



Governor Tomblin's Energy Summit

Clean Power Plan Rule Impacts

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Clean Power Plan Rule Impacts

- “The curious task of economics is to demonstrate to men how little they really know about what they imagine they can design.”

— *F. A. Von Hayek, The Fatal Conceit*



Regulatory Context

Agency	Rule	Status
EPA	316(b) Cooling Water Intake	Final
EPA	Sulfur Dioxide NAAQS	Final
EPA	Particulate Matter NAAQS	Final
MHSA	Mine Dust Standards	Final
EPA	Cross-State Air Pollution (CSAPR)	Upheld but remanded
EPA	Utility MACT	Final, April 2015 compliance
EPA	Regional Haze	State-by-state
EPA	"Waters of the U.S."	Proposed
EPA	New Power Plant CO2 Rules	Proposed
EPA	Existing Power Plant CO2 Rules	Proposed
EPA	Ozone NAAQS	Expected December 2014
Interior	Stream Buffer Zone Rule	Expected 2014(?)
EPA	Coal Ash	Expected Dec. 2014

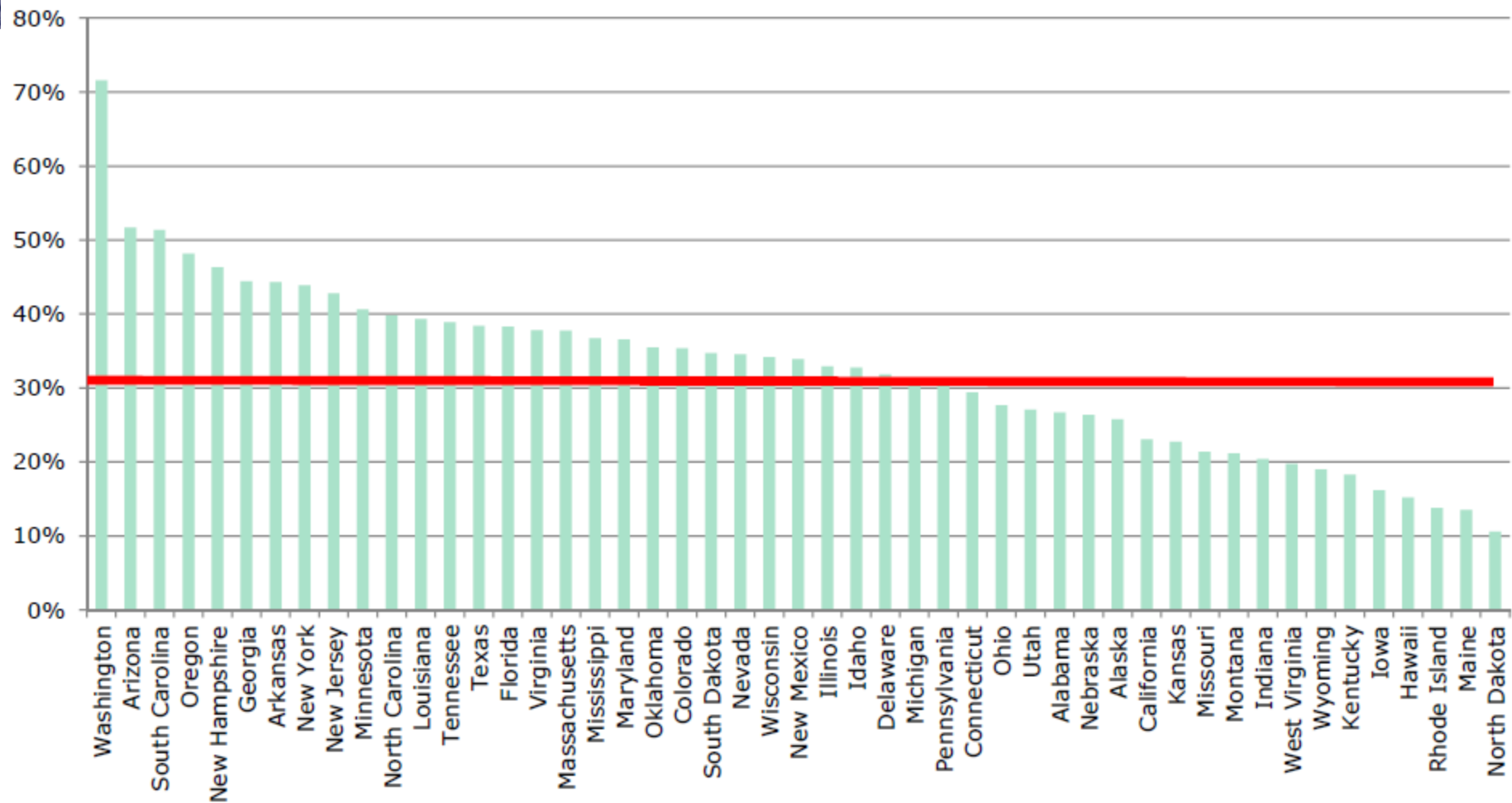


CO₂ Rules for Existing Power Plants

- Proposed June 2, 2014
- Call for national carbon emissions reductions of 30% below 2005 levels by 2030 (555 million tons).
- *Mass-based* national goal reached through *rate-based* mandates on 49 states
- Timeline
 - ~~October 19, 2014~~ **December 1, 2014**: Comment period closes
 - June 1, 2015: Rule finalization
 - June 30, 2016: State Implementation Plans due
 - October 30, 2016: EPA approval/disapproval of state plans

Emissions Reduction by State

Final Goal 2030





CO₂ Rules for Existing Power Plants

● “Building Blocks” Drive State Emissions Targets

- **BB1: 6% Heat Rate Improvements** at all coal-fired power plants. **Fence Line**
- **BB2:** Increase the capacity factor of natural gas combined cycle (NGCC) plants to **70%**.
- **BB3(a):** Increase annual renewable energy generation by **209%**.
- **BB3(b):** Prevent shutdown of **88,600 GWh** of “at-risk” nuclear energy (6% of current generation).
- **BB4:** Reduce nationwide electricity demand **11%** through energy efficiency measures.



Is EPA's Rule Truly Flexible?

- EPA Administrator McCarthy on State Flexibility:
 - "There is enormous flexibility in the definition of a state plan, and our ability to look at the timeline for...submitting the plans and achieving the reductions."
 - "There's no one-size-fits-all solution. States can pick from a portfolio of options to meet regional, state, and community needs—from ones I mentioned, or the many more I didn't, and in any combination. **It's up to states to mix and match to get to their goal.**"
- Excerpt from rule:
 - "In developing the building block data inputs applied to each state's historical data to develop the goals, the **EPA targeted reasonably achievable rather than maximum performance levels**. The overall goals therefore represent reasonably achievable emission performance levels that provide states with flexibility to **pursue some building blocks more extensively and others less extensively** than the degree reflected in EPA's data inputs while meeting the overall goals."



CO₂ Rules for Existing Power Plants

● Concerns

- Jobs/costs/electricity affordability
- Electricity reliability
- Stranded assets/investments
- State flexibility
- Technological achievability
- Fairness, disparities between state targets
- Negligible impact on climate
- Impacts well beyond coal and electricity
- Process and timeline



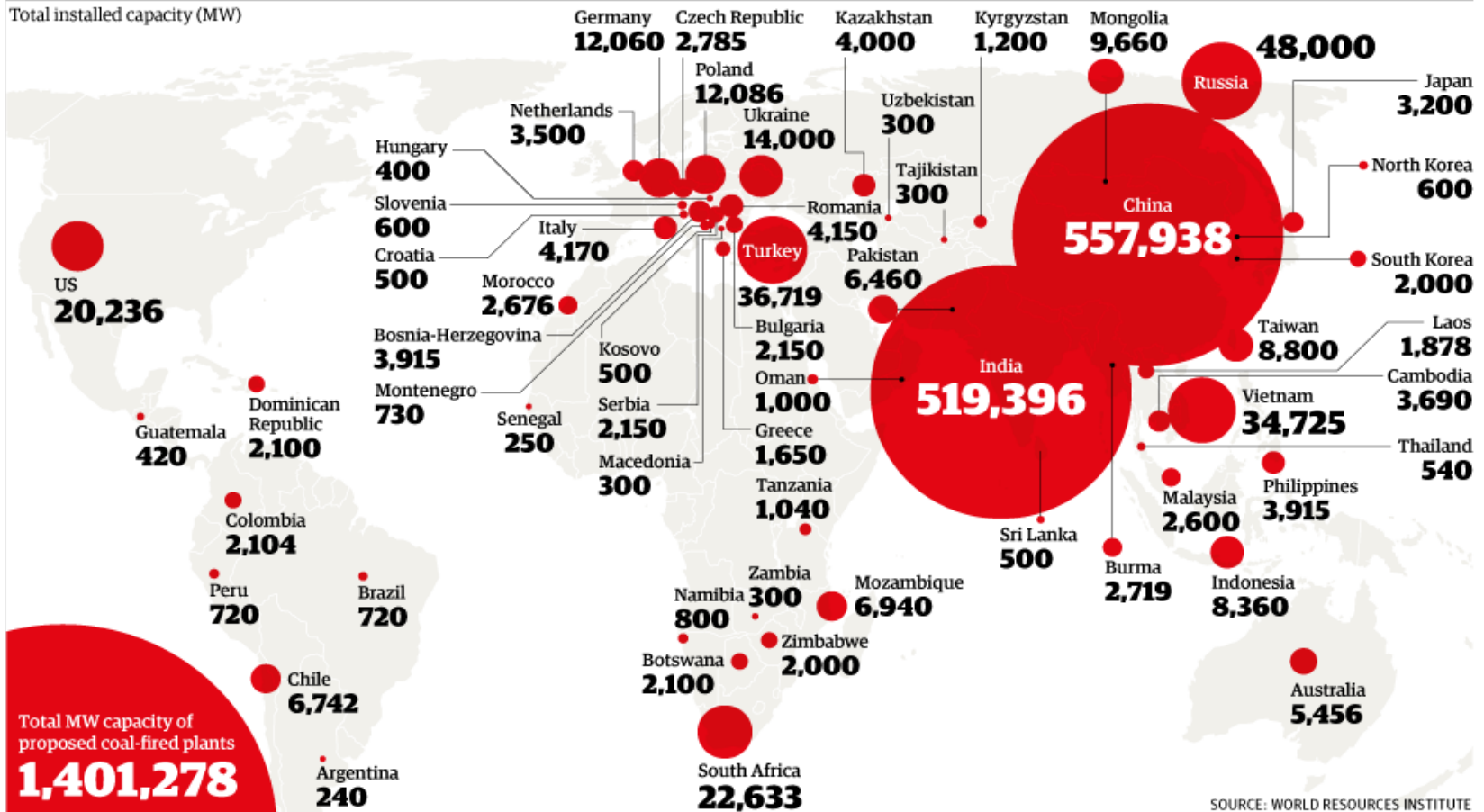
Economic and Electricity Market Impacts

- **Additional detailed and independent analysis is needed, but EPA estimates its rule will result in:**
 - **Nationwide electricity price increases of 6-7% in 2020; up to 12% in some locations.**
 - **Annual Compliance costs of \$5.4-\$7.4B in 2020, rising up to \$8.8B in 2030.**
 - **Coal retirements in 2020 of up to 49 GW nationwide.**
- **UMWA estimates 187,000 utility, rail, and coal job losses in 2020; cumulative wage and benefit losses of \$208B through 2035.**

Global Context

Rest of World Aggressively Building New Coal Plants

Proposed coal-fired plants



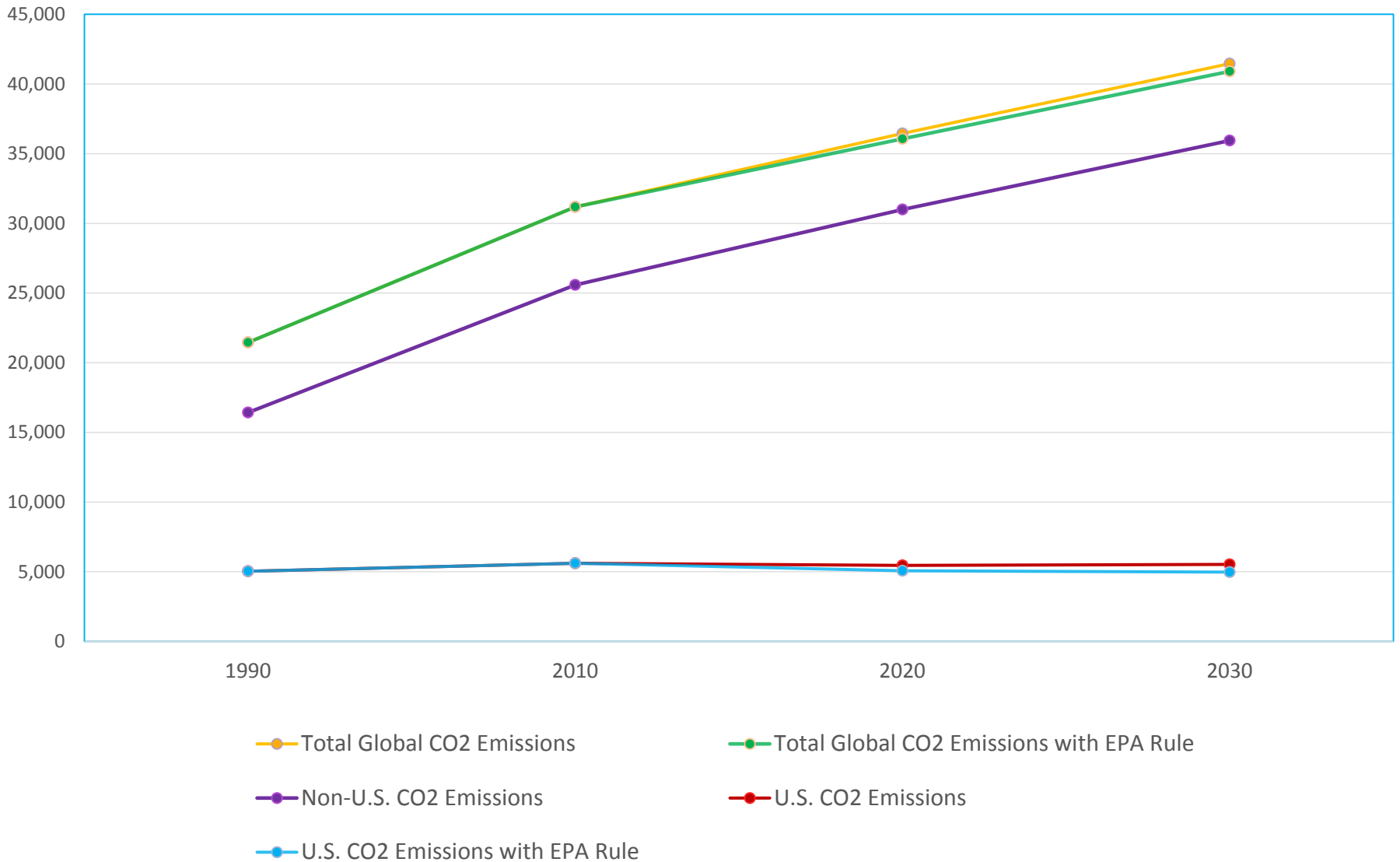


Global Context

- Non-U.S. CO₂ emissions are projected to increase **55 percent** between 2010 and 2040.
- In 2030, the reductions from EPA's rule would offset the equivalent of just 13.5 days of CO₂ emissions from China.
- Because U.S. businesses compete on a global scale, the electricity and related price increases resulting from EPA's rule will severely disadvantage energy intensive, trade-exposed industries such as chemicals, manufacturing, steel, and pulp and paper. Such circumstances would not actually serve to reduce carbon emissions, but instead simply *move* them to other countries that have not implemented similar restrictions.

U.S. and Global Carbon Emissions Projections

(million metric tons)





Legal Concerns

● Legality of Proposed Rule in Serious Question

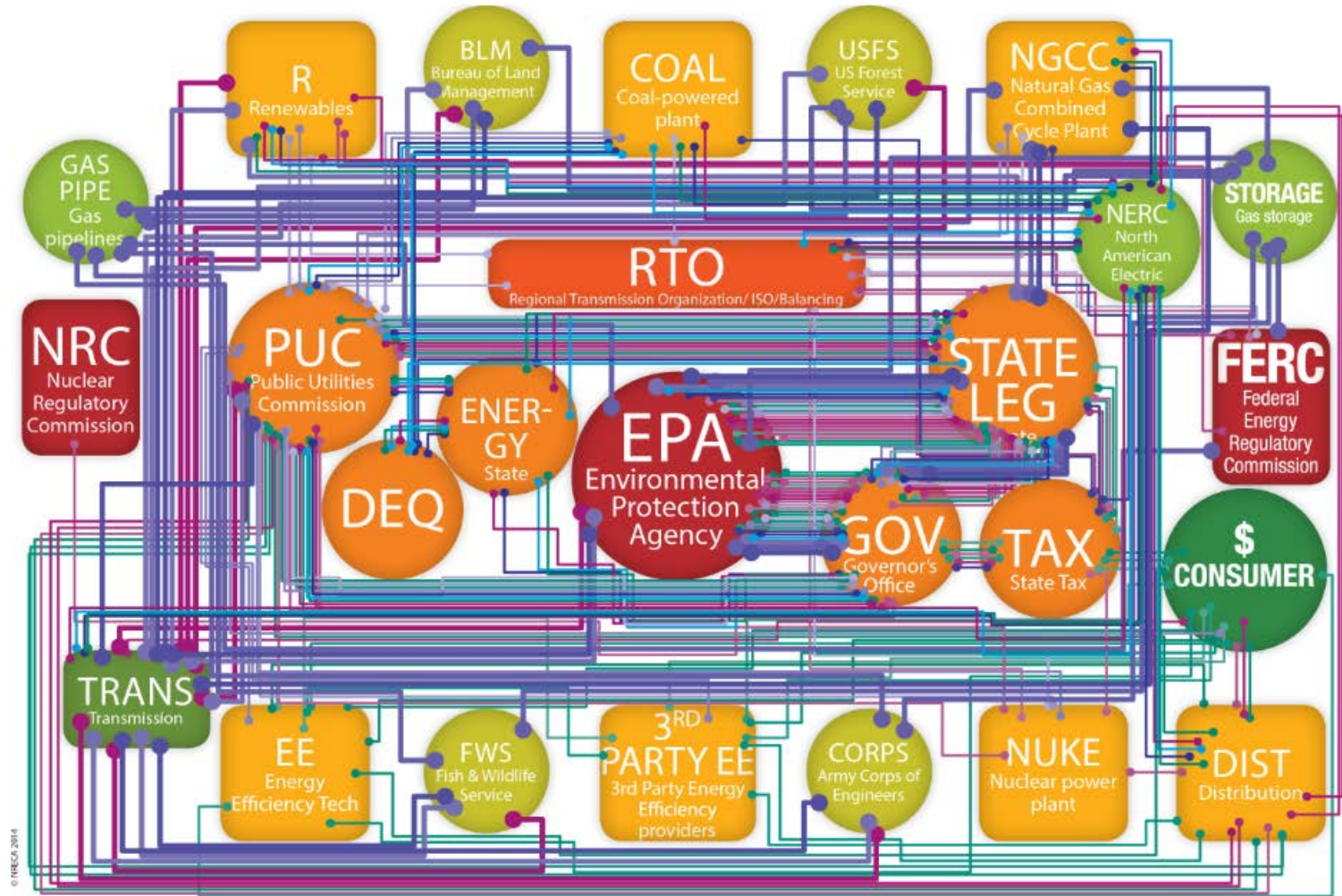
- Section 112 vs. 111(d) authorities
- Authority to mandate “outside the fence” measures
 - Excerpt from Clean Air Act: **“The term ‘stationary source’ means any building, structure, facility, or installation which emits or may emit any air pollutant.”**
- Absence of EPA “model rule” and Federal Implementation Plan details
- Technical achievability; arbitrary and capricious treatment of different states
- Relationship between state plans, 3rd party entities, neighboring states, etc.

Up until now, power plants had a straightforward experience with the EPA



TYPICAL CLEAN
AIR RULE

With EPA's new Clean Power Plan, life's a lot more complicated



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EPA PROPOSED CO₂ RULE

↔ IMPROVE EFFICIENCY OF EXISTING COAL-FIRED PLANTS
↔ INCREASE THE USE OF NATURAL GAS COMBINED CYCLE PLANTS

↔ INCREASE THE DEPLOYMENT OF RENEWABLE AND NUCLEAR ENERGY
↔ REDUCE DEMAND THROUGH END-USE ENERGY EFFICIENCY PROGRAMS

FEDERAL
REGIONAL
STATE

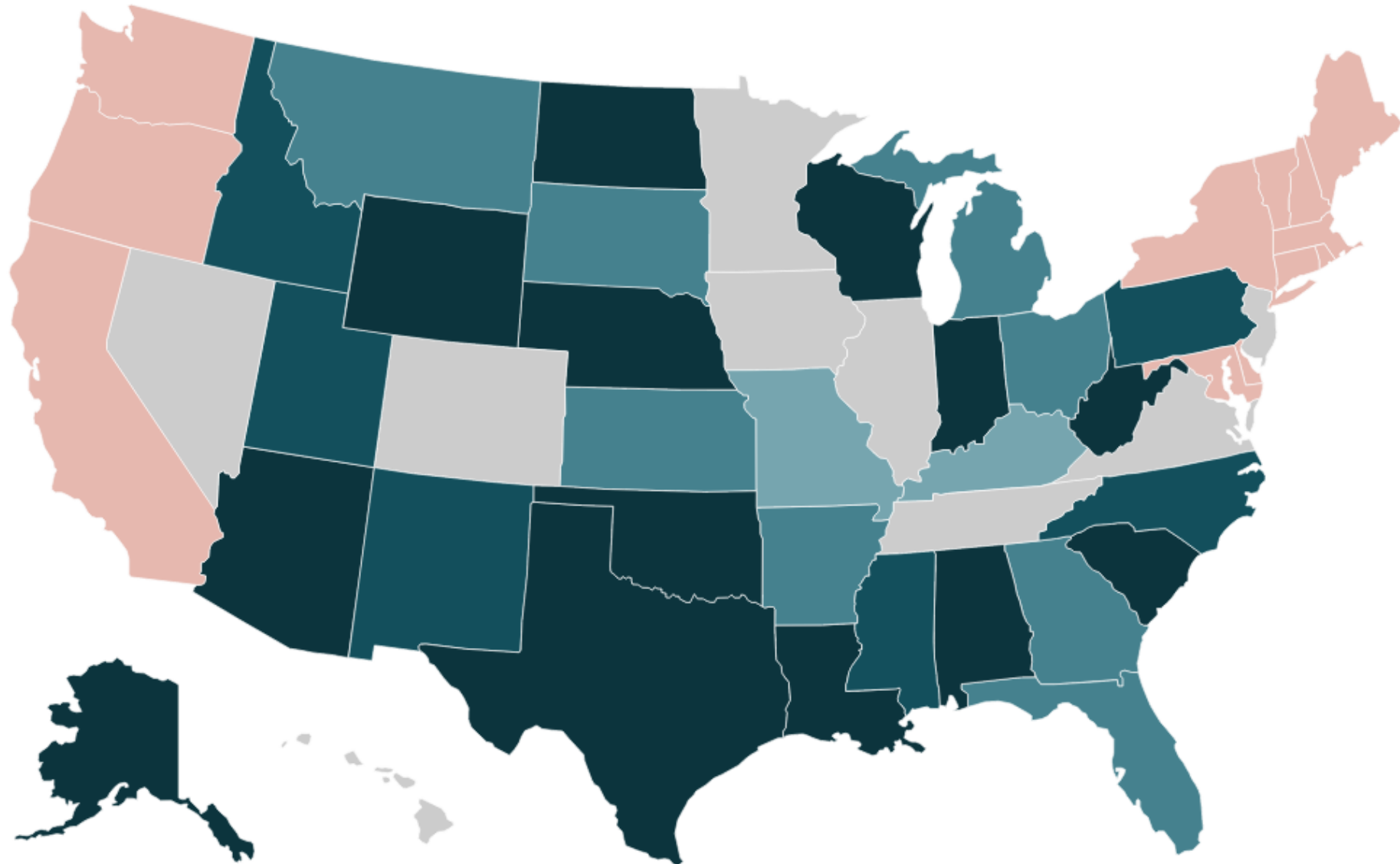
UTILITIES / 3RD PARTY
POWER PRODUCERS
FEDERAL RESOURCE
AGENCIES

OTHER
TRANSMISSION
CONSUMER

The EPA's proposal will require every state (except one) to reduce its CO₂ intensity from the electricity sector in that state. Different states have different goals, depending on their specific energy mix. State compliance plans will involve a much larger array of regulators, legislators, and regulated entities than any other environmental regulation to date. This chart demonstrates the complexity of the proposal.

State Opposition to EPA Carbon Rule

Letters of Concern/Opposition



Key None Legislature AG Gov Gov+AG



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 Institute for 21st Century Energy

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