



# The EPA Train Wreck, How it Will Impact Texas, and What We Can Do About it

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# Presentation Outline

## The EPA Avalanche (continued. . . )

- EPA's Coal Combustion Residuals Rule
- EPA's Utility MACT Rule
- EPA's Ozone Rule

## Risk to Texas' Electric Generating Stability

- Relative Resilience of the Texas Power Fleet
- Meeting Regulatory and Consumer Electricity Demands
- Diversity Means Security

## What Can Texas do to Prepare This Session and Beyond



# EPA's CCR Rule



- Proposed June 2010; expected finalization by Spring/Summer 2012.
- Two CCR Regulatory Options (Haz & Non-Haz).
- Industry: \$75 billion compliance cost.
- EPA: \$20 billion compliance cost (assumed recycling would increase, not decrease).
- Bills working through Congress to prevent Haz option (over 40,000 comments submitted).
- EPA's own study found in 2005 that the biggest barrier to recycling was regulation as Haz waste.

# CCR Beneficial Use

## The World's Best Recycling Program



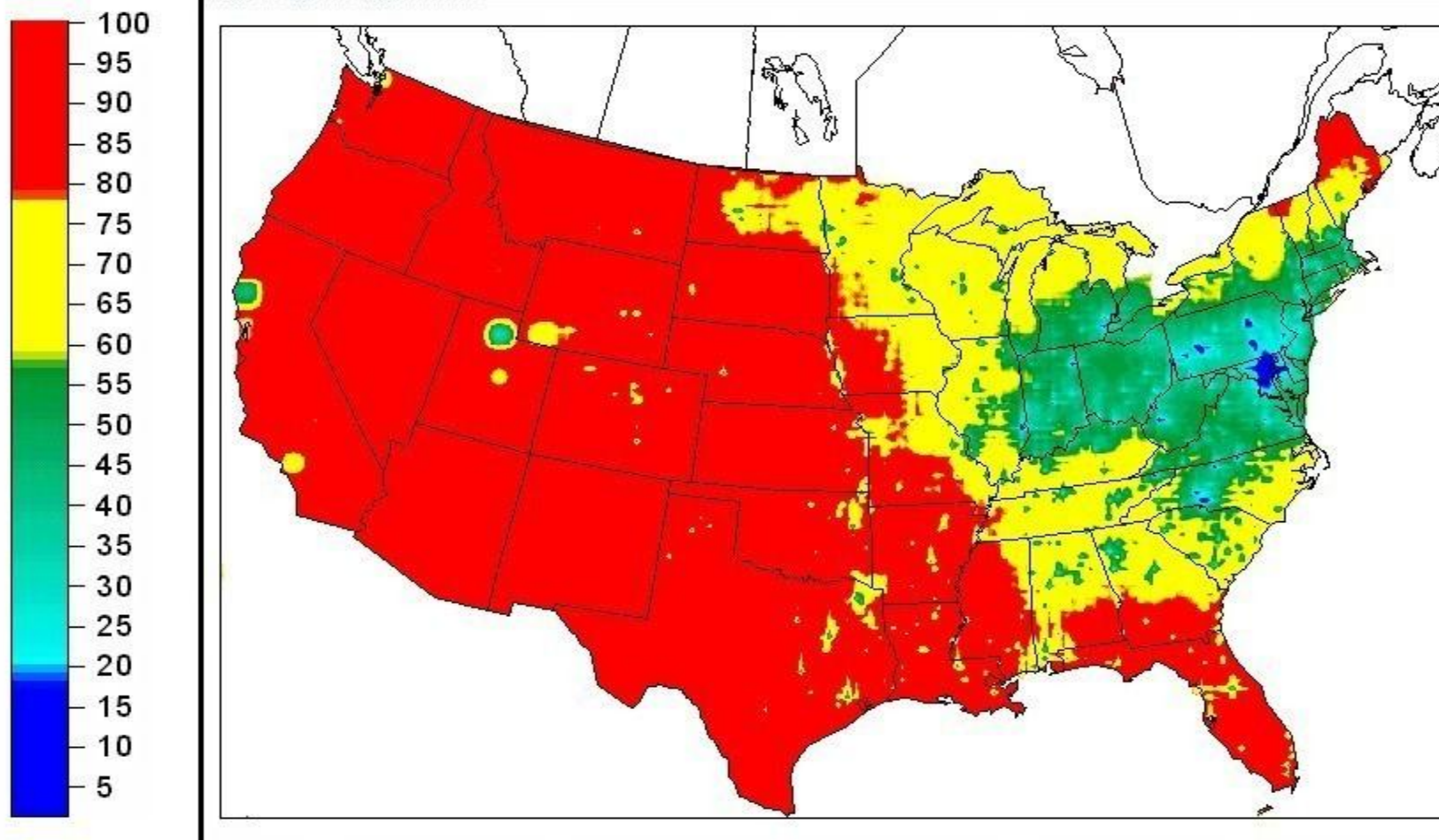
# EPA's Utility MACT Rule



- Proposed May 2011; expected finalization by November 2011.
- EPA's proposal to regulate mercury and other hazardous air pollutants (HAP) from coal, lignite, and oil-fired power plants.
- Texas has vast deposits of lignite and lignite-fired units that will be affected because of their type and variability of mercury.
- Annual compliance costs by 2015:
  - EPA estimates cost of ~\$11 billion.
  - Industry estimates cost of ~\$100 billion.



# Mercury Deposition – Foreign Sources



**Percent of mercury deposition that originates outside of the U.S.**

**Source: EPRI**

# EPA's Ozone Rule



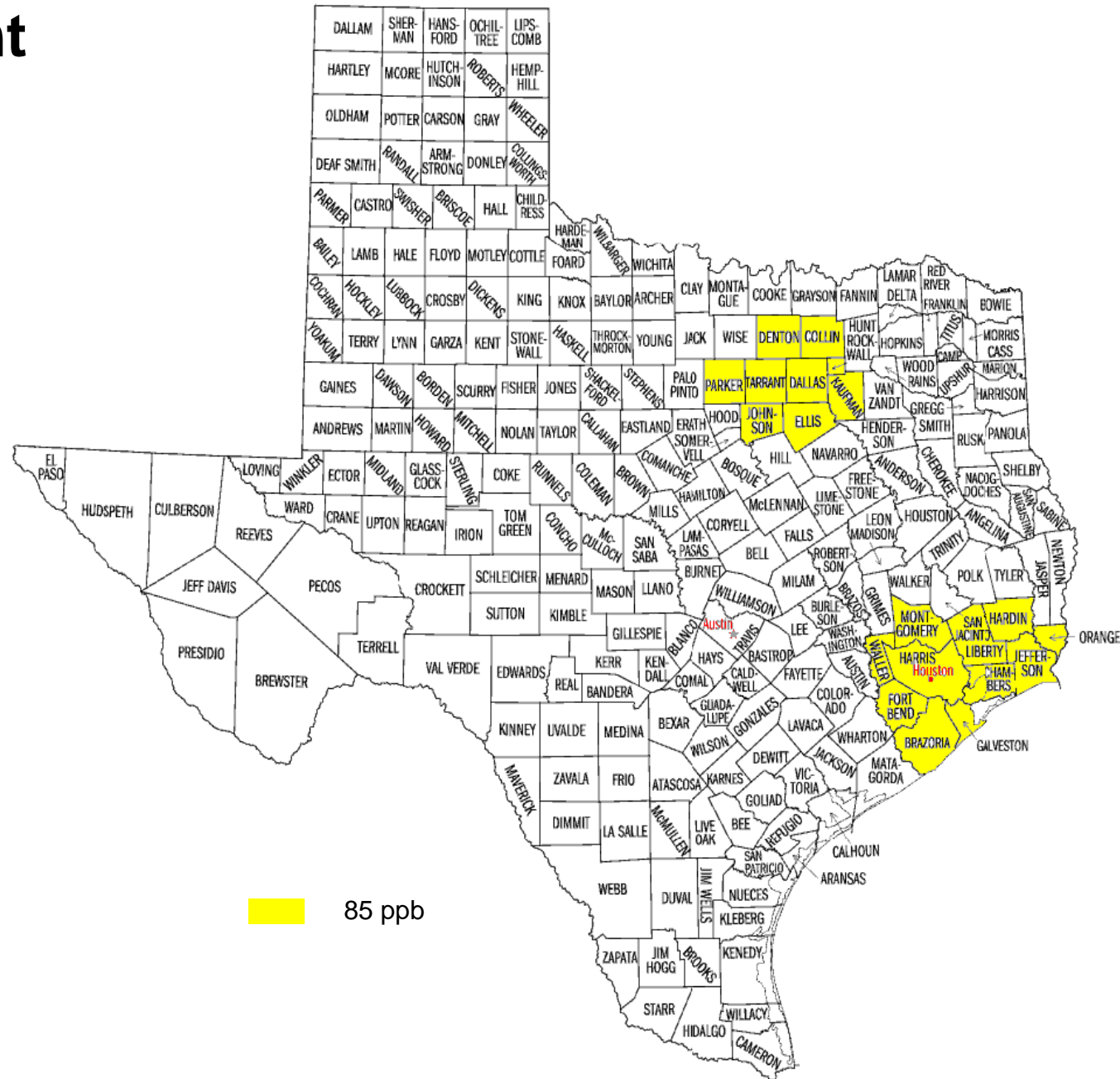
- Proposed January 2010; projected finalization by August 2011.
- 85 ppb limit was replaced in 2008 with 75ppb limit.
- Current proposal revokes 2008 limit and will replace with limit between 60-70 ppb.
- Monitored U.S. counties that would violate primary standard:
  - 70 ppb: 515 counties (76% of monitored)
  - 65 ppb: 608 counties (90% of monitored)
  - 60 ppb: 650 counties (96% of monitored)
- State Nonattainment Designations Due: January 2012 (tentative)
- State SIP Revisions Due: August 2014 (tentative)
- EPA predicts cost of compliance up to \$90 billion.

# Nonattainment for 85 ppb (1997 Standard)

Beaumont-  
Port Arthur:  
Hardin, Jefferson,  
Orange

Dallas-Fort Worth:  
Collin, Dallas,  
Denton, Ellis,  
Johnson, Kaufman,  
Parker, Rockwall,  
Tarrant

Houston-Galveston-  
Brazoria:  
Brazoria, Chambers,  
Fort Bend,  
Galveston, Harris,  
Liberty,  
Montgomery, Waller





# Nonattainment for 75 ppb (2008 standard)

**ADD:**

Bexar

El Paso  
(non-tribal)

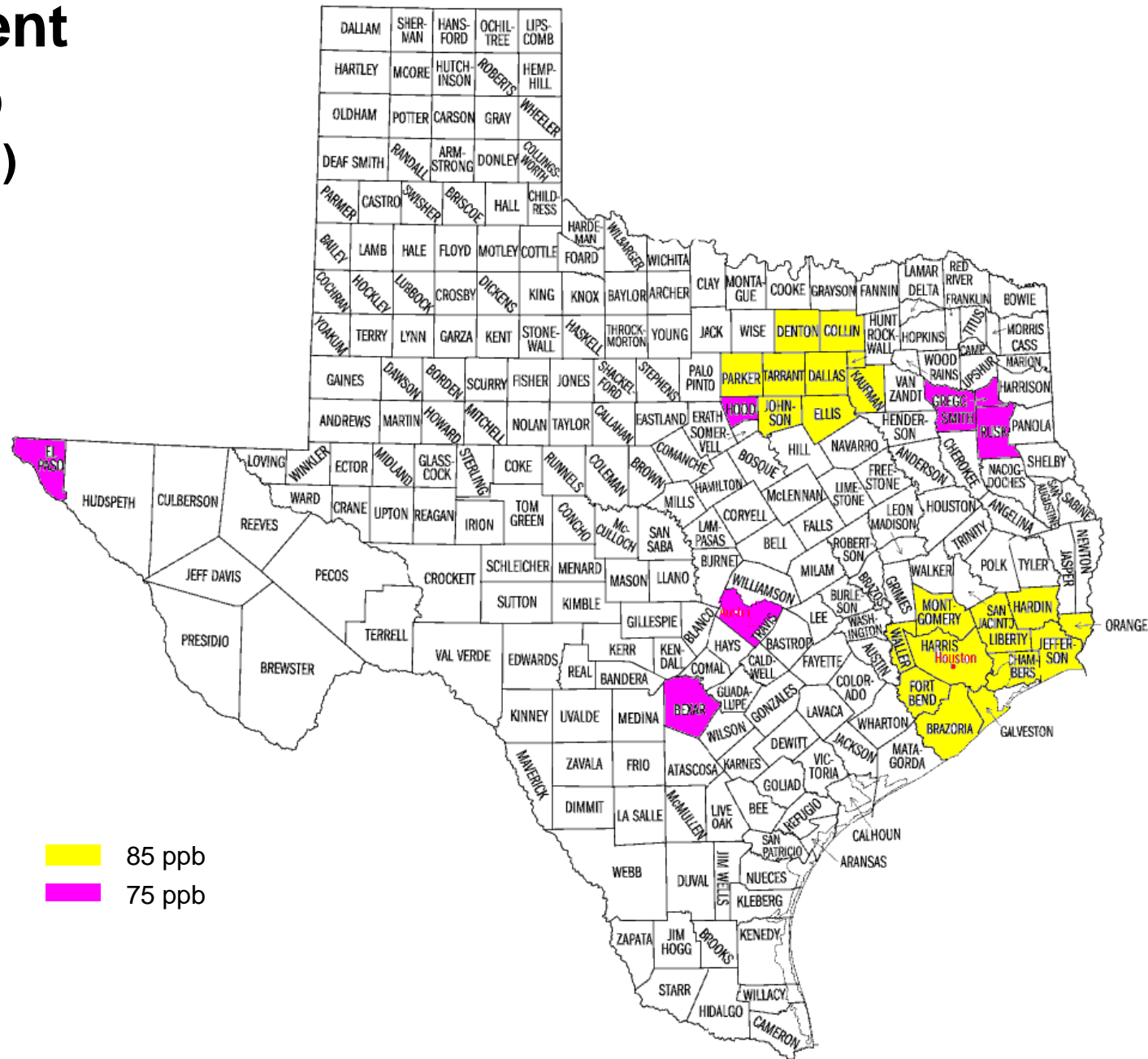
Gregg

Hood

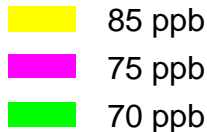
Rusk

Smith

Travis



**ADD:**  
Harrison  
Hunt  
Nueces



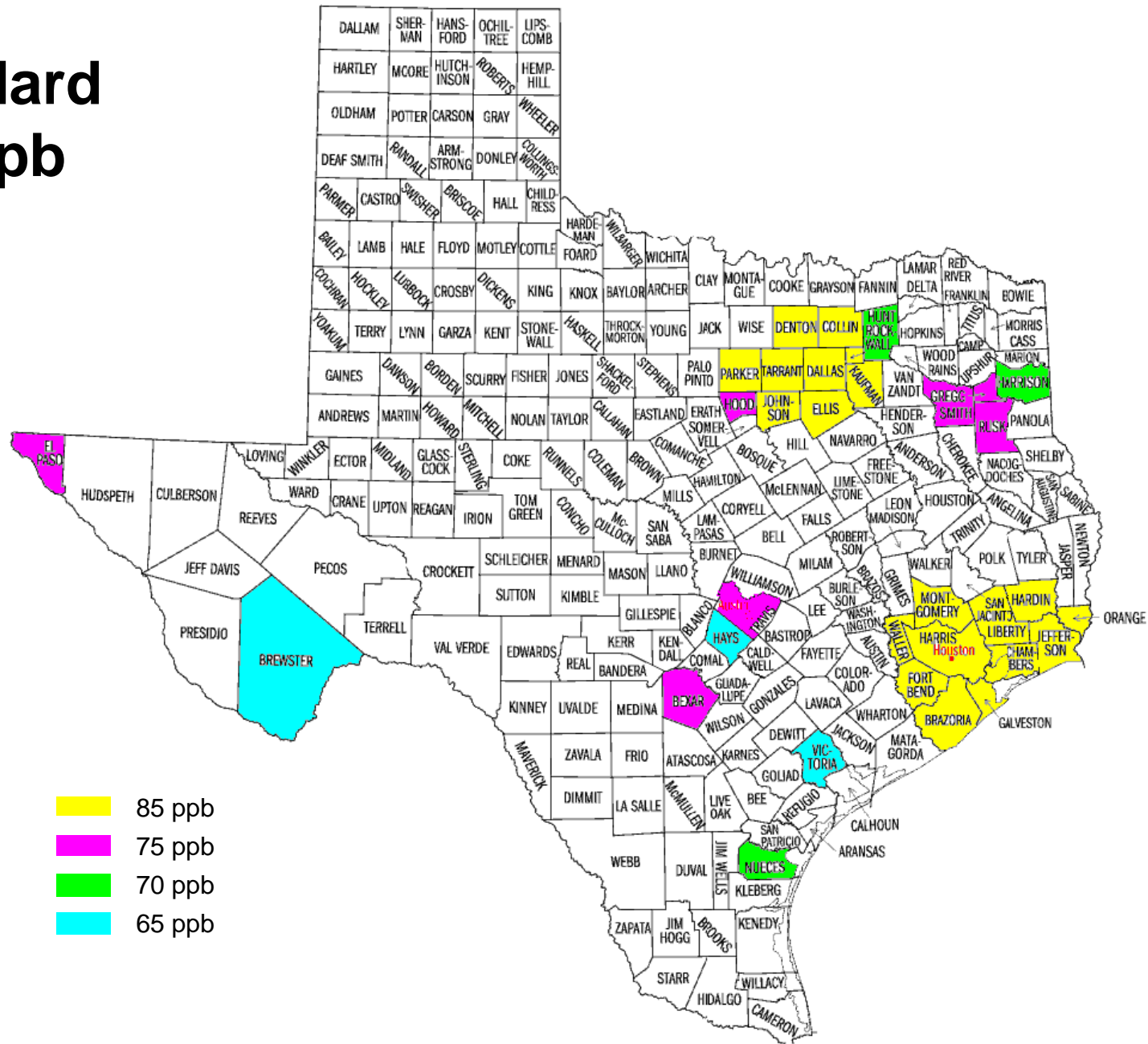
If new standard  
set at 65 ppb

**ADD:**

Brewster

Hays

Victoria

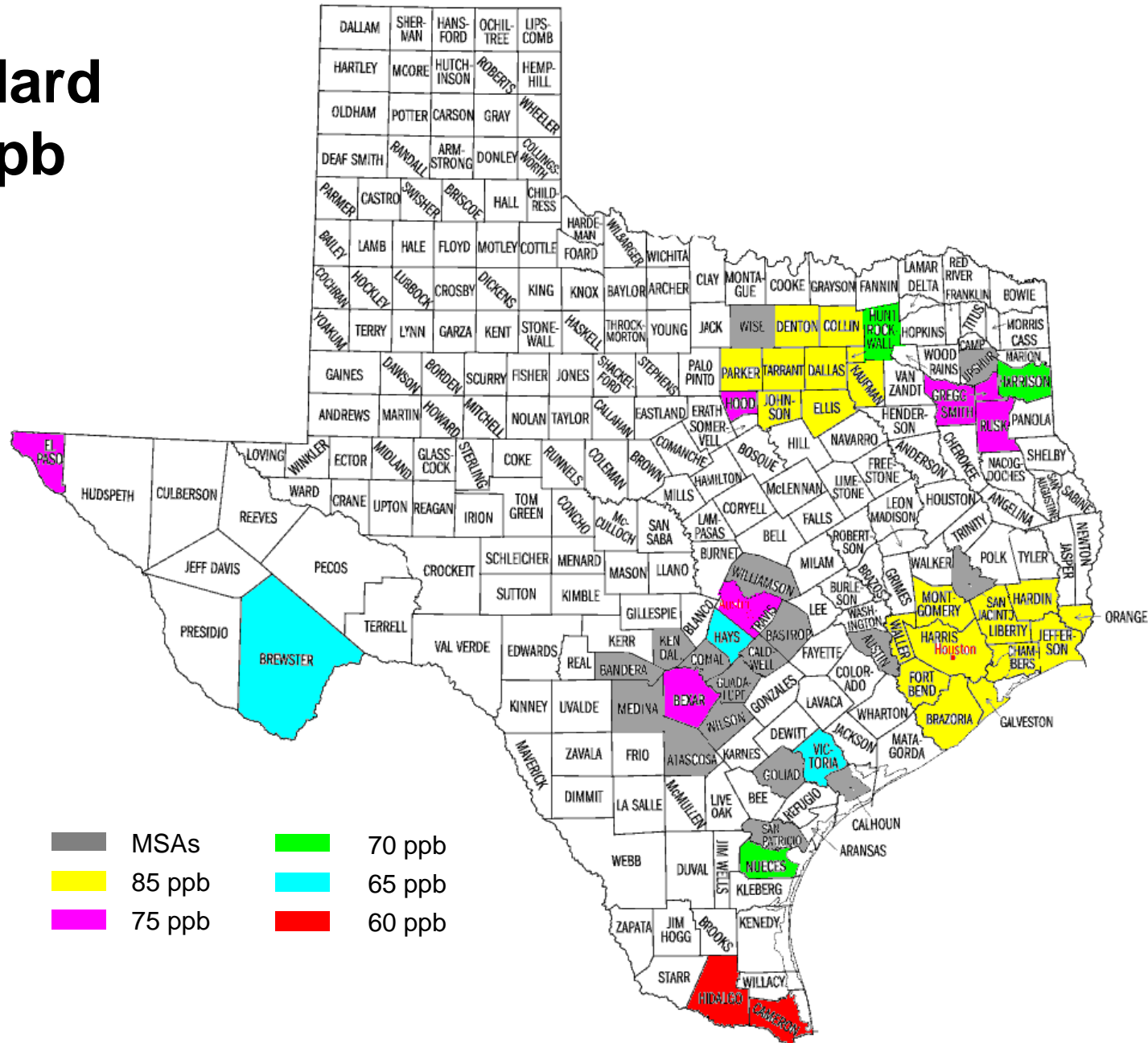


If new standard  
set at 60 ppb

**ADD:**

Cameron  
Hidalgo

(Metropolitan  
Statistical Areas  
also represented  
on map)



# Risk to Texas Electric Generating Stability

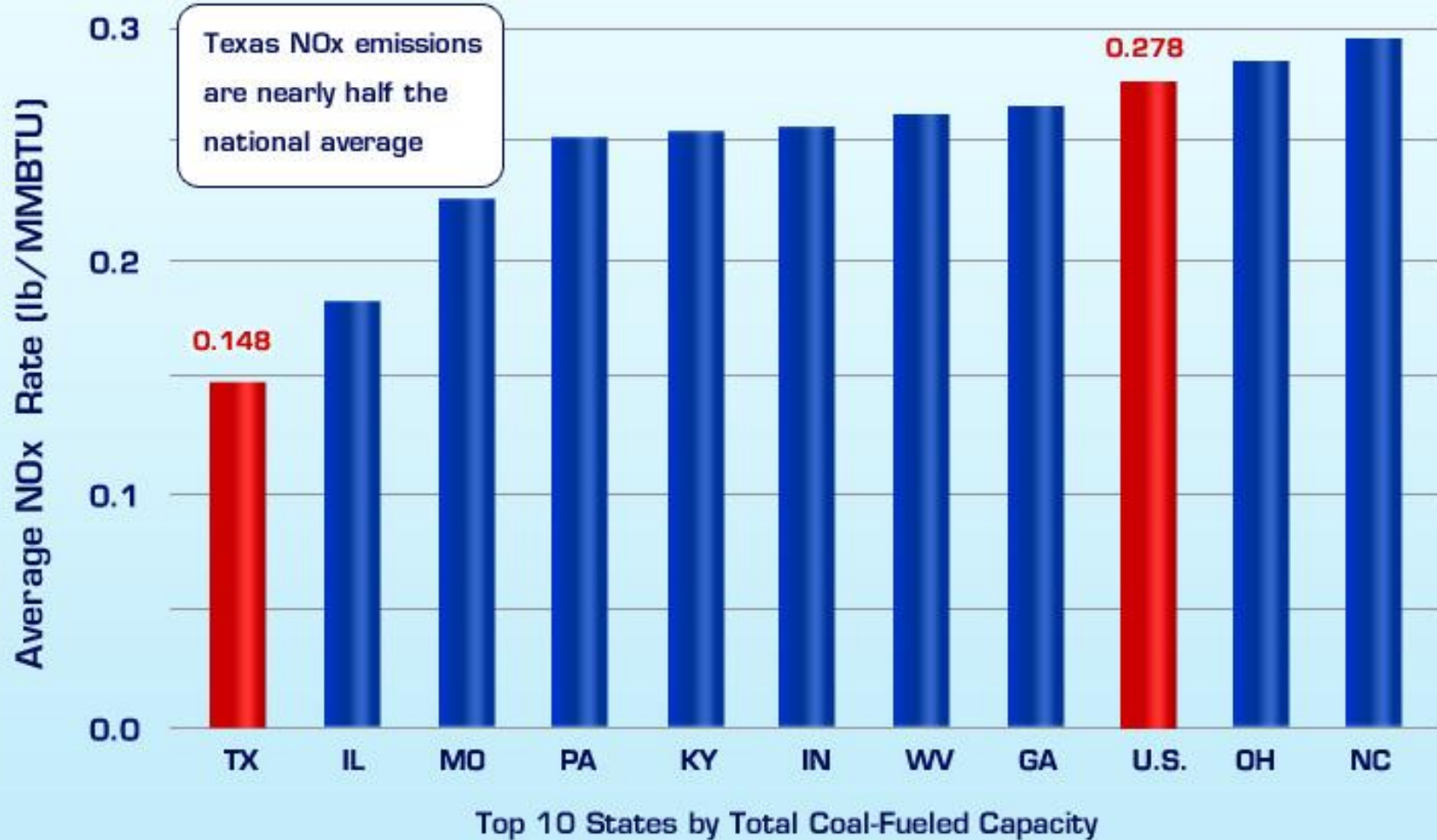
- Despite relative resilience of Texas power plants, suite of EPA regulations will have significant effect on Texas.
- NERC Predicts 5-6 GW of retirements in Texas by 2015.
- ERCOT Predicts 9.3 GW of retirements in Texas by 2017.
  - 1,200 MW of coal
  - 8,100 MW of gas
- ERCOT estimates only a 0.2% reserve margin after retirements (13.75% is the current mandated reserve).
- Any interference with the expansion of the Texas power fleet will endanger electric reliability and price stability.
- Texas must and will fight back given how high the stakes are to our economy and electric reliability & affordability.





# Average NOx Emissions

## Top 10 States by Total Coal-Fueled Capacity

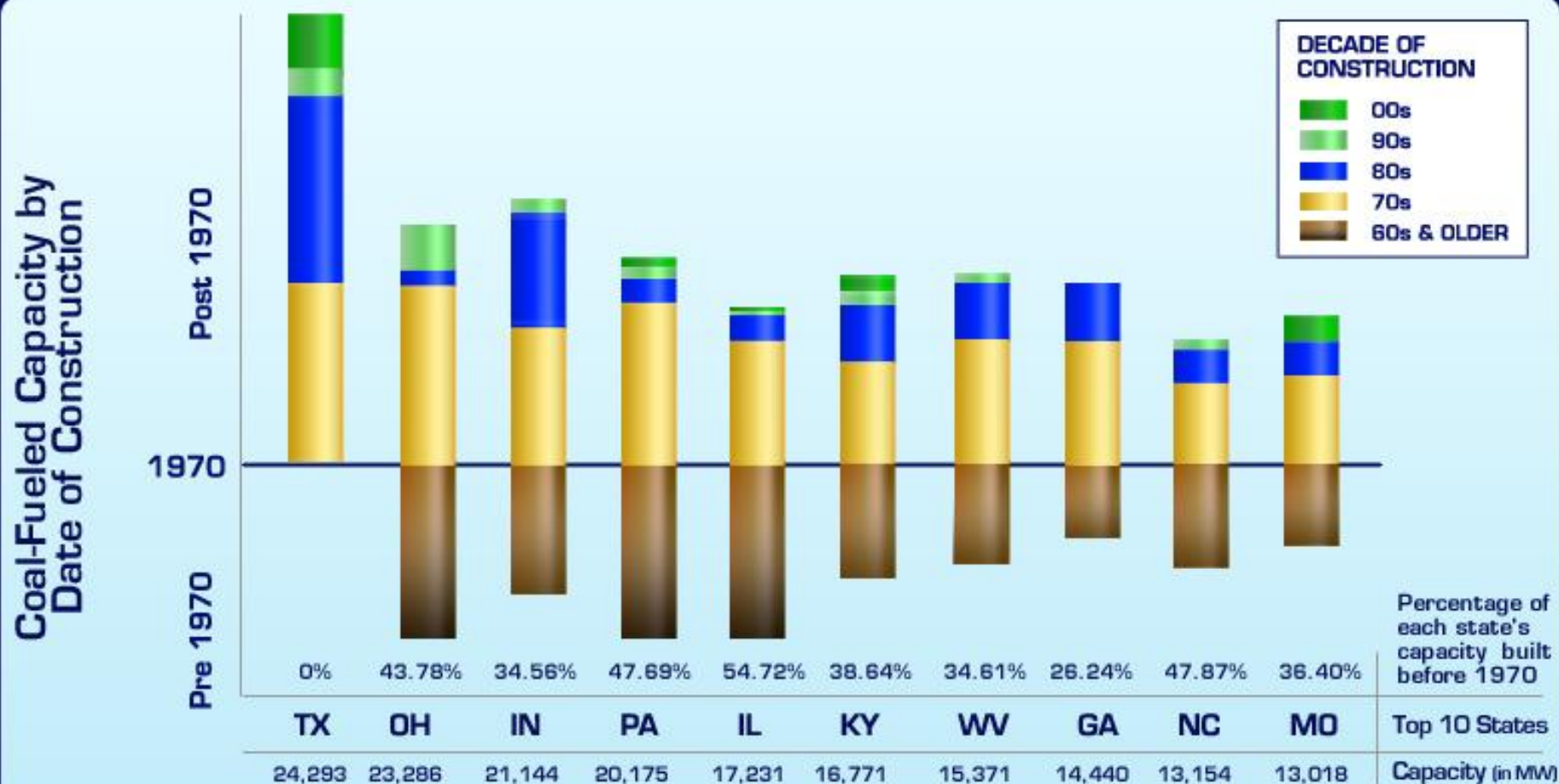


\* Based on emissions rate and heat input data from U.S. EPA, Clean Air Markets - Data and Maps and megawatt data from U.S. Energy Information Administration, Form EIA-860-Annual Electric Generator Report, 2009

Source: Balanced Energy for Texas (BET)

# Comparing the Age of Coal Fleets

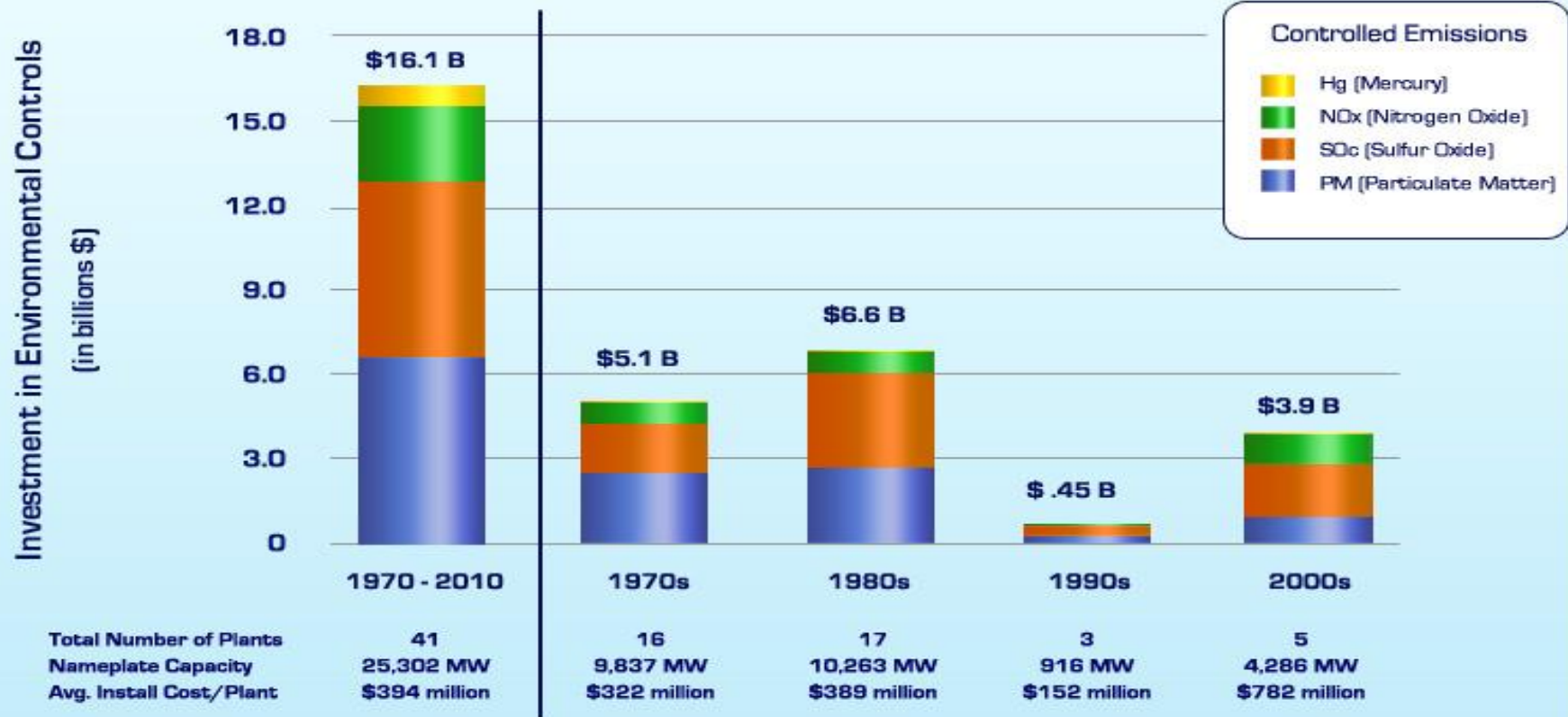
## Top 10 States by Total Coal-Fueled Capacity



\* Based on data from U.S. Energy Information Administration, Form EIA-860-Annual Electric Generator Report, 2009

# Investments in Clean Coal Technology

1970 - 2010

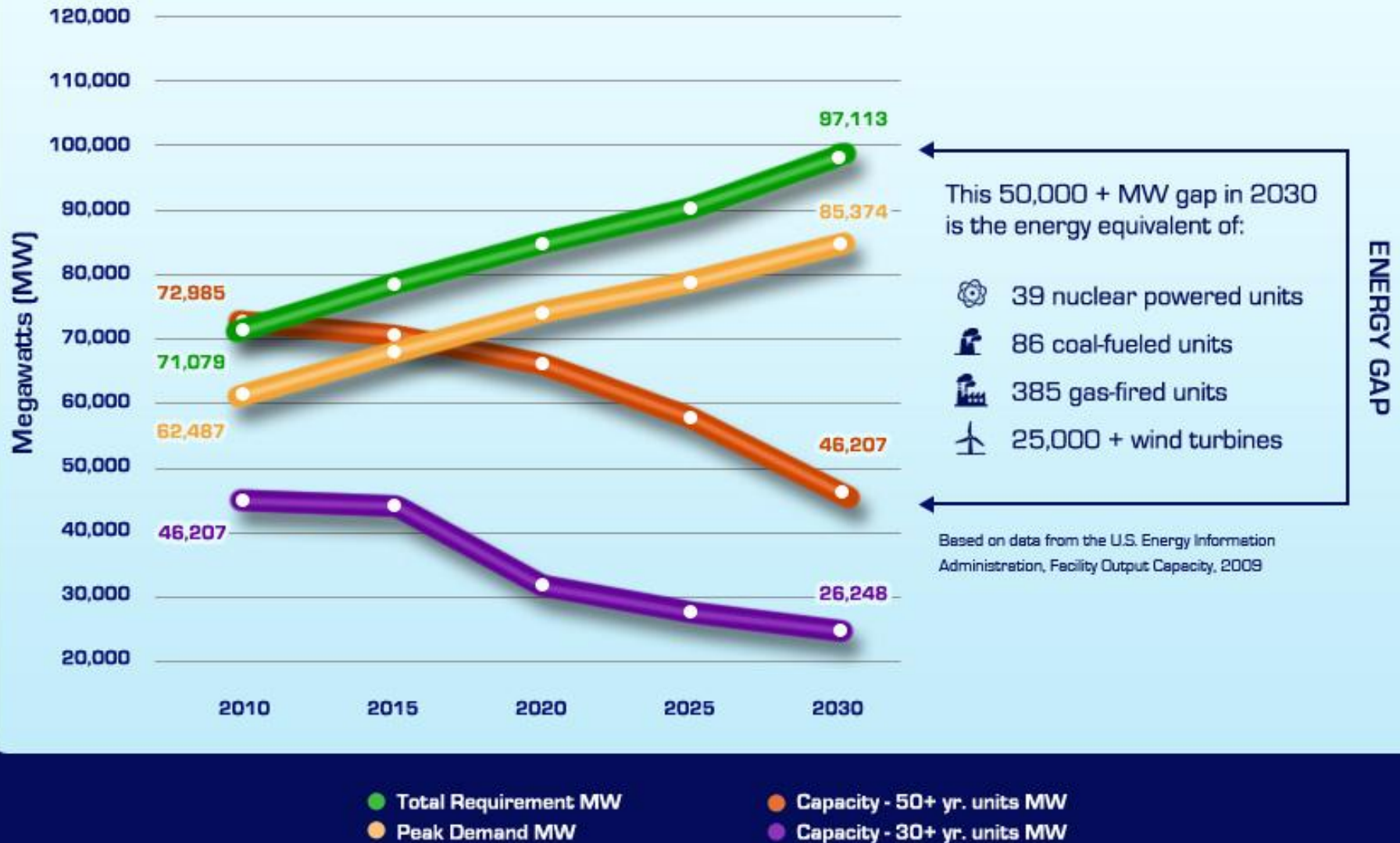


Emission control online date, cost and type information based on data from the U.S. Environmental Protection Agency, EPA IPM v4.10 Documentation and EPA's National Electric Energy Data System (NEEDS) v4.10. Particulate control cost data from Argonne National Laboratories, Environmental consequences of, and control processes for, energy technologies. Park Ridge: Noyes Data Corporation, 1990; reagent injection cost data from Jon Norman, United Conveyor Corporation, "UCC Dry Sorbent Injection: Dry Sorbent Injection as an Alternative to Scrubbers"; additional data compiled from other public sources, including press releases, company websites, etc. Unit characteristic sources based on data from U.S. Energy Information Administration (EIA), Existing Electric Generating Units by Energy Source, 2008, and EIA Form EIA-860 Annual Electric Generator Report, 2009 Data.

\* Additional Sources: Initial operation dates for Sandow 5, Oak Grove 1 & 2, and Sandy Creek are from other sources, including Luminant & CPS websites, press releases, and other publicly available information.



# ERCOT Capacity and Demand Projections - 2010



Based on ERCOT Report May, 2010 and 13.75% reserve margin

# What Can Texas do to Prepare This Session and Beyond?



- Defend Texas against takeover attempts by EPA regarding the SIP.
- Challenge new regulations that have costs that are not outweighed by their benefit.
- Work with Congressional Delegation to start constraining EPA's overreach.
- Address Texas program inefficiencies to ensure that we don't shoot ourselves in the foot.





# Self-Help Example: Avoiding Procedural Logjams to Power Plant Retrofit Timelines



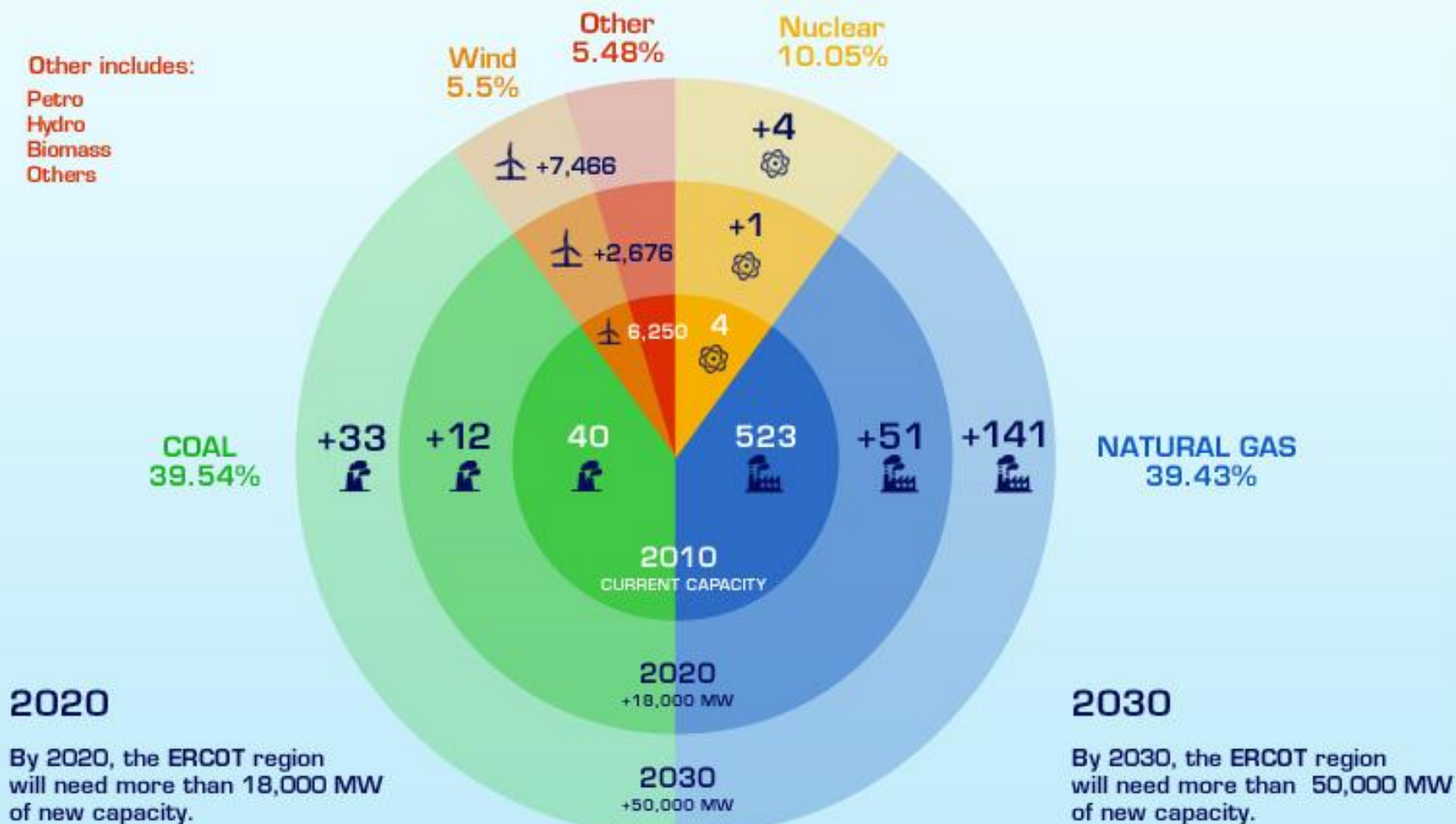
- Texas' air permit process could delay installation of federally-mandated controls:
  - By requiring long permit process for pollution reduction projects;
  - By forcing existing plants to go through contested-case evidentiary hearing process, even though EPA does not have or require such a contested cases process.
- Note: The Clinton EPA eliminated evidentiary hearing procedures because it found them to be:

*“unnecessary procedures which do not provide any environmental benefits.” 65 Federal Register 30886.*



# Texas Capacity and Demand Projections – 2010, 2020 and 2030

## New Generation Based on Percentage of Existing Capacity



Based on ERCOT Report on Capacity, Demand and Reserves in the ERCOT Region, May 2010 (using Dec. 2010 update of 13.75% reserve margin) and average facility output according to U.S. Energy Information Administration, Facility Output Capacity, 2009 (Form EIA-860 Database).

Wind calculations are based on 2009 data, which demonstrate an average generating capacity of 1.5 MW per turbine and a 25% capacity factor.

Source: BET

Note, however, that ERCOT uses an 8.7% factor for wind generation nameplate capacity when calculating reserve margins.