Financial Risks of Merchant Coal Plants: West Virginia case studies

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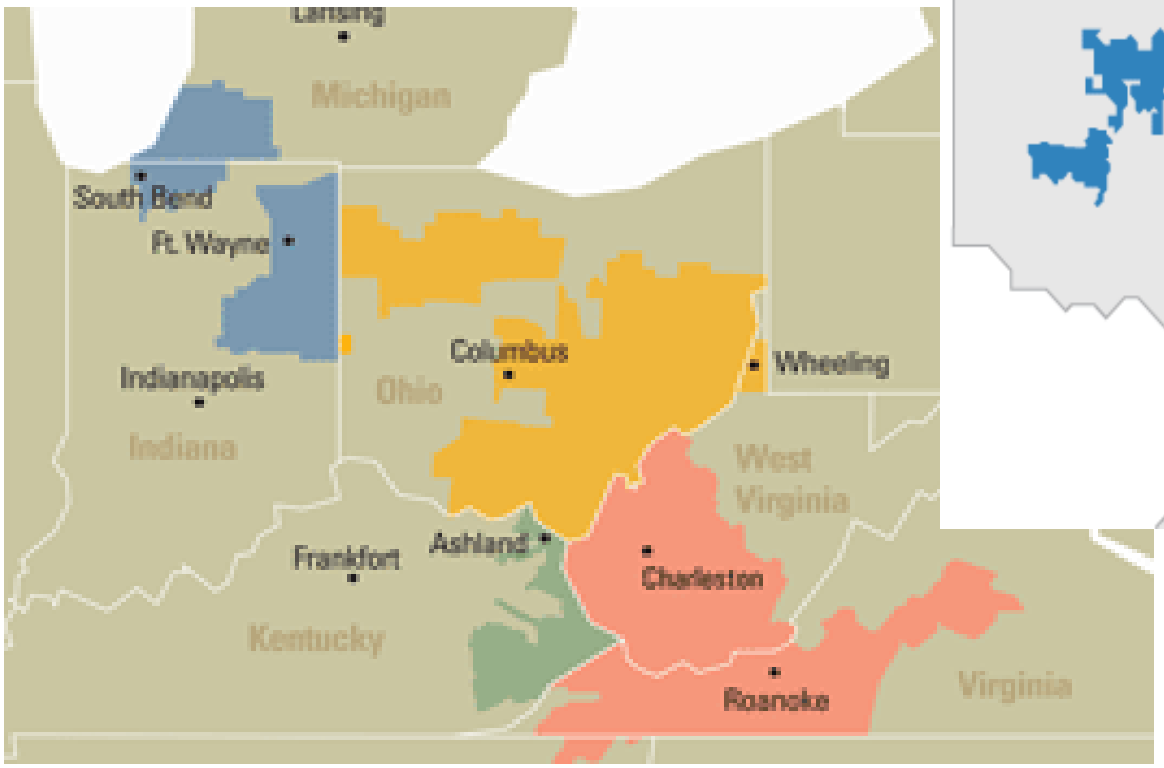
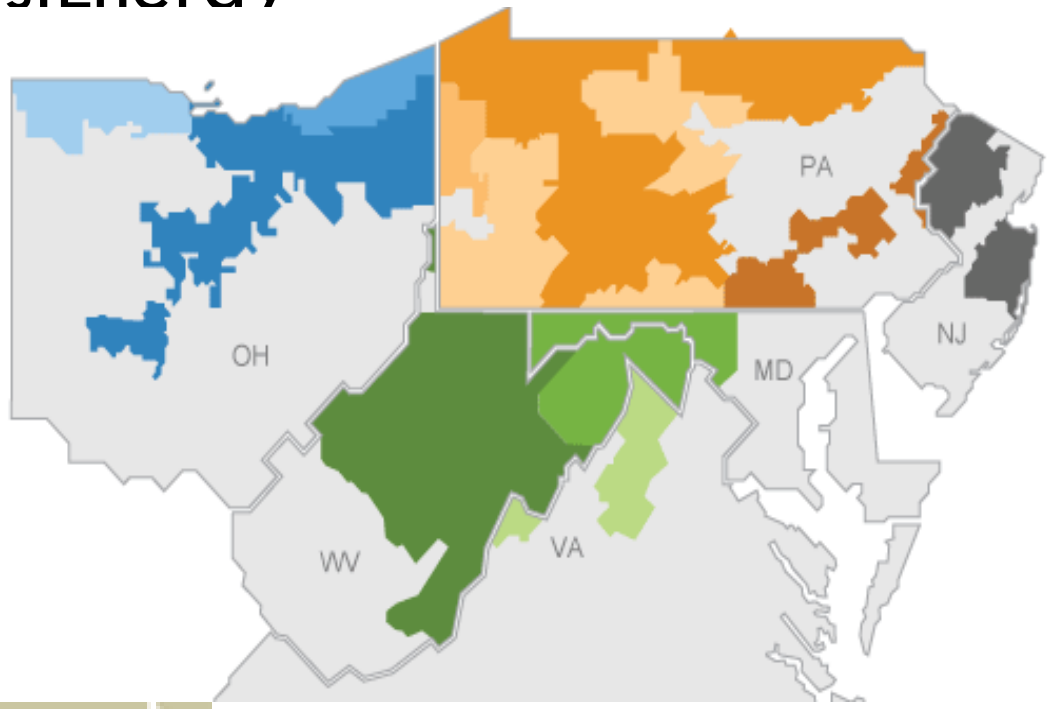
Outline

- Intro to WV's electricity system
- Proposed coal plant sales (AEP and FirstEnergy)
- What is driving these sales?
- How would they impact WV ratepayers?
- Conclusions

West Virginia's electricity system

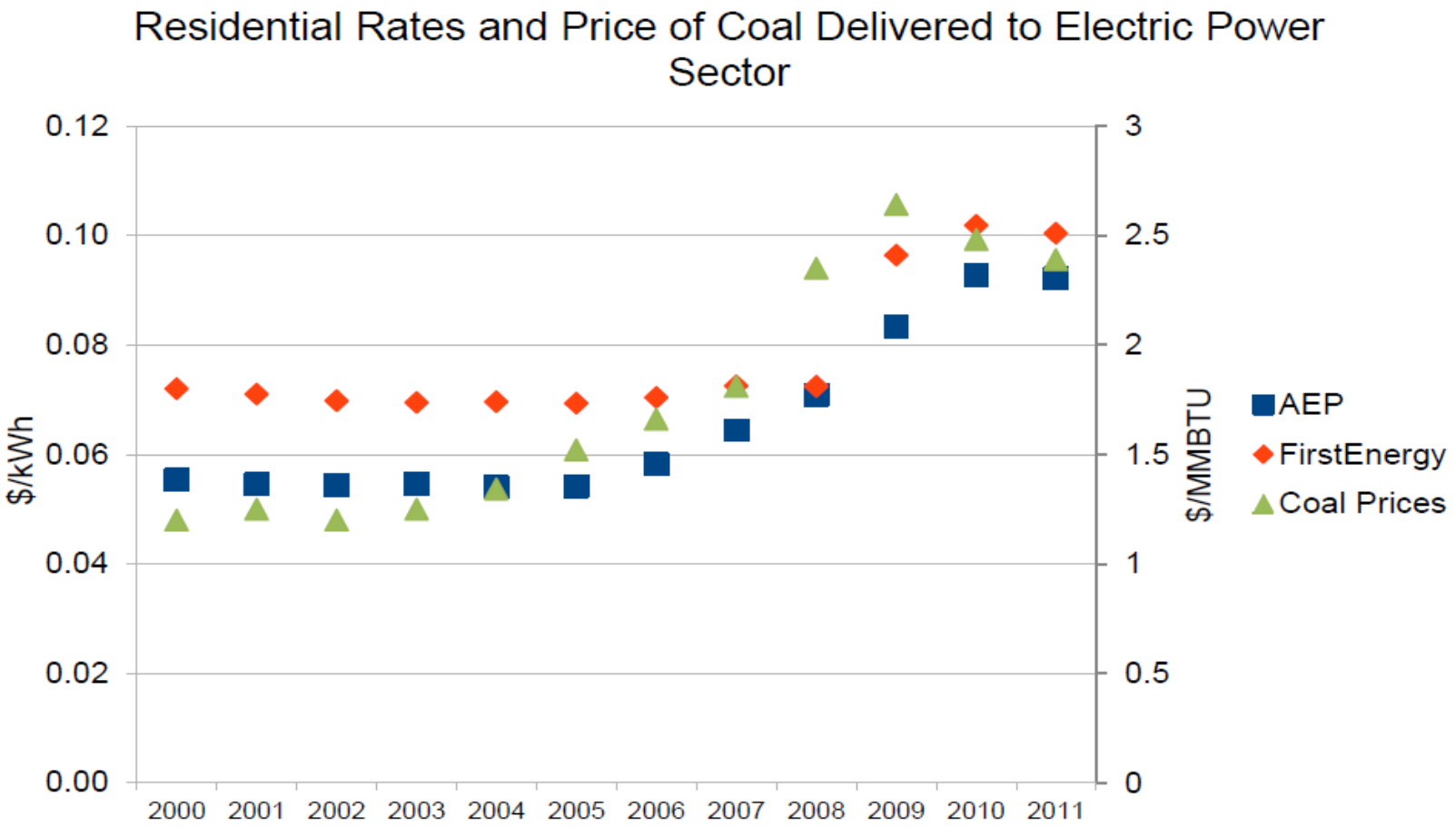
- Served by AEP and FirstEnergy
- Part of PJM





West Virginia's electric rates

- Appalachian Power (AEP): 74% coal
- Mon Power / Potomac Edison (FE): 100% coal



Current cases: AEP

- Sell coal plants from Ohio Power (deregulated) to Appalachian Power and Kentucky Power (regulated):
  - 1647 MW to Appalachian Power
  - 780 MW to Kentucky Power
- Coal plants:
  - John Amos Unit 3 (1973)
  - Mitchell (1971)
  - Supercritical, fully scrubbed

AEP's rationale

- WV's customers already buying energy and capacity from these plants anyway through power pool
- When power pool dissolves, Appalachian and Kentucky Power will have large capacity shortages
- Buying Amos and Mitchell is the least cost option

FirstEnergy's case

- Sell 80% of Harrison plant (1576 MW) from Allegheny Energy Supply (deregulated) to Mon Power (regulated); and sell 100MW of Pleasants plant from Mon Power to AES
- Harrison (1972-1974): supercritical, scrubbed
- Sell at inflated book value:
  - 20% of Harrison (Mon Power): $319/kW
  - 80% of Harrison (AES): $767/kW
  - Legacy of 2011 merger of FE with Allegheny Power

FirstEnergy's rationale

"Opportunities to acquire existing generating facilities are scarce since they require the intersection of a willing seller and an asset that meets the requirements of the prospective buyer. Mon Power is fortunate to have uncovered such an opportunity."

(Mon Power's 2012 Resource Plan)

FirstEnergy's rationale

- Need capacity due to subcritical retirements
- Staying in market is highly risky – would be buying 32% of energy and 40% of capacity from market by 2026
- Lowest cost option:
  - Harrison: 7.4 cents/kWh
  - Market purchases: 7.5 cents/kWh
  - New natural gas plant: 11.5 cents/kWh
  - Energy efficiency: can't be evaluated

Drivers of proposed plant sales: short-term financial outlook

- Low natural gas prices → declining competitiveness of coal in PJM
  - Coal as percentage of PJM generation:
    - 2008: 55%
    - 2010: 49%
    - 2012: 42%
  - AEP East's coal capacity factor:
    - 2011: 58%
    - 2012: 49%
  - Harrison's capacity factor:
    - 2007: 80%
    - 2012: 53%

Drivers of proposed plant sales: long-term financial outlook

- Long-term financial outlook highly uncertain
- Impending environmental regulations:
  - Boiler MACT rule
  - Coal combustion residuals rule
  - Clean Water Act 316(b) rule
  - Climate change ????

Drivers of proposed plant sales: bad market for coal plants

- Recent coal plant sales
  - Dominion's sale of Brayton Point, Kincaid, and Elwood (natural gas) to Energy Capital Partners
    - $650 million after-tax for 2686 MW of coal and a gas plant
  - Exelon's sale of 3 MD plants (largely coal) to Raven Power Holdings in 2012
    - $400 million for 2648 MW
    - Estimated $275M pre-tax loss for Exelon
- FirstEnergy: $1.2 billion for 1576 MW
- AEP: ~$1.5 billion for 1647 MW

Drivers of proposed plant sales: FirstEnergy's debt

- High levels of debt in competitive generation segment
- Targeting $1.5 billion in debt reduction in 2013 from Harrison sale and sale of “additional non-strategic assets”
- Struggling to maintain credit ratings

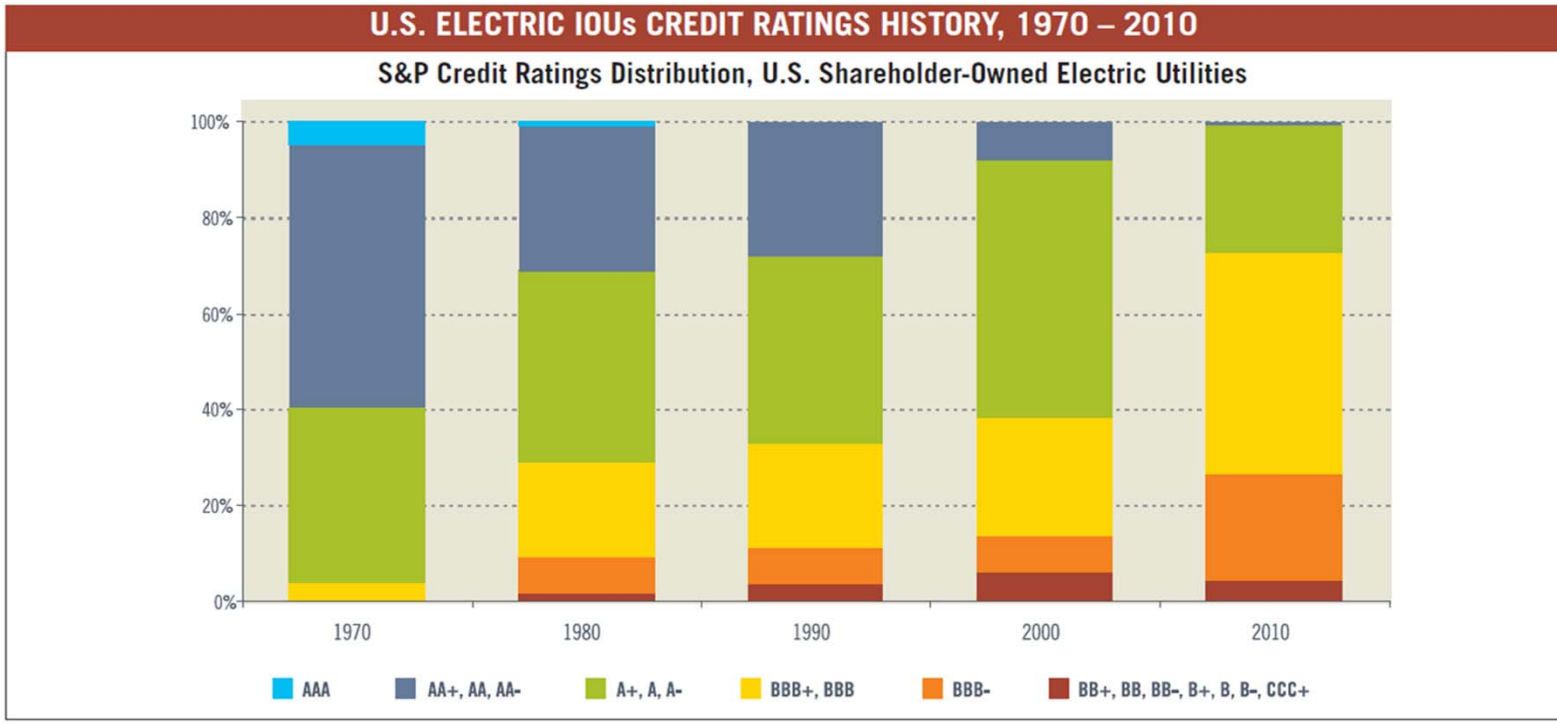
Impact on WV ratepayers

- Locked in to 27 years of coal investment
- Little hedge against coal price volatility
  - Appalachian Power: 71% coal (after other retirements)
  - Mon Power: 100% coal

- FirstEnergy WV: 90% of internal generation from two 40+ year-old coal plants
- Over-capacity: stifling CHP, distributed generation

Conclusions

- Economics of coal are changing. Over-reliance on regulated coal capacity not working so well in WV anymore.
- WV: aging coal fleet, flattening demand growth in PJM, under-investment in distribution, no resiliency / climate change preparedness
- Nationally: increasing risk/uncertainty in utility sector, steadily declining credit ratings, but $80 billion/year investment needed through 2030



Source: R. Binz, "Practicing Risk-Aware Utility Regulation," Ceres, April 2012.

Conclusions / Future directions

- What is vision for future of West Virginia's electricity system?
- Lack of appetite for major new investment: new coal, new natural gas, new nuclear all face very uncertain future
  - Good opportunity for utilities to reduce risk by dumping merchant coal plants
- Energy efficiency, demand response, decentralized power – threatening to WV utilities' business model, when will the balance of power shift?

Thanks!

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