

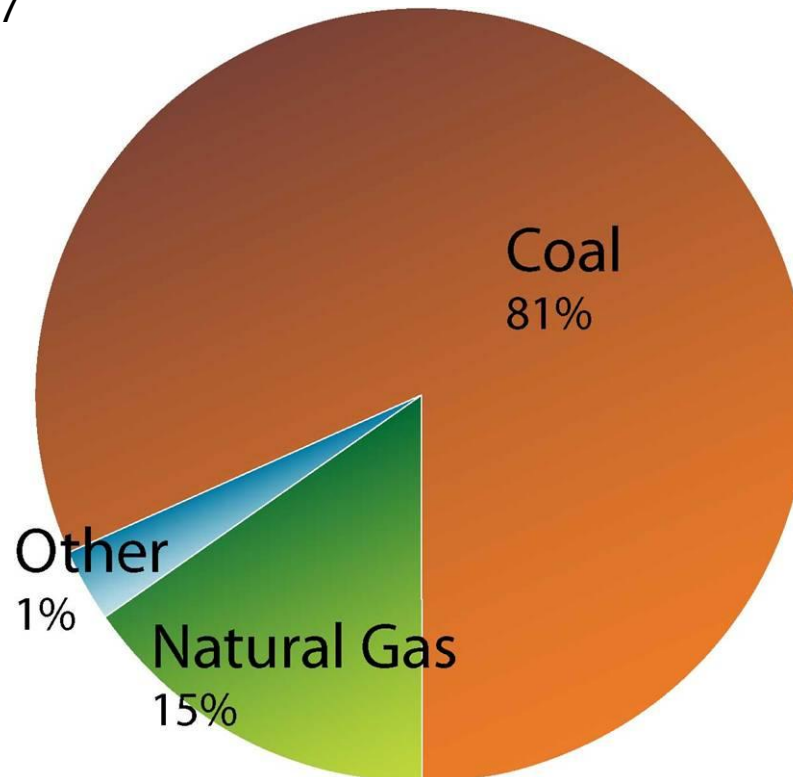


# Beyond Coal: Transforming America's Electric Sector



# Coal: Largest Pollution Problem

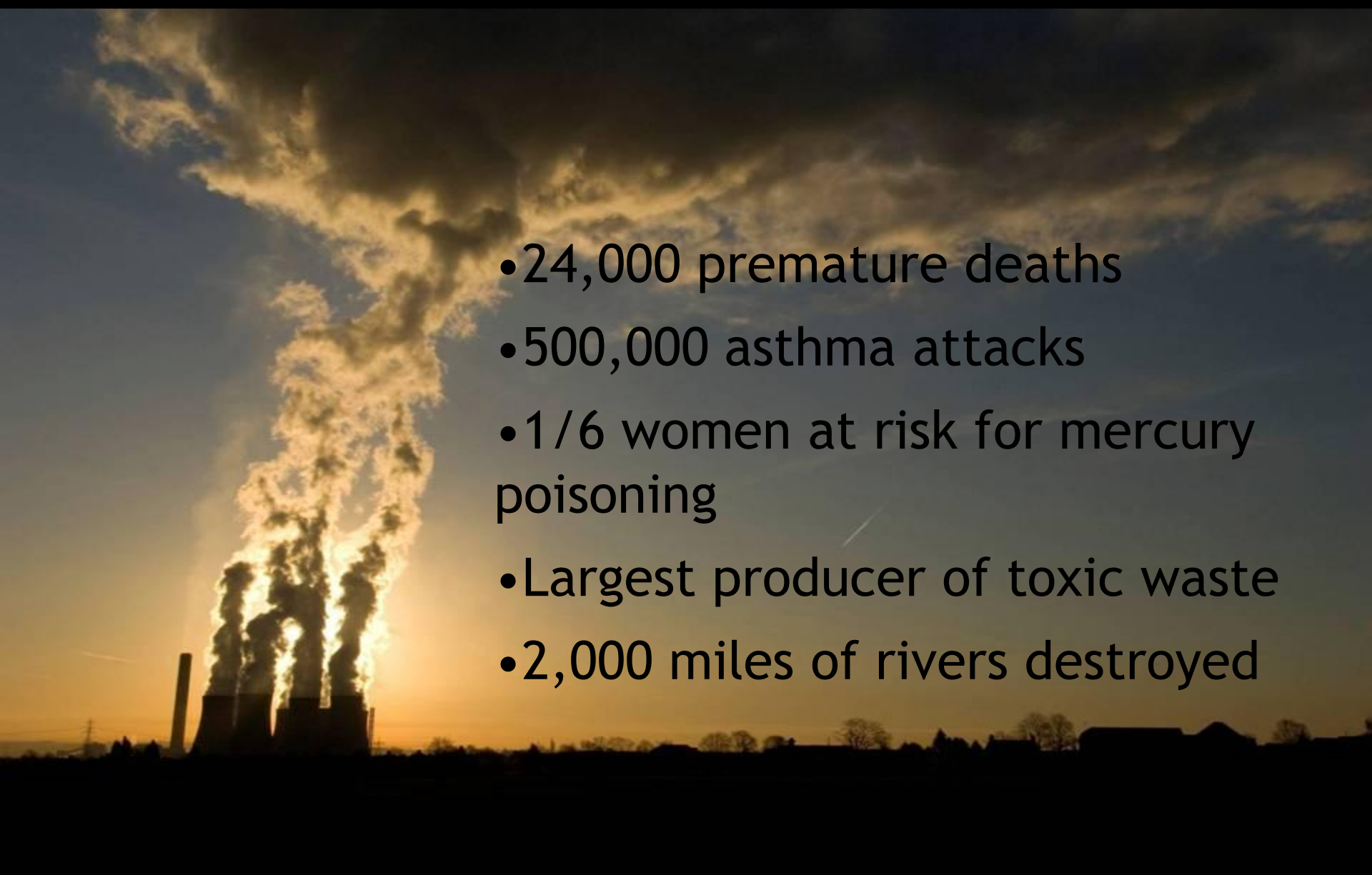
Greenhouse Gas Emissions from Electric Sector  
2007



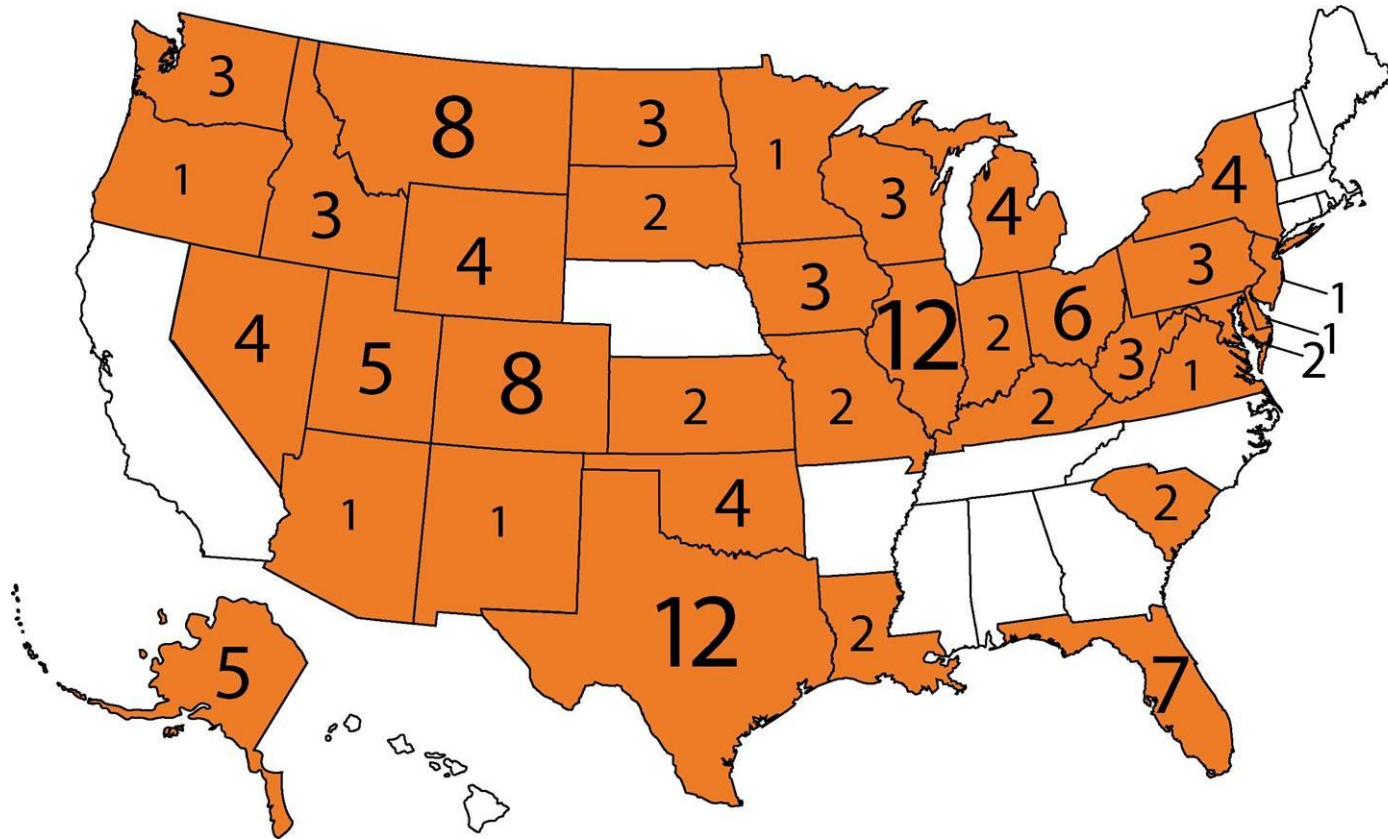
# Soot and Smog

<b>Soot</b>	<b>Smog</b>
<p><i>Public Health Dangers</i></p> <ul style="list-style-type: none"> <li>• Triggers heart attacks &amp; strokes</li> <li>• Increases risk of asthma</li> <li>• Irregular heartbeat</li> <li>• Premature death</li> </ul>	<p><i>Public Health Dangers</i></p> <ul style="list-style-type: none"> <li>• Like a sunburn in the lungs</li> <li>• Increases risk of asthma</li> <li>• Shortness of breath</li> <li>• Permanent lung damage</li> <li>• Premature death</li> </ul>
<p><i>Environment</i></p> <ul style="list-style-type: none"> <li>• Depletes soil nutrients</li> <li>• Destroys forests and crops</li> <li>• Acidification of waters</li> </ul>	<p><i>Environment</i></p> <ul style="list-style-type: none"> <li>• Destroys entire ecosystems</li> <li>• Weakens plant and tree growth, making them vulnerable to disease, insects, and extreme weather</li> <li>• Reduces crop productivity</li> </ul>

# Coal: Largest Pollution Problem II

- 
- 24,000 premature deaths
  - 500,000 asthma attacks
  - 1/6 women at risk for mercury poisoning
  - Largest producer of toxic waste
  - 2,000 miles of rivers destroyed

# New Coal: We're Winning



2006-2010: Defeated 128 coal plants; 75GW

# Market Space

## New Generation Added in 2008 (EIA data)

Coal - 1,100 MW

Wind and solar - 10,000 MW

Natural Gas - 9,800 MW

## New Generation Added in 2009 (EIA data)

Coal - 3,000 MW

Wind and solar - 8,200 MW

Natural Gas - 7,800 MW

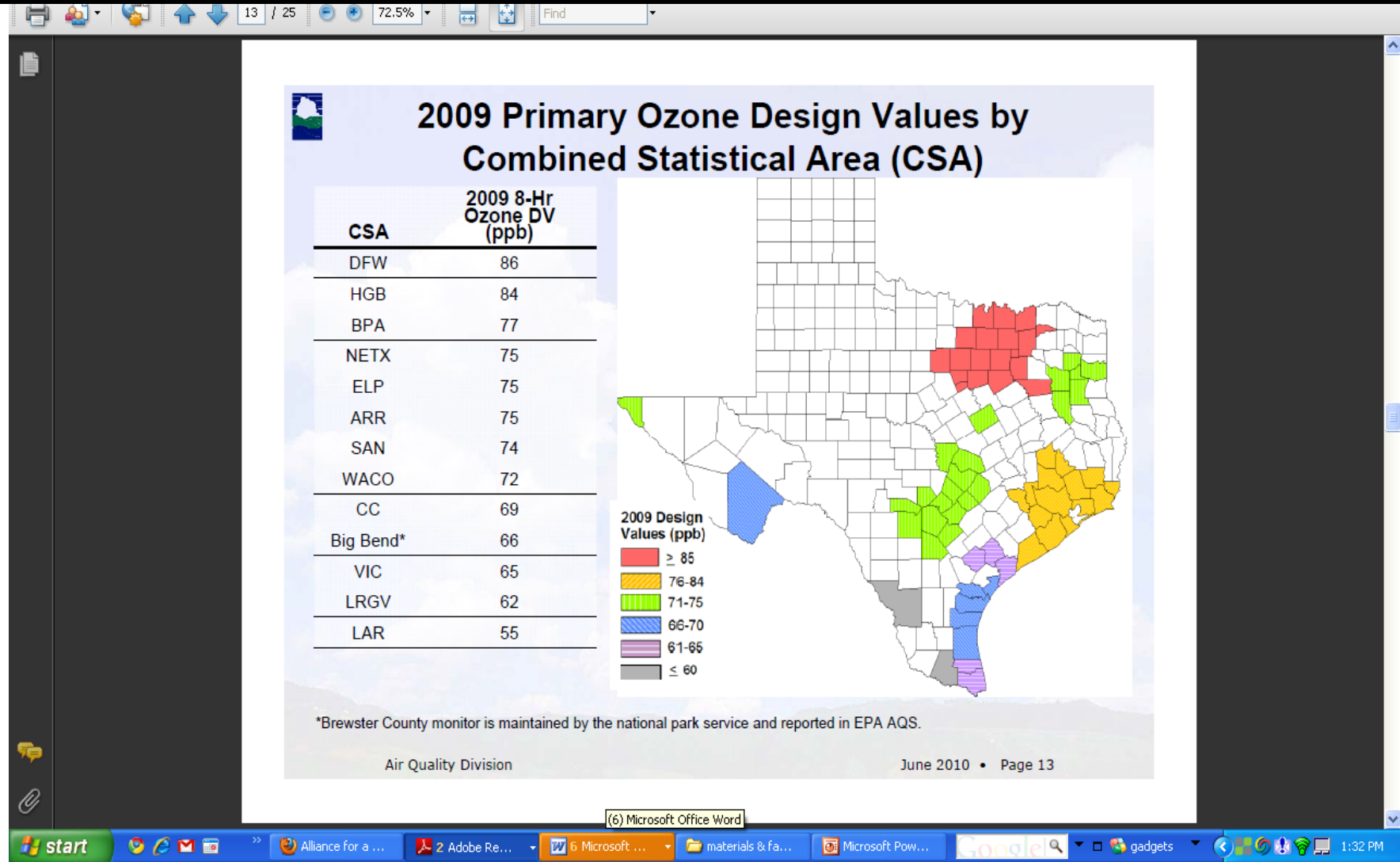


# EPA: Closing Coal's Loopholes

## EPA Is Closing Coal's Loopholes

- Mining
- Soot and Smog (Clean Air Interstate Rule)
- Air Toxics (mercury)
- NOx/SO2 National Ambient Air Quality Standards
- Carbon Dioxide
- Coal Ash
- Water Pollution / Water Use

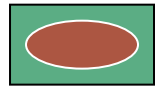
# New Ozone Standards



Areas of non-attainment will go from 3 to 8

# Recent Texas Coal Plants

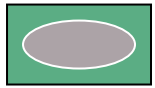
And Counties In or Near to Non-Attainment Status



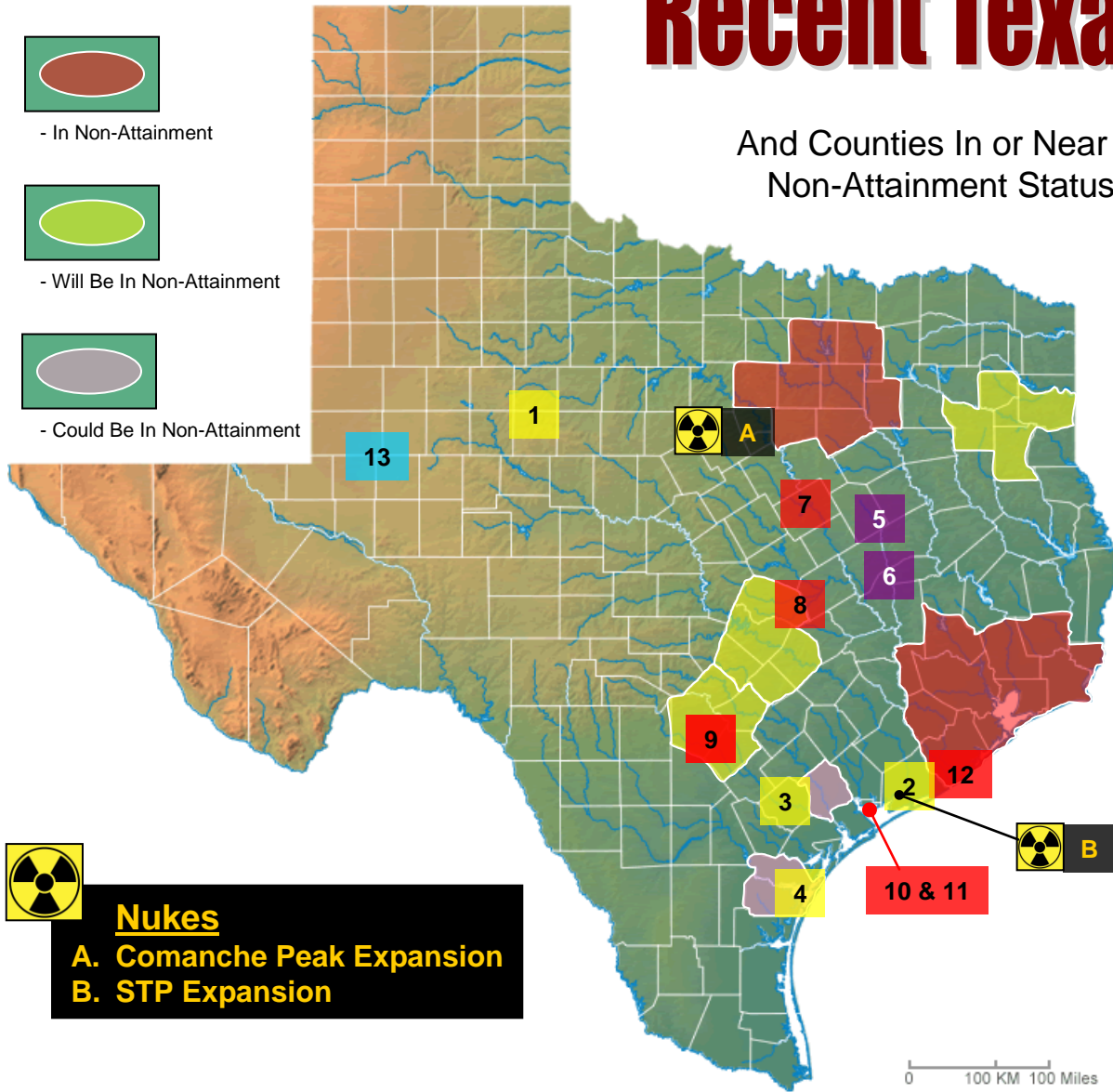
- In Non-Attainment



- Will Be In Non-Attainment



- Could Be In Non-Attainment



## Coal

- 1. Tenaska \*
- 2. White Stallion
- 3. Coletto Creek
- 4. Las Brisas

- 5. Limestone\*\*
- 6. Oak Grove

- 7. Sandy Creek
- 8. Sandow
- 9. Spruce
- 10. Calhoun Co.\*\*
- 11. Formosa
- 12. Lockwood Gasification\*

- 13. Summit IGCC \*

\* Carbon Separation

\*\* Carbon Offsets

In Permitting

Permitted, Under Appeal

Permitted

Proposed



## Nukes

- A. Comanche Peak Expansion
- B. STP Expansion



0 100 KM 100 Miles



Prevailing Gulf Winds

# Increased NOx Emissions

## Threaten Houston/Galveston Non-Attainment Region



The White Stallion coal plant would add over 4,000 tons of NOx pollution to the airshed south of Houston every year. This would significantly affect the ozone levels in the

Houston/Galveston non-attainment region, especially considering the fact that the EPA is poised to bring the non-attainment level for ozone from 75 parts-per-billion (ppb) down to 70ppb. White Stallion will make it that much harder for Houston to get back into attainment.

## Particulate Matter, Waste, and Other Hazards

Particulate Matter (PM) is microscopic soot that can contaminate the environment by washing or blowing off fuel piles (petcoke or coal piles) – it doesn't just come from the stacks. Coal and petcoke waste is typically stored in a



Petroleum-coke piles adjacent to the proposed Las Brisas plant site.

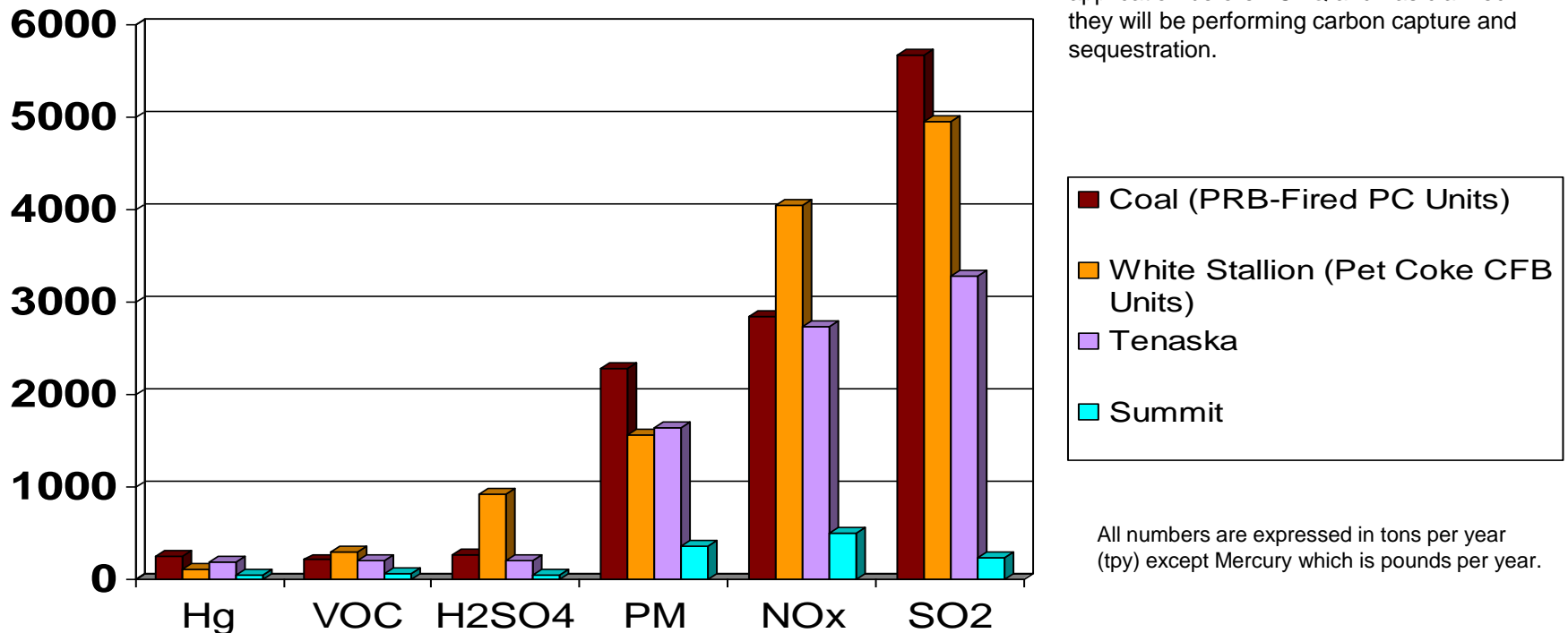
dry landfill or slurry pond where it can leech or spill into local watersheds over time, as well as be blown by the wind into the surrounding environment. Transport of these materials also leads to the contamination of the ecosystem. None of these factors are included in the proposed air permit from TCEQ.

# Isn't White Stallion a "Clean" Coal Plant Gasification vs. Conventional Power

Emissions comparison between IGCC and other technologies currently in use.

White Stallion claims to use the "Most environmentally advanced, cleanest, commercially proven, emission lowering technology available," but as shown below this is clearly not the case. The **Summit IGCC** facility proposed near Midland/Odessa is a gasification plant which heats coal to produce a synthetic gas comprised almost entirely of methane. This syngas will have emissions virtually identical to traditional natural gas. This results in a fraction of the air emissions compared to conventional burning of pet coke or coal like what is being proposed at White Stallion.

Tenaska is the most recent coal plant permit application before TCEQ and has claimed they will be performing carbon capture and sequestration.



All numbers are expressed in tons per year (tpy) except Mercury which is pounds per year.

Hg = Mercury, VOC = Volatile Organic Compounds, H2SO4 = Sulfuric Acid, PM = Particulate Matter, NOx = Nitrogen Oxides, SO2 = Sulfur Dioxide

Sources: Emissions from White Stallion and Tenaska are from their TCEQ draft permit. PRB-fired PC emissions were obtained from previously submitted permit applications for Big Brown 3, Lake Creek 3, Martin Lake 4, Monticello 4, Morgan Creek 7, Tradinghouse 3 & 4, and Valley Unit 4. Emissions from Summit IGCC were taken from their TCEQ permit application.

**Emission levels are adjusted for a plant size of 1200 MW, the size of the proposed White Stallion petroleum coke plant.**

For instance, Summit's IGCC facility is 400MW so its emission numbers have been tipped for purposes of comparison.

# Ozone modeling inaccurate



The administrative law judges who presided over the case found that “WSEC’s modeling expert relied on data that did not meet quality assurance criteria,” and that this data “was not to be used for any regulatory purpose.”



# No Cost Benefit

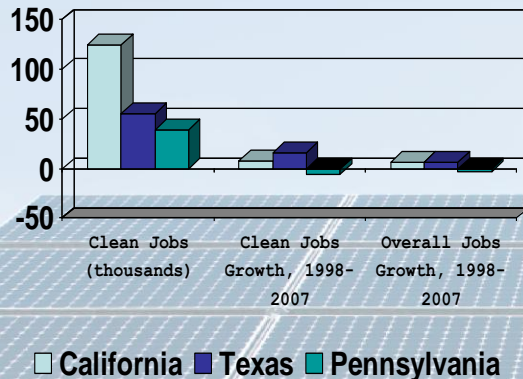
- Texas is a deregulated market so the energy produced by White Stallion will be sold on the market to Retail Electric Providers ( REPs) or large industrial consumers
- REPs will charge you as much as the market will allow
- There is no rate benefit to being near a coal plant

# Green Jobs: Texas Already No. 2, but...

## Study 1: Where does Texas Rank in Current Clean Energy Economy Jobs from 1998-2007?

We're No. 2!

Clean Energy Jobs in Top Three States, 1998-2007



- Texas already has 50,000 Clean Energy jobs, but...
- Other states, like Pennsylvania, New Mexico, California and New Jersey all have much more aggressive incentives for renewable energy and for energy efficiency
- Texas lost Spanish wind company to Pennsylvania
- Round Rock Solar installation/manufacturing company left for New Mexico
- NRG is building 92 MW solar plant in New Mexico to serve: EL PASO!

Source: Pew Charitable Trusts, The Clean Energy Economy, 2009



# Texas Can Do Better

**#1 Wind Producer**

**#1 Natural Gas Producer**

**But #1 in CO2, Mercury, NOX,  
VOC and PM**

**For more information,  
please visit our website at  
[www.sierraclub.org/coal/tx](http://www.sierraclub.org/coal/tx)**

**Jen Powis**

**Senior Regional Rep. for Texas**

**713.984.4824 (o)**

