorporate EE/DR in its educational campaign

# Interesting, but so what?



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# Workforce Recommendations

- ▣ Texas should continue to invest in programs designed to generate interest in math and science
- ▣ Texas needs to increase high school completion rates and ensure that high school grads are college- and work-force ready
- ▣ Texas needs to increase the number of postsecondary graduates with the knowledge and skills that meet industry standards

# Workforce Recommendations

- ▣ Texas should improve the flexibility of its technical education and training system in response to industry needs across the state
- ▣ The state should continue the Skills Development Fund, which supports training programs that respond directly to the workforce needs to Texas employers

# Workforce Recommendations

- ▣ The energy industry should look to the military and declining industries to expand its workforce
- ▣ The state should create a Workforce Supply-Demand database
- ▣ Texas should establish a Texas Center for Workforce Innovation and Competitiveness to promote and support the skills pipeline

