

## ERCOT has Recently Released Cost Estimates for Clean Power Plan (the EPA's Carbon rules)

*We think those estimates:*

### Overestimate costs

**They use industry estimates which are often far higher than what actually occurs**

- Overestimates the costs of replacing coal plants with renewable resources
  - The cost estimates they use are higher than they used in other studies
  - 30% higher than the cost of utility scale solar deal that Austin has recently done
- They make a big deal about the costs of ramping resources to balance renewables
  - But ignores storage
  - 594 MW storage- in queue
  - Big three distribution companies have a storage proposal that will back up swings in renewable energy
- Underestimates the energy efficiency that is already occurring
  - Building codes
  - Appliance replacements

### Ignore the Benefits

**Climate inaction is already costing Texans :**

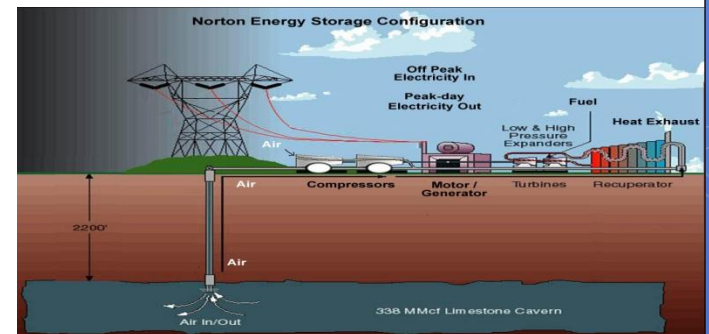
- health care costs: from 2002 to 2009, climate-related illnesses and deaths in the US totaled \$14.1 billion in health costs
  - Property insurance rates increased by an average of 10% to account for extreme weather events, including fire and water damage
  - water costs: water rates were raised another 12% this year
  - electricity costs average electric bill in Texas rose by 9%
  - Saves \$109 M annually in fuel costs for Wyoming coal
  - Creates jobs in Texas not jobs in Wyoming  
**Renewable energy** now employs 102,000 Texans- while coal employs just 23,000
- ERCOT estimated 13-17 % increase in electric costs by 2029*
- but energy costs after deregulation increased by 40% from 2002-2012 (according to EIA data)*

# Don't Underestimate the Power of Texans to Repower the State

*Texans have built 48,000 MW of new generation since 1999*

## ERCOT overestimates the problems and cost of ramping, new technologies being deployed can help

- Texas has the nation's largest solar potential that's just starting to be developed and can be added very rapidly
- Energy storage projects using batteries and compressed air in underground salt domes are being developed and permitted across the state that can capture renewable energy and save the power for later use
- Texas has enormous geothermal resources that can be co-developed by the oil and gas industries in East Texas
- Two large solid state DC interconnections are proposed that can transfer 3,000-5,000 MW of energy



## Many coal plants will close anyway

- Just retiring the 10 oldest existing coal plants when they are over 50 years old, will save 39.8% of CO<sub>2</sub> (two are all ready shutting down)
- These old plants need will need billions of dollars in upgrades to stay running before the cost of carbon controls is added
- New ways of reducing demand rapidly are being developed
- Old slow gas steam plants are being replaced by modern Combined Cycle Gas turbines and this is expected to continue.
- New Technology Combined Cycle natural gas plants are already being installed that have the capabilities that are needed in a modern grid.
  - Fast Ramping speed
  - Quick startup speeds
  - Ability to startup and shut down many times with out plant degradation

### ○ ***Can we make this transition in 15 years?***

**Don't underestimate the power of Texans**

***Texans have built 48,000 MW of new generation since 1999***