

# Initial Thoughts on the Clean Power Plan

Carbon Standards for  
Existing Power Plants

Iowa Stakeholder Meeting

Katharine McCormick

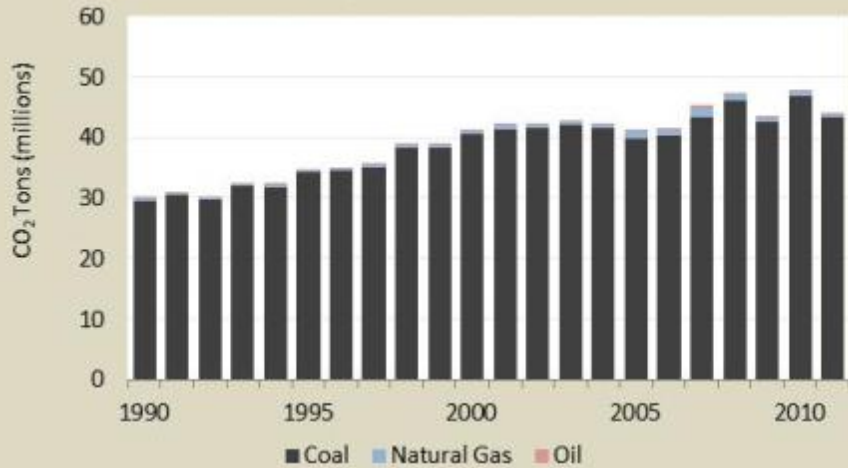
September 19, 2014



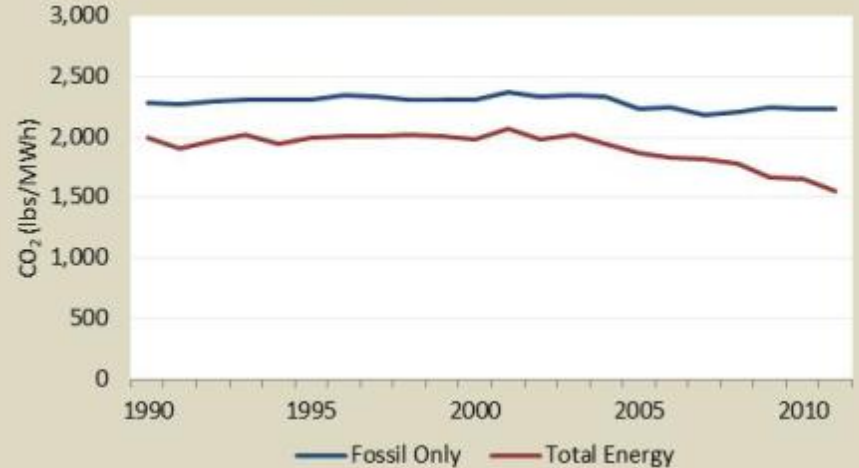
Natural Resources Defense Council

# Iowa Past Emissions Trends

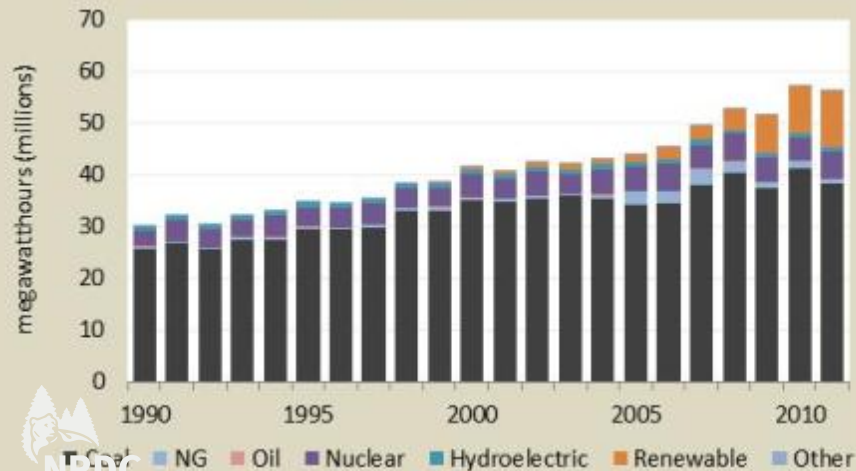
CO<sub>2</sub> Emissions: 1990-2011



CO<sub>2</sub> Emission Rates: 1990-2011



Generation Mix: 1990-2011



# BSER?



HEAT RATE REDUCTIONS



CLEANER POWER SOURCES

FLEXIBLE COMPLIANCE

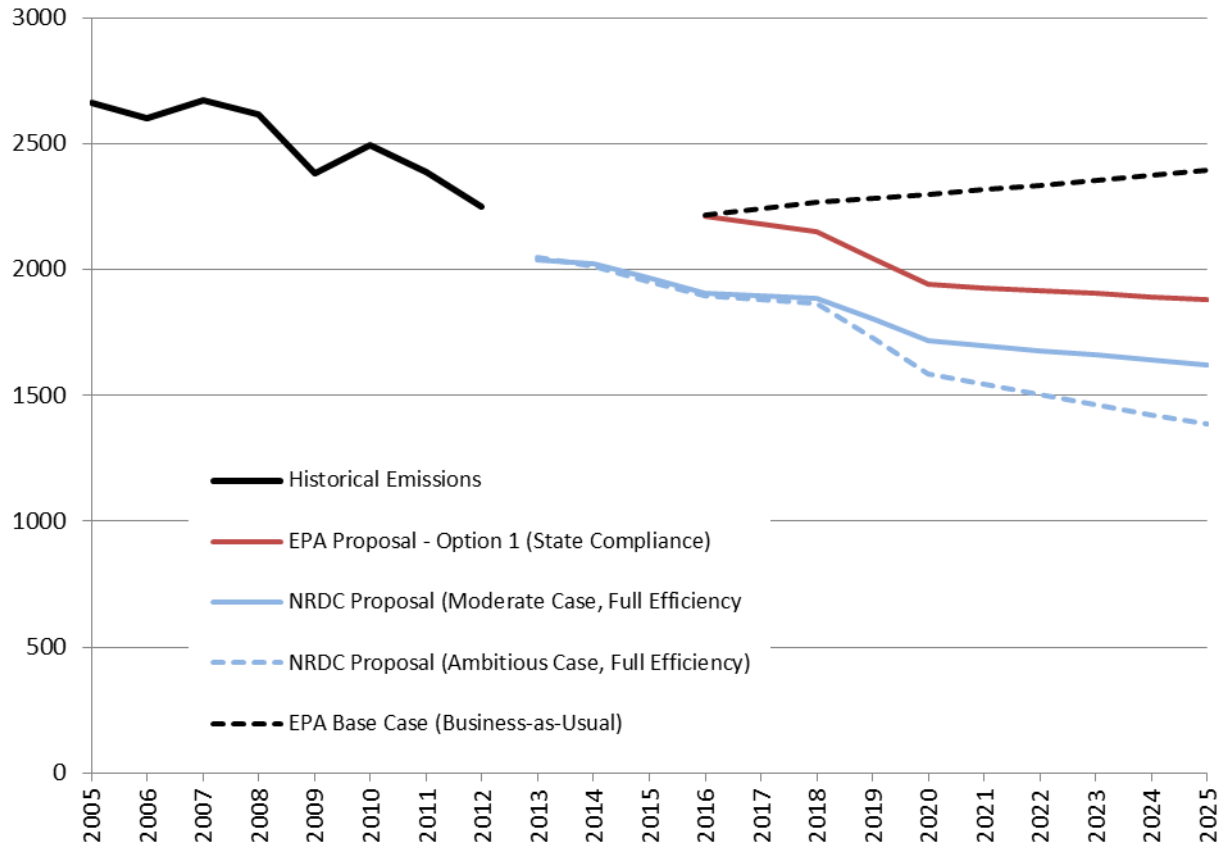


MORE RENEWABLES

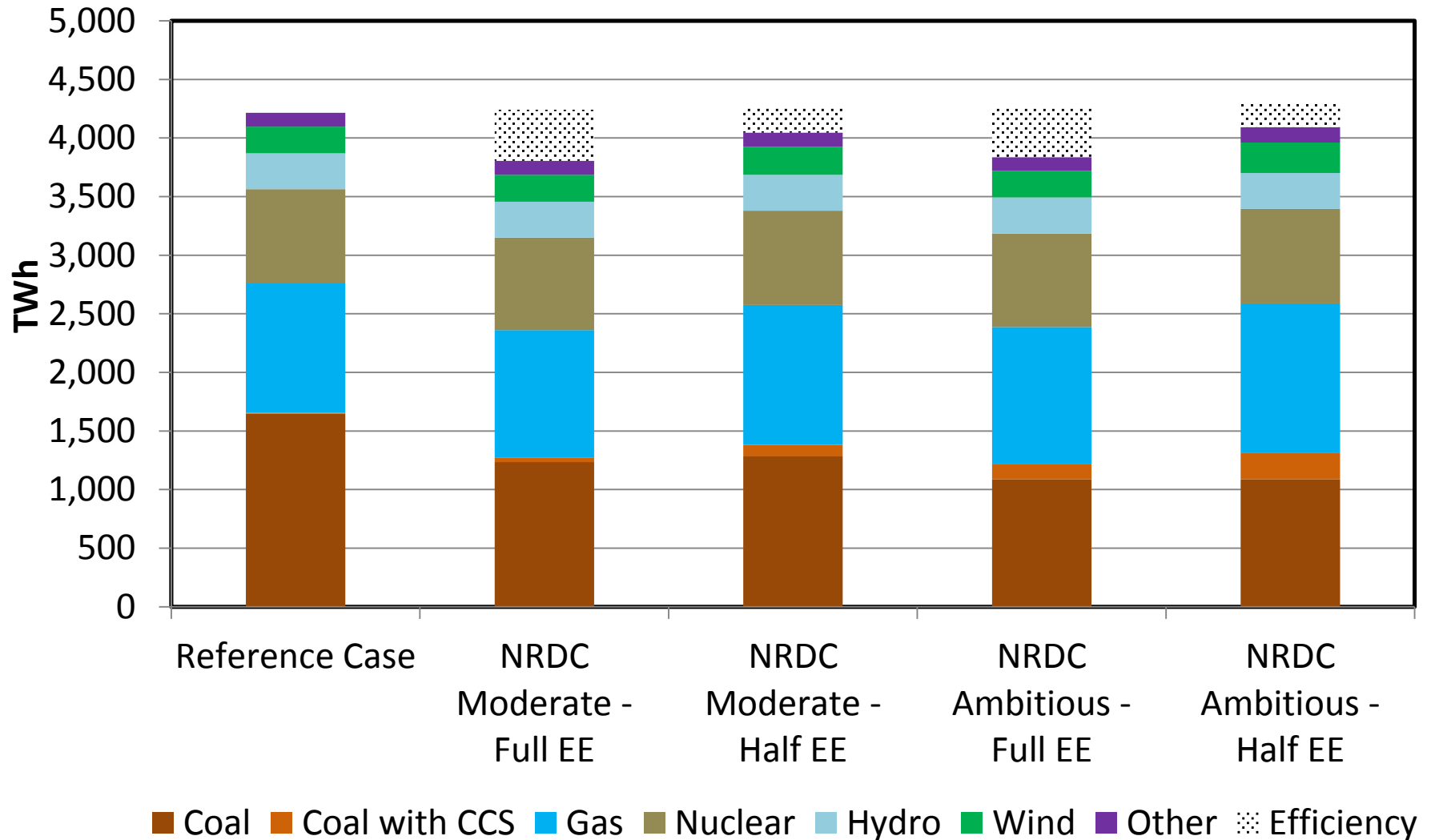


INVESTMENTS IN EFFICIENCY

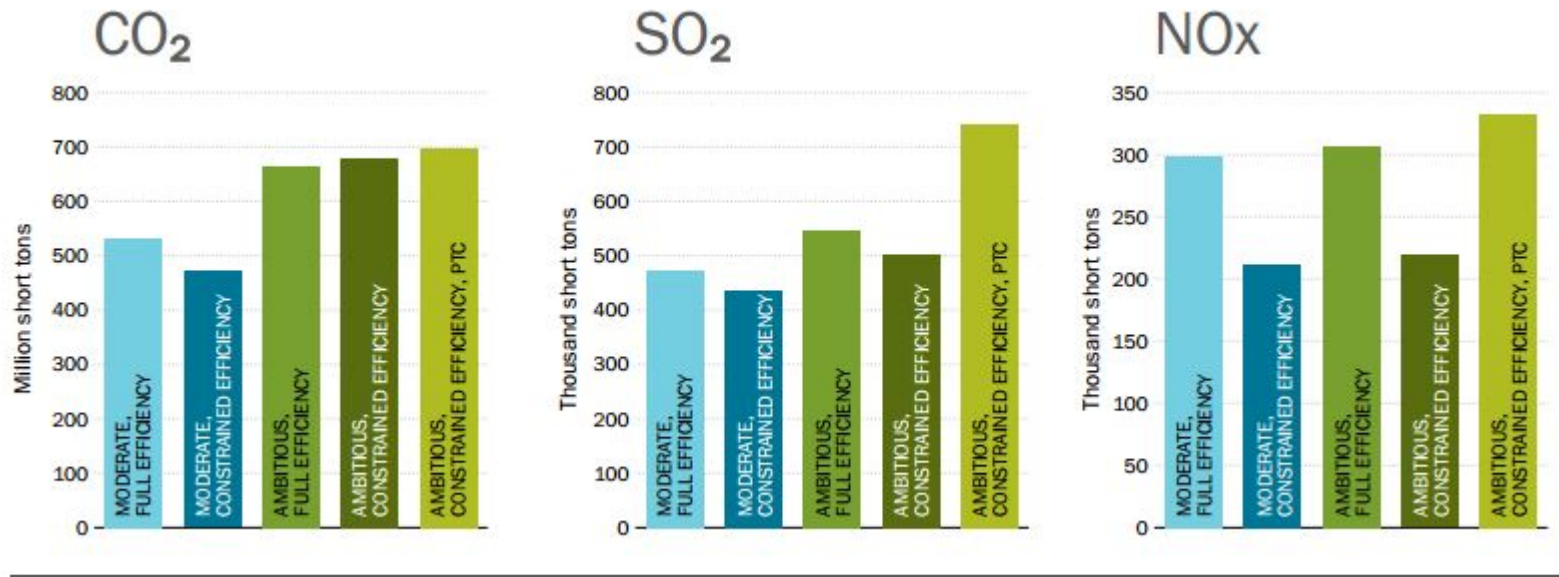
# Emissions Trends



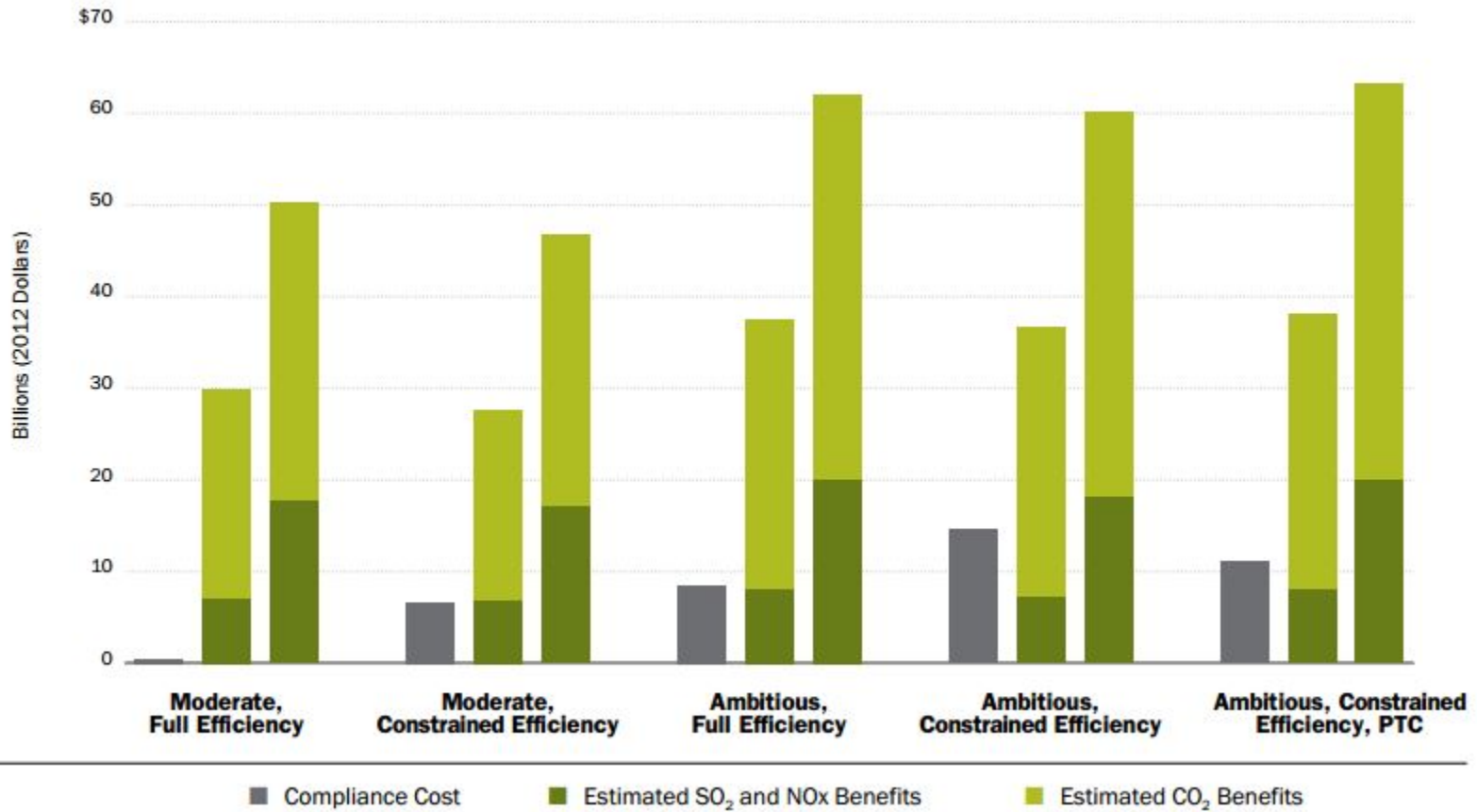
# NRDC Policy Scenarios (March 2014)



# Projected Emissions Reductions



# Costs and Benefits



# Energy Efficiency

- **The most cost-effective resource to reduce emissions.**
- Building Block 4:
  - Ramp-up at 0.2% per year up to 1.5% annual savings.
  - 10.6-year measure life
  - Levelized cost of 8.5-9 cents/kWh



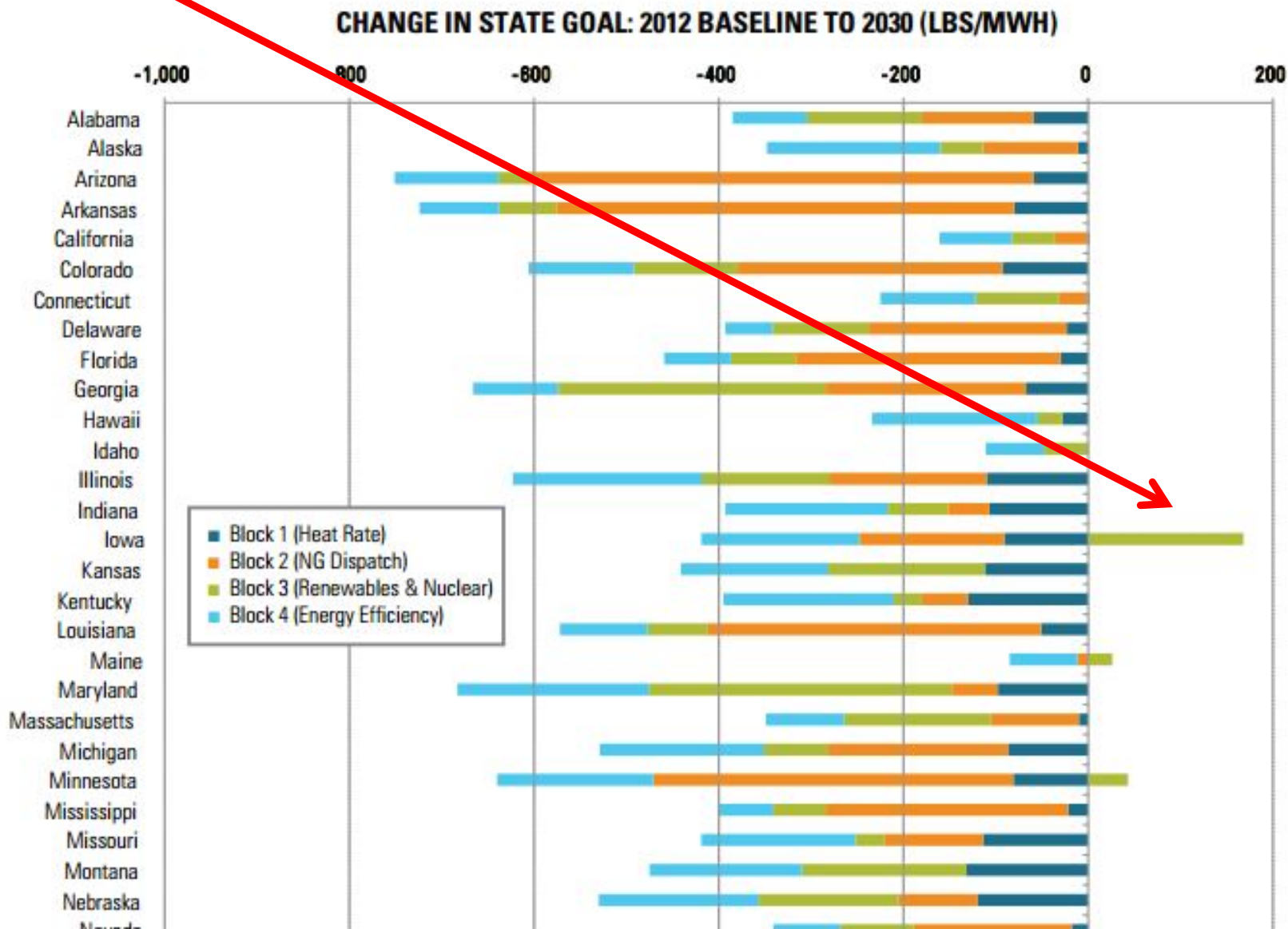
# Energy Efficiency

- **Underestimates** the potential for compliance using energy efficiency while **overestimating** the costs of efficiency deployment
- Ignores other opportunities to save energy:
  - transmission and distribution system efficiency improvements
  - state building energy and appliance standards
  - [savings delivered by energy service companies (ESCO) that do not get funding from utility and state programs.]
- Problematic assumptions

# Energy Efficiency: for Improvement

- A Broader Range of EE Policies/Programs
  - State building codes (sources - BCAP & IMT),
  - State appliance standards (sources - CA Energy Commission and ASAP),
  - Transmission and distribution system efficiency improvements (sources - EPRI & ACEEE), and
  - ESCO savings (sources - NASEO and NAESCO)
- Increased Level of Savings
- Persistence of Savings
  - Average measure life > 10.6 years
- Ramp-up Rate Adjustment
- Reduce Efficiency Cost Assumptions

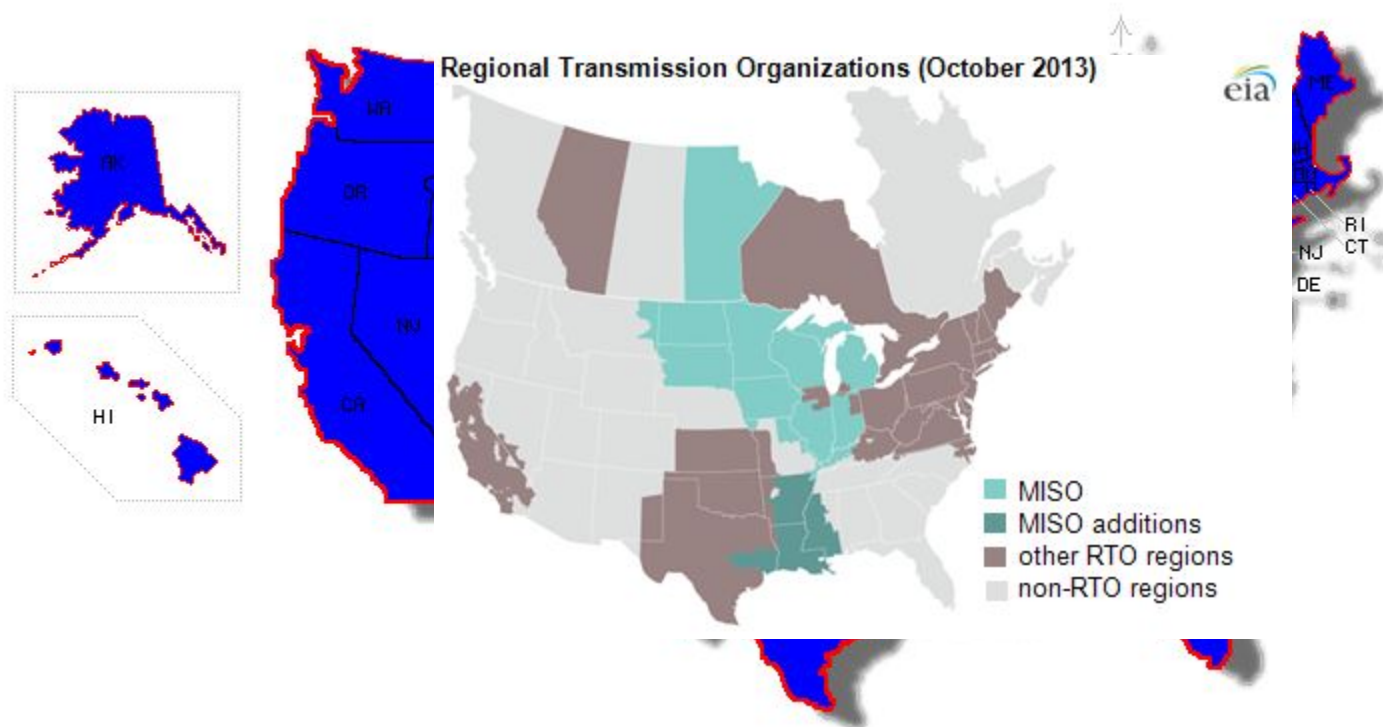
# Renewable Energy



# EPA's Alternative Approach

- Based on the technical and market potential of RE by state
- Constrained by IPM modeling
- Includes utility-scale solar, onshore
  - NOT distributed generation
  - Based on available 2012 net generation data, technical potential estimates, ability to include in the IPM modeling
- Incorporated into the denominator of the state goals as demonstrated in the Goal Computation TSD.
  - States still determine to what extent used in compliance.

# North Central Region







# Contact

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