

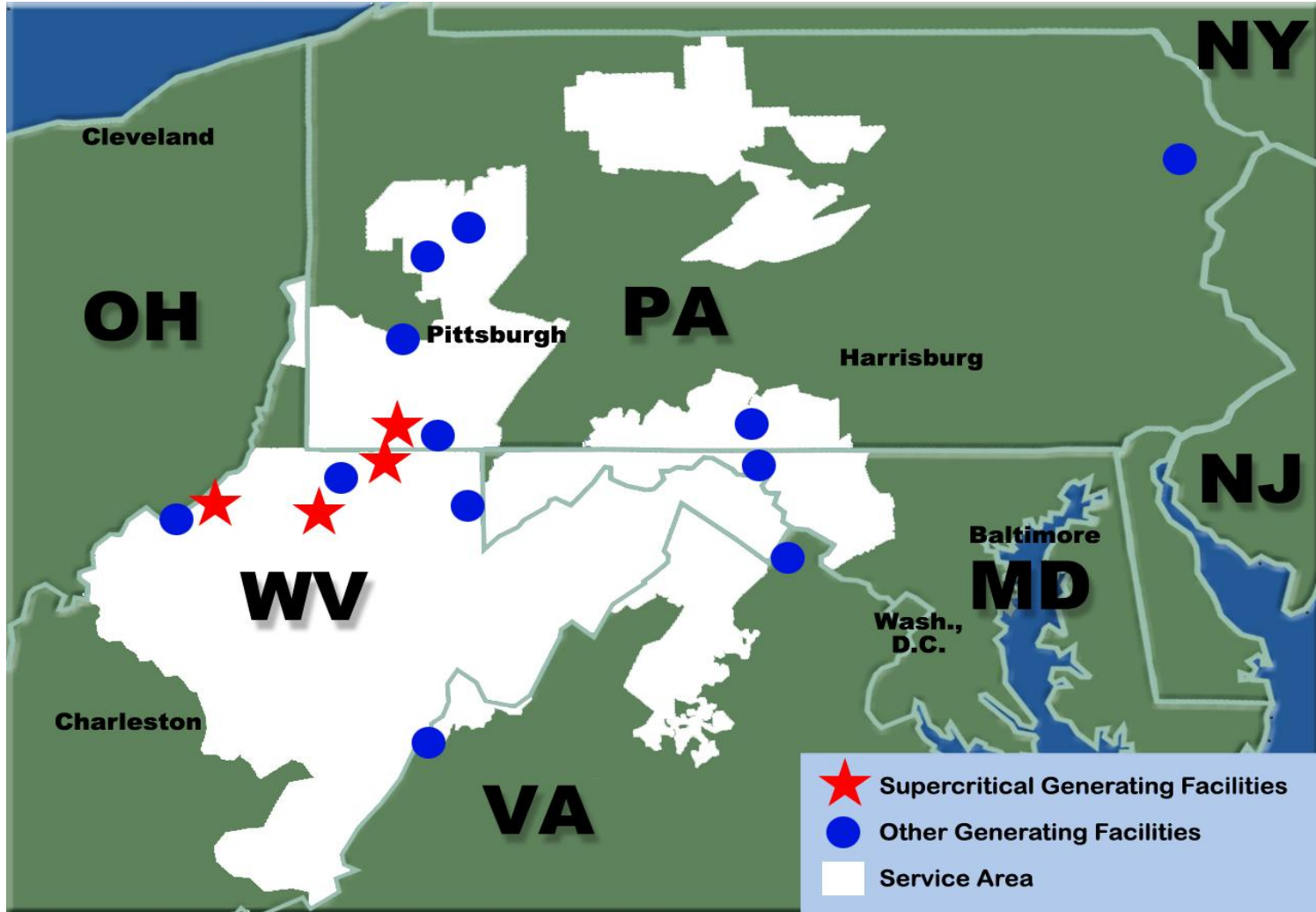
***Curtis Davis, Chief Operating  
Officer, Generation and Marketing  
Allegheny Energy Supply***

**Governor's Energy Summit 2010**



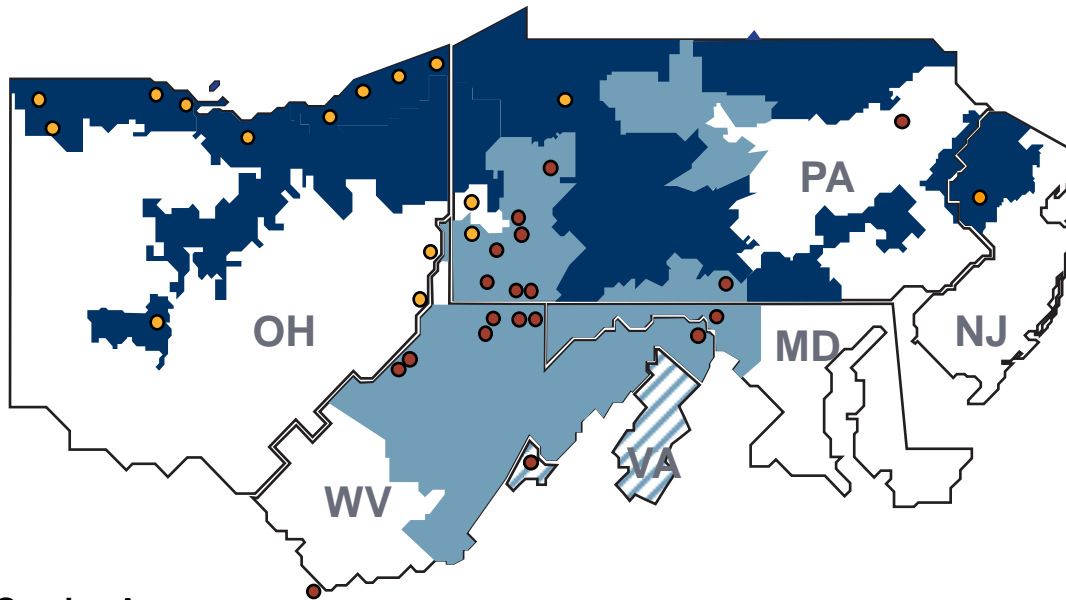


# Allegheny Energy Service Area and Generation Plants





# Allegheny & FirstEnergy Combined Service Territory



- FirstEnergy (FE) Service Area
- Allegheny Energy (AYE) Service Area
- ▨ Potomac Edison/TrAILCo  
VA Transmission Zone<sup>3</sup>
- FirstEnergy Power Plants
- Allegheny Power Plants



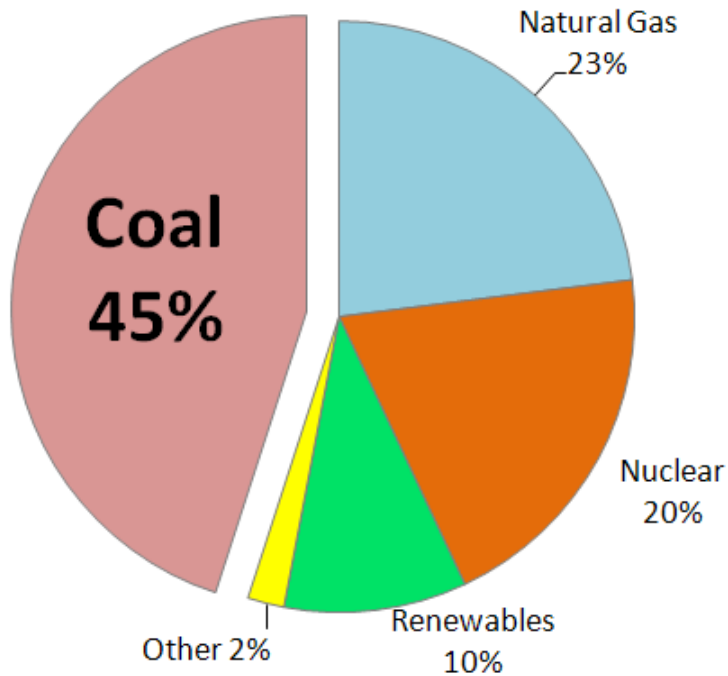
# Challenges to the Generator

- Electricity demand is down
- Power prices are down
- Capacity prices are down
- Coal prices are up
- Environmental regulations are increasing and unclear, thus creating uncertainty

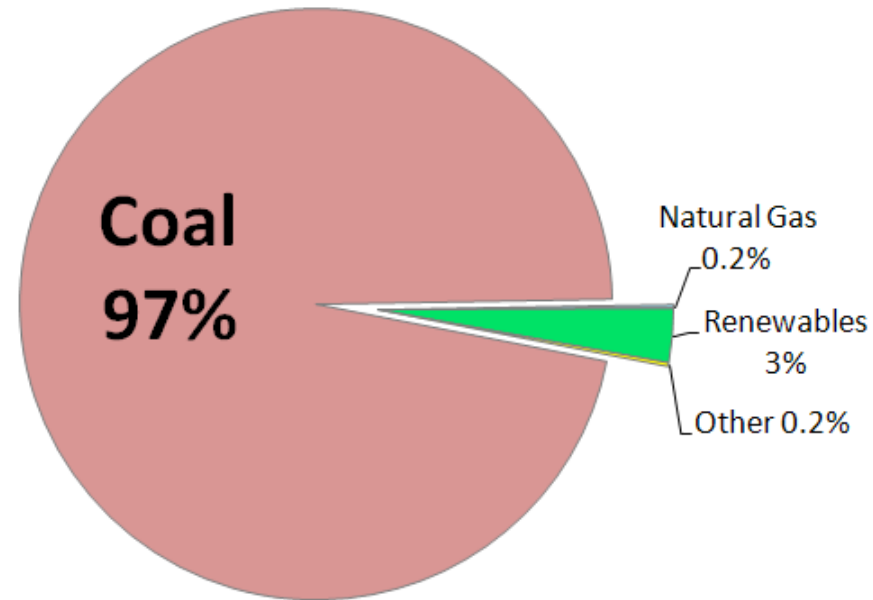


# Coal is the Dominant Source of Electricity

## United States



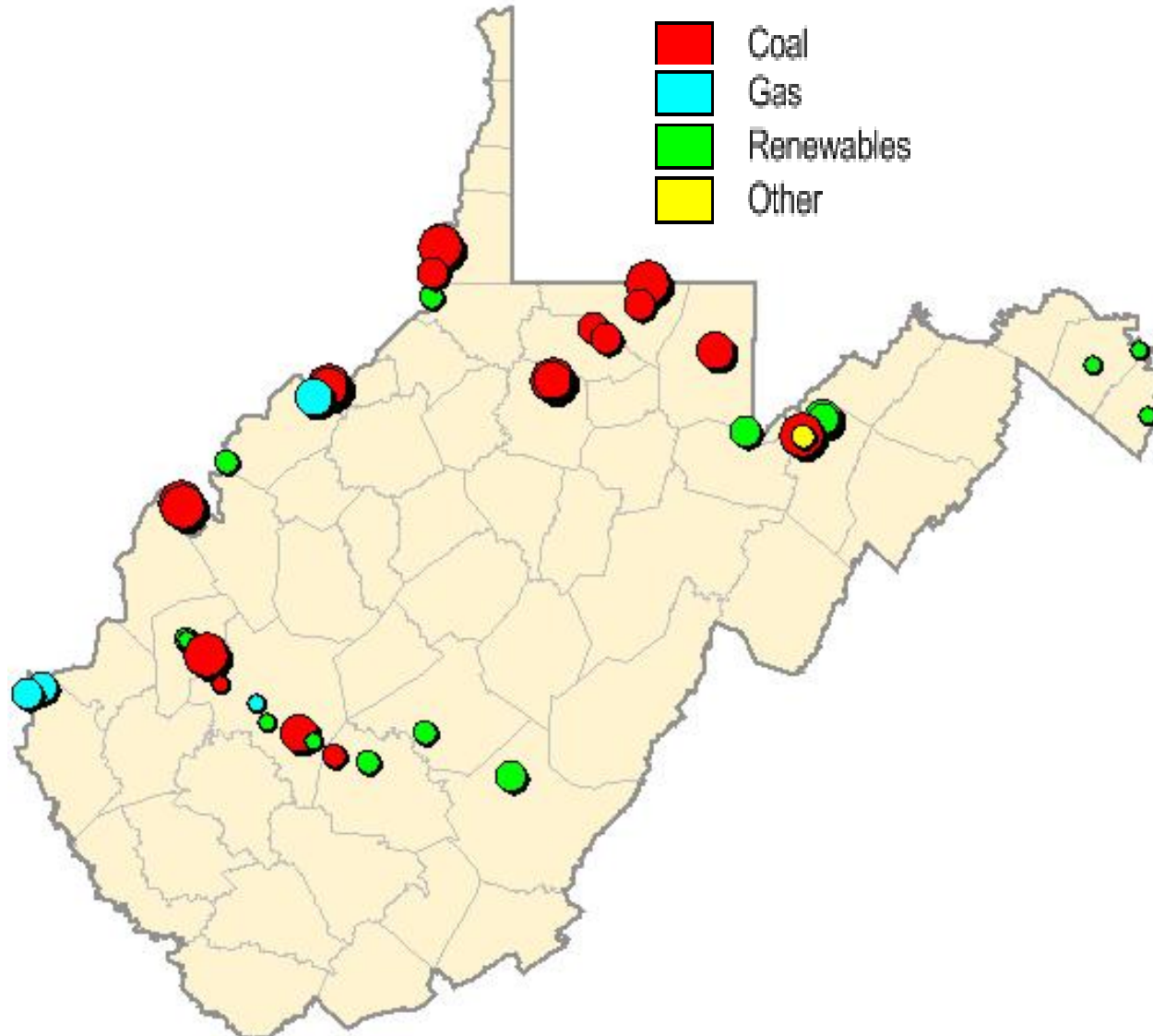
## West Virginia



Source: U.S. Department of Energy, Energy Information Administration.



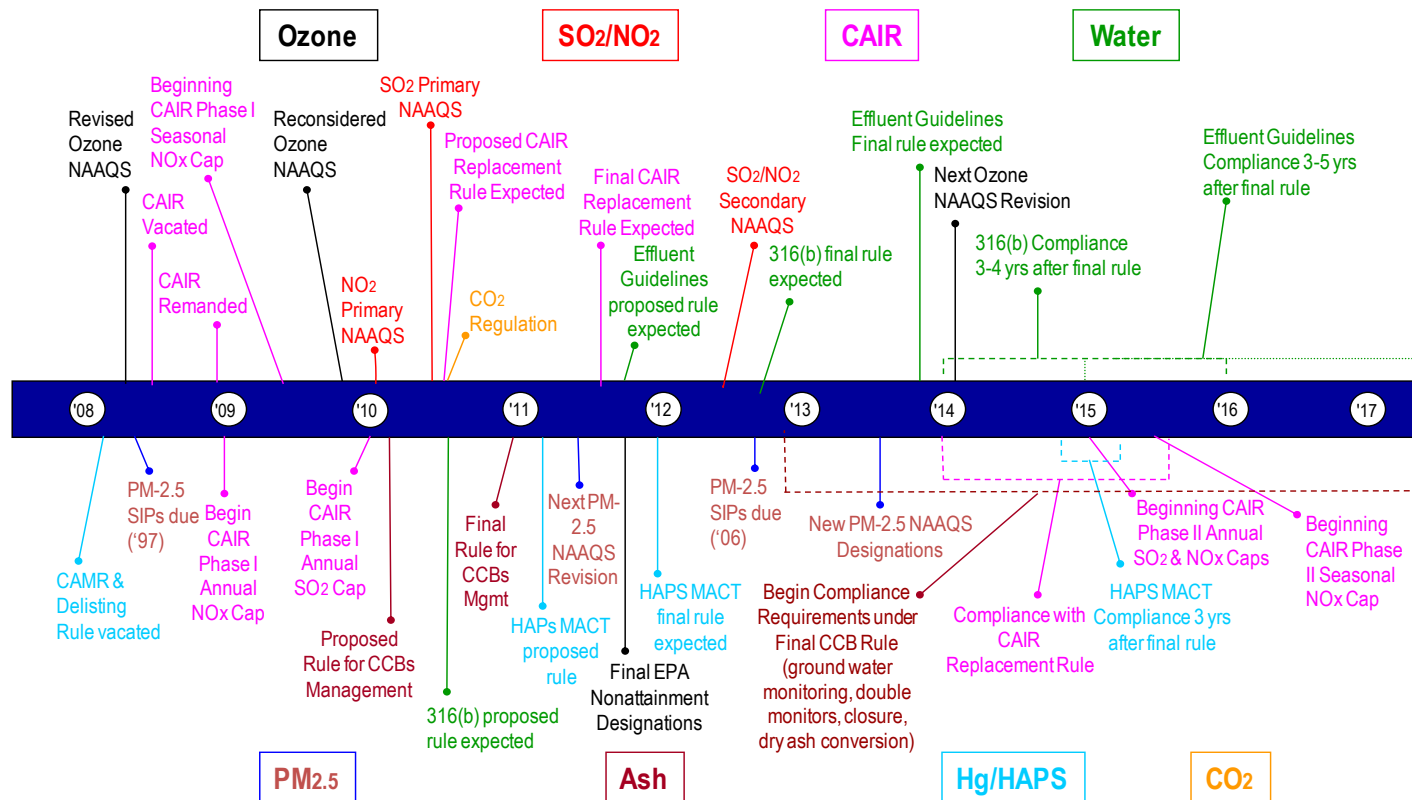
# West Virginia Generation





# Pending EPA Regulations

The maze of regulations over the next five years...



...will force nearly all coal plants to retrofit or retire.



# Potential Effects of EPA Regulations

Multiple reports conclude EPA regulations will result in:

- The loss of significant amount of generation capacity
- Extensive capital costs associated to comply
- Upward pressure on energy prices
- Negative effects on system reliability





# Estimated Coal Retirements/Sample Reports

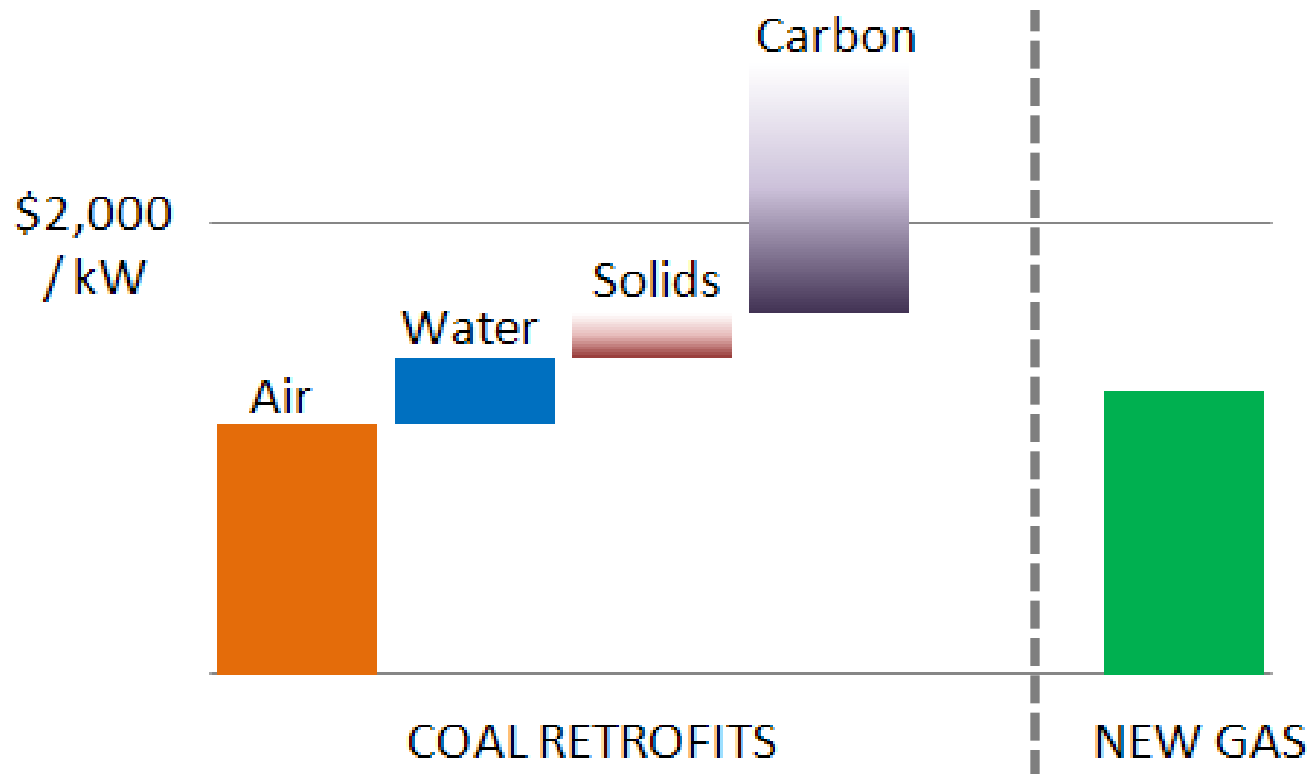
- NERC (October 2010)
  - 34 GW of retirements through 2015-2018
- MJ Bradley (August 2010)
  - 25-40 GW of retirements by 2015
- Sanford Bernstein (October 2010)
  - 65 GW of retirements by 2014-2015
- Credit Suisse (September 2010)
  - 35-103 GW of retirements through 2013-2017
- ICF for EEI (May 2010)
  - 25-60 GW of retirements through 2015
- UMWA (May 2010)
  - 56 GW of retirements by 2015

Source: ACCCE – November 2010



# Regulations Will Be Costly

**Utilities/Generators may need billions to retrofit or replace coal generation...**



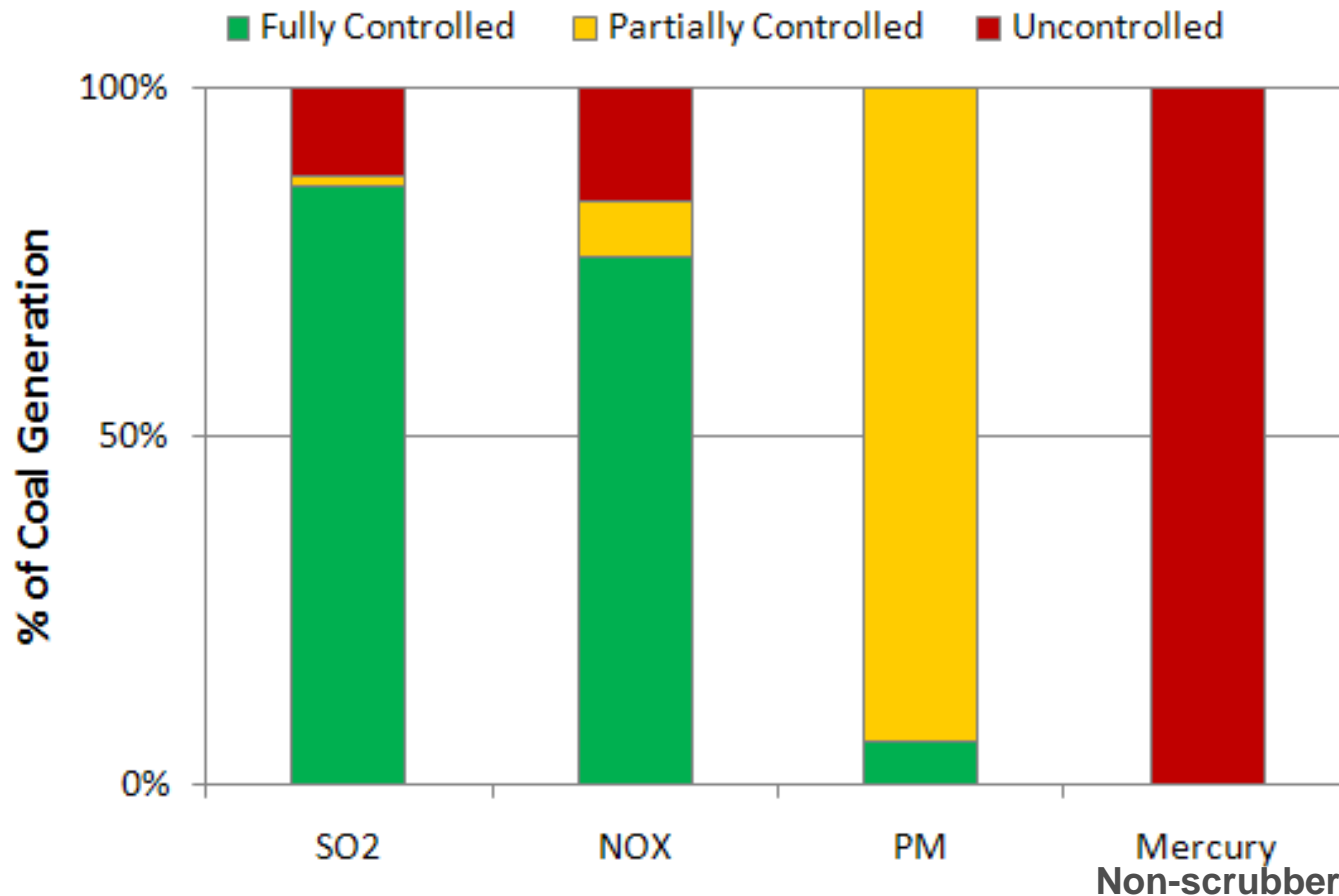
**...and these costs will be borne by utility customers.**

**Source:** Air costs per EEI Coal Fleet Initiative study. Water & solids cost per AYE internal estimates. Carbon costs per EIA AEO 2010.



# All West Virginia Coal Generation will be Impacted

**While billions have been spent in WV to reduce air emissions...**



**...all plants will now face additional mandated investments.**

Source: EPA 'Needs v.4.10' database

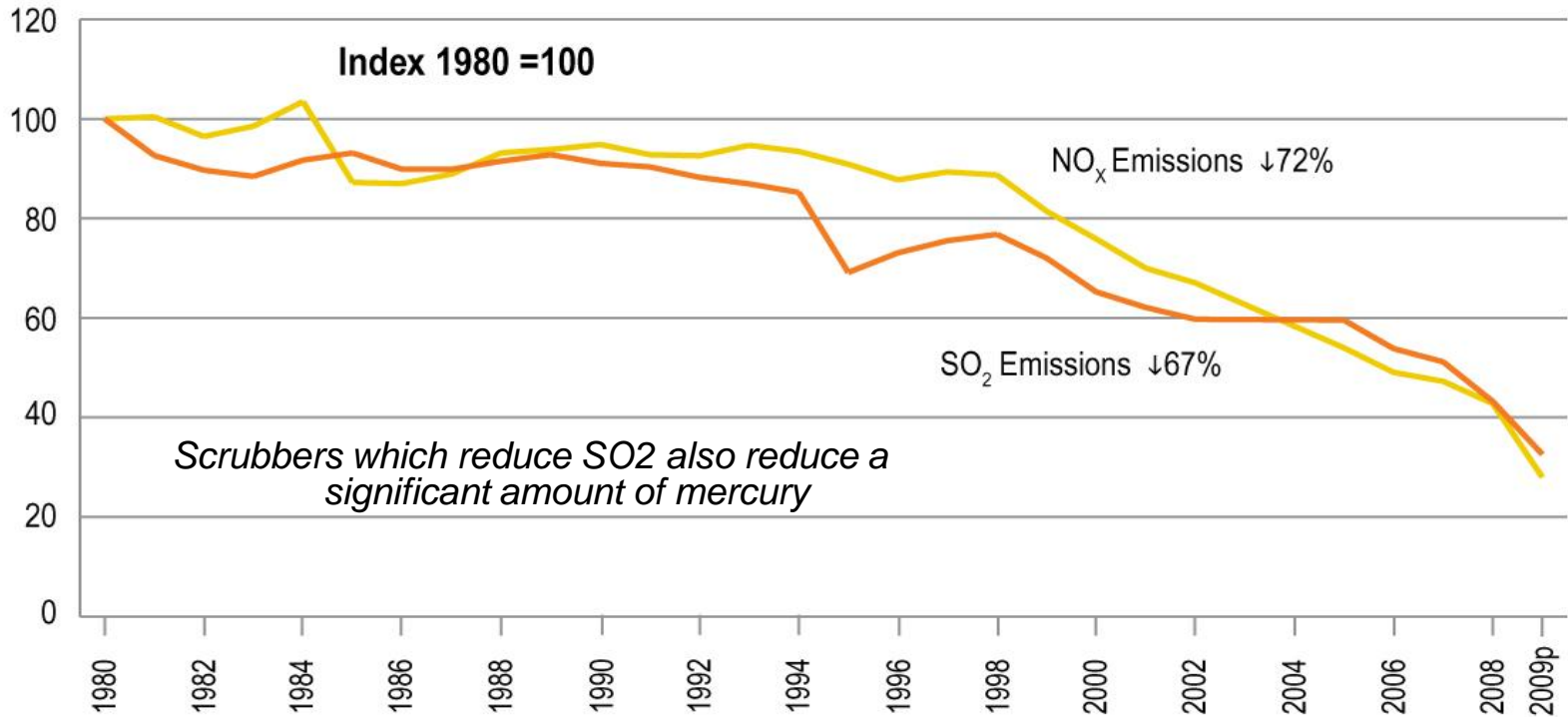


## Regulations Will Require Significant Retrofits

- 40% of US coal capacity is scrubbed (SO<sub>2</sub> and mercury).
- 33% of US coal capacity has an SCR (NO<sub>x</sub> control).
- Therefore, to survive the train wreck, about 2/3 of US coal capacity would have to invest in a scrubber and/or an SCR, plus other controls.
- 76% of WV coal capacity has both SCR and scrubbers.
- 10% of WV coal capacity has only scrubbers.
- 14% of WV coal capacity has neither a SCR nor scrubbers.
- AE has already invested ~\$3 Billion in clean air controls.



# Continuous Environmental Improvements



p = preliminary

1980 represents the base year. Graph depicts increases or decreases from the base year.

Source: U.S. Environmental Protection Agency (EPA)

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## Effect of plant closures on jobs

- Job loss is an issue of concern with pre-mature coal plant closures
- More than 2,700 operation and maintenance employees work in WV coal fired power stations
- There are approximately 46,000 mining employees in WV
- Other suppliers
- Every 4 MW of generation lost represents the loss of one power plant job
- Every 10,000 tons of coal that will not be used due to retirements represents the loss of one mining job



- We must work with Congress and the EPA to mitigate the Train Wreck by coming up with regulations that:
  - Provide a better time line for implementation of regulations.
  - Balance reducing emissions with keeping the lights on
  - Limit cost impact on customers.
  - Support the long-term development of clean coal technologies.
- If we do not find solutions, then we face:
  - A rash of coal generation retirements.
  - Loss of jobs in the utility/generation sectors.
  - Increased costs for utilities and their customers.
- We cannot give on a few regulations
  - One regulation by itself is enough to cause plant closures