

The EPA Clean Power Plan: What Now?

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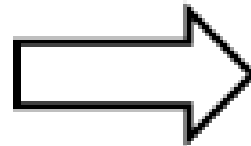
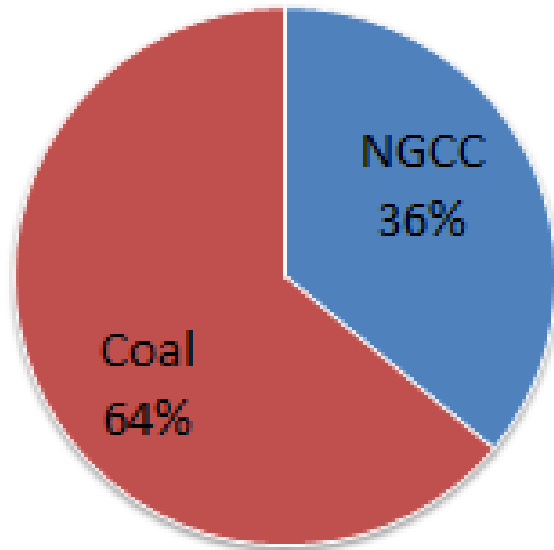
*The views set forth below are solely my own and do not represent those of Gibson Dunn, the Firm's clients, or any other party.

Background

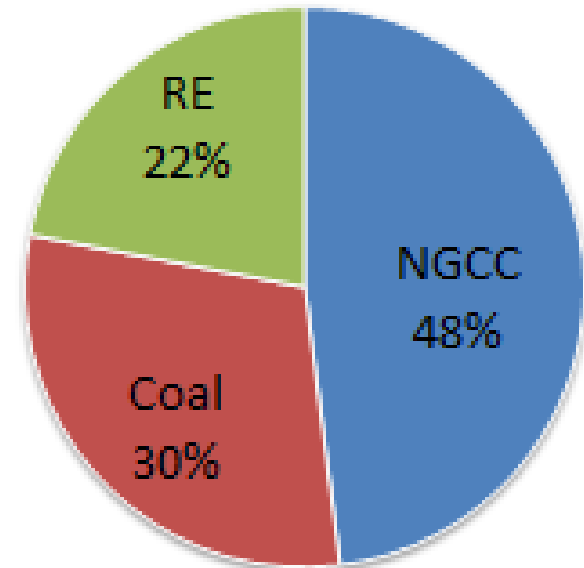
- The Environmental Protection Agency (“EPA”) issued its proposed Clean Power Plan in June 2014.
- The Proposed Rule received over 4 million public comments.
- EPA issued its Final Rule on August 3, 2015.
- The Final Rule effectively dictates the market share that each type of generation fuel-type can have.
 - The EPA used the Eastern Interconnection to set individual emission rates for the whole country.
 - The Eastern Interconnection’s fossil steam generation was previously split as 64% Coal and Oil/Gas Steam, and 36% Natural Gas Combined Cycle (“NGCC”)
 - Under the Final Rule, if implemented, the EPA projects the Eastern Interconnection generation mix will be 22% Renewable Energy (“RE”), 48% NGCC and just 30% Coal and Oil/Gas Steam

EPA's National Market by Fuel-Type

Current Market Share of Fossil-steam Generation by Fuel



New Market Share under Final Rule



Proposed → Final Rule

Proposed Rule (June 2014)

- Aimed to cut nationwide emissions of CO₂ from power sector by 30% from 2005 baseline by 2030
- Emission reductions were to be achieved by implementing four “Building Blocks”:
 - BB1: install new technologies to improve current heat rates by 6%
 - BB2: shift dispatch to NGCC units (to 70% utilization rate)
 - BB3: increase renewable generation; preserve 106% of nuclear capacity
 - BB4: increase demand-side energy efficiency

Final Rule (August 2015)

- Aims to cut nationwide emissions of CO₂ from power sector by 32% from 2005 baseline by 2030
- Three “Building Blocks”:
 - BB1: upgrade facilities to improve current heat rates by 2.1% to 4.3%
 - BB2: shift dispatch to NGCC units (to 75% utilization rate)
 - BB3: increase renewable generation
 - BB4: removed demand-side efficiency measures (but not in reality)

Proposed → Final Rule (cont'd)

Proposed Rule

- Interim & final compliance “guidelines” by 2020 & 2030, respectively
- Final goals ranged from 215 lbs CO₂ / MWh* (Washington) to 1,783 lbs CO₂ / MWh (North Dakota) States could submit individual or multi-state compliance plans

* lbs CO₂/MWh is the pounds of carbon dioxide you can emit for every megawatt hour you generate

Final Rule

- Nationwide category-specific final performance rates for individual sources:
 - coal-fired EGUs: limited to 1,305 lbs CO₂ / MWh
 - NGCC units: limited to 771 lbs CO₂ / MWh
- State Final overall emission goals range from 771 lbs CO₂/MWh (ID, RI, etc.) to 1,305 lbs CO₂/MWh (ND, MT, WV, etc.)
- Mass-based alternative goals (yearly state-wide limits on CO₂ emissions)
- States can submit individual or multi-state plans

Key Changes between Proposed and Final Rule

- Increased nationwide final reductions goals
 - Proposed Rule: 30% reduction in CO₂ levels from 2005 level by 2030
 - Final Rule: 32% reduction in CO₂ levels from 2005 level by 2030
- Ostensibly delayed primary compliance by 2 years
 - Proposed Rule's first interim goal: 2020
 - Final Rule's first interim goal: 2022
- Added additional interim compliance goals
 - Proposed Rule: 2020, 2030
 - Final Rule: 2022-2024, 2025-2026, 2027-2029, 2030
- Calculates achievability (i.e., what type of emission reductions must be achieved to comply) regionally (West, East, TX) rather than state by state
- Final Rule incorporates a so-called “reliability safety valve”

Key Changes between Proposed and Final Rule (cont'd)

- Building Blocks underwent significant changes

Block	Change
Building Block 1	Reduced target heat rate improvement for coal units from 6% to 2.1% - 4.3% range
Building Block 2	→ Changed NGCC capacity utilization from 70% of nameplate capacity to 75% of summer capacity
Building Block 3	→ RE under BB3 only qualifies as contributing to meeting emission standards if it is new (in operation) as of January 1, 2013 → New RE and other actions can receive credit before 2022 under Clean Energy Incentive Program → Does not address nuclear generation
Building Block 4	[DELETED] (but not really)

Key Changes between Proposed and Final Rule (cont'd)

Building Block 1

Reduced target heat rate improvement from 6% to 2.1% - 4.3% range

- EPA accepted criticism that achieving a 6% increase in heat rate improvements on fossil fuel-fired and NGCC units was an unreachable target
 - “The refinements are based, in significant part, on the numerous comments we received on our proposed approaches, especially those from states and utilities.” Final Rule at 332.
- Now assigns ranges based on regional targets
 - “[T]he EPA has quantified the emission reductions achievable through building block 1 on a regional basis” *Id.* at 333.
- Eastern Interconnection: 4.3% heat rate improvement / efficiency
- Western Interconnection: 2.1% heat rate improvement / efficiency
- Texas Interconnection: 2.3% heat rate improvement / efficiency

Key Changes between Proposed and Final Rule (cont'd)

Building Block 2

→ Increased nationwide NGCC utilization from 70% to 75% of summer capacity

- Changed utilization target from 70% of nameplate capacity to 75% of summer rated capacity*
 - There are serious doubts as to whether there is sufficient natural gas pipeline and natural gas storage infrastructure to support a 75% utilization rate for existing NGCCs, let alone new NGCCs that will have to be built to comply with the Final Rule
 - Unclear whether the nationwide fleet can achieve this
 - EPA admits that only 67 out of 429 NGCC units operating in 2012 (only 15%) met or exceeded the 75% utilization rate that year (Technical Support Document: Greenhouse Gas Mitigation Measures at 3-8)

*In general, summer capacity ranges between 85-90% of nameplate capacity.

Key Changes between Proposed and Final Rule (cont'd)

Building Block 3

- RE under BB3 only qualifies as contributing to meeting emission standards if it is new (in operation) as of January 1, 2013
- New RE and other actions can receive credit before 2022 under Clean Energy Incentive Program
- Does not address nuclear generation

- EPA does not address nuclear generation as it did in the Proposed Rule*
- EPA assumed an increase to RE capacity for each year from 2024 through 2030 based on cherry-picked maximum capacity additions that occurred in any year from 2010 through 2014
- **EPA boldly assumes these numbers are repeatable every single year between 2024-2030 for everyone in the country**

*Proposed Rule: EPA expected all nuclear units to stay operational indefinitely. However, because EPA expected approximately 6% of existing nuclear units to retire, or become uneconomic, it further required a 6% increase in existing nuclear utilization to balance the expected retirements.

Key Changes between Proposed and Final Rule (cont'd)

(Building Block 3 cont'd)

“Annual Capacity Change by RE Technology (MW)”

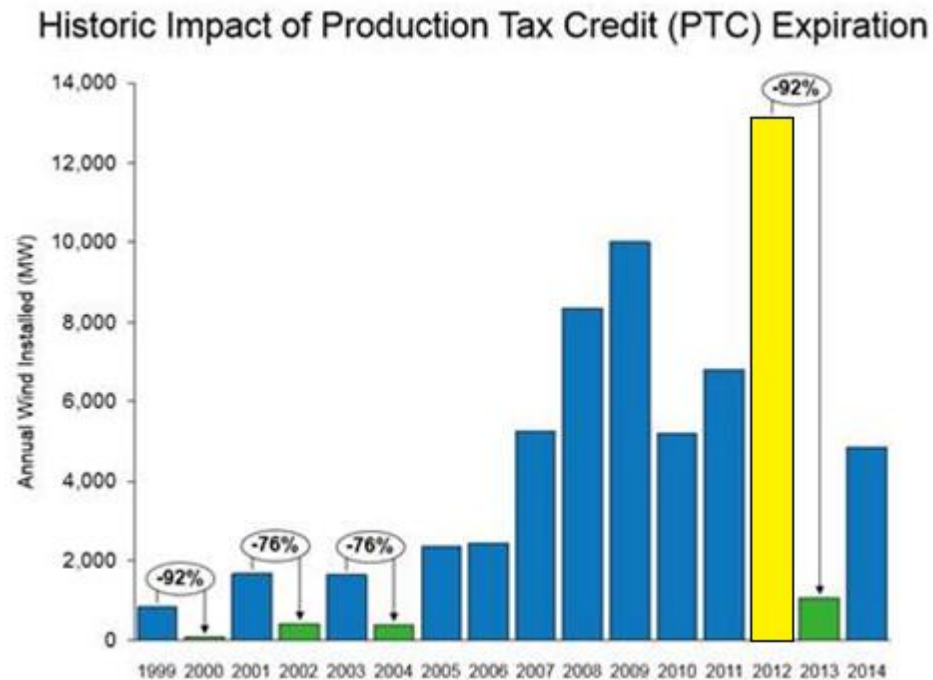
[Chart from p. 4-2 of Technical Support Document: Greenhouse Gas Mitigation Measures]

RE Technology	2010	2011	2012	2013	2014	Average	Maximum
Solar PV	267	784	1,803	2,847	3,934	1,927	3,934
CSP	78	0	0	410	767	251	767
Onshore Wind	5,112	6,816	13,131	1,087	4,854	6,200	13,131
Geothermal	15	138	147	407	4	142	407
Hydropower	294	-10	47	216	158	141	294

Key Changes between Proposed and Final Rule (cont'd)

(Building Block 3 cont'd)

- EPA's assumptions of how much new RE is possible are highly questionable. For example, EPA assumes that onshore wind can increase annually nationwide by 13,131 MWs because it did so in 2012. However, onshore wind only achieved that level of growth in 2012 because of the expiration of the Production Tax Credit that year – and in 2013, new additions were only 1,087 MWs.



Key Changes between Proposed and Final Rule (cont'd)

Building Block 4

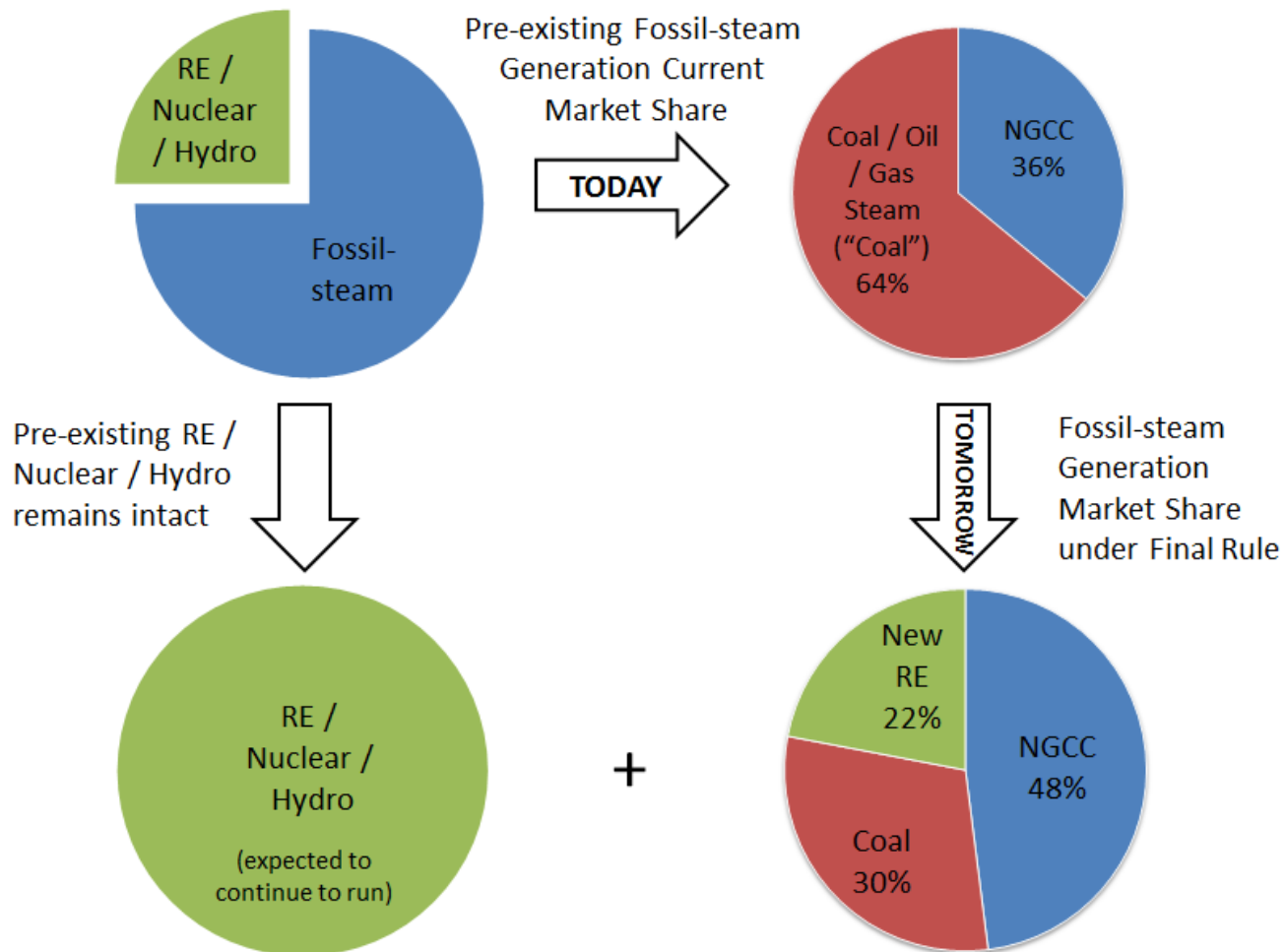
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- EPA dropped Building Block 4 purportedly in response to comments that demand-side EE is not a “traditional” part of generation. Final Rule at 63. EPA likely believed it was reducing its legal exposure.
- But dropping BB4 is illusory – states can’t meet the Final Rule’s goals without increasing demand-side use.
 - The Final Rule admits that the “regulatory impact analysis . . . appropriately includes . . . demand-side energy efficiency. . . .” *Id.* at 457 n.431.
 - Indeed, EPA built a 1% annual incremental demand reduction rate into its base case. RIA at 3-13.
 - Base case is EPA’s assumption of what would happen without the Rule.
 - In other words, you **HAVE** to increase demand-side efficiency by 1% every year or find emission cuts somewhere else.

EPA's New Generation Fuel-Type Market Share

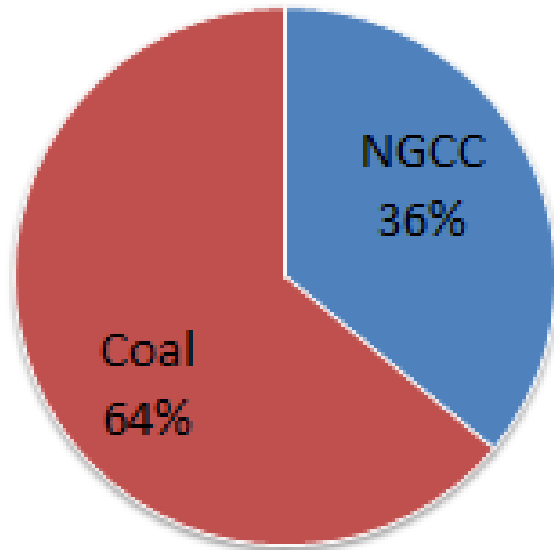
- In determining the unit-specific emission rates, the EPA modeled what was achievable on an interconnection-by-interconnection basis (rather than state-by-state, like the Proposed Rule).
- EPA used the results from the Eastern Interconnection to establish its nationwide emission limits because the emission limits that would have been imposed using the Western Interconnection or ERCOT numbers would have shown even more dramatic emission reductions.
- The calculation is relatively simple:
 - Take your existing amount / baseline of fossil-steam generation
 - Shift 22% of that generation to renewables (the amount EPA presumes is possible in the Eastern Interconnection)
 - Increase NGCC generation to a 75% of summer capacity utilization rate (this becomes 48% of the total generation)
 - What's left is the market share of Coal and Oil/Gas Steam

Calculation of National Market Share Based on Eastern Interconnection

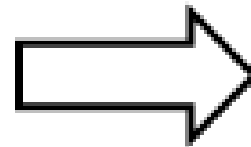


National Market Share Based on EPA's Goal Calculations

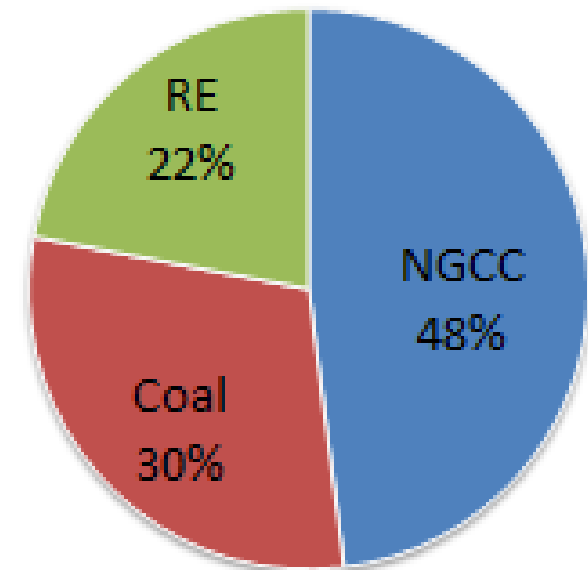
Current Market Share of Fossil-steam Generation by Fuel



Today



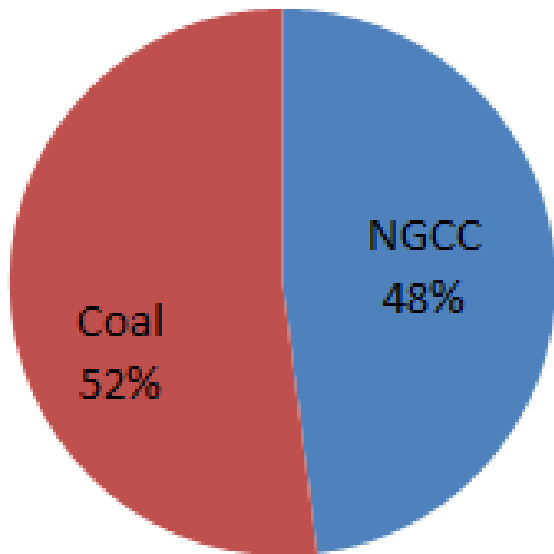
New Market Share under Final Rule



EPA's World

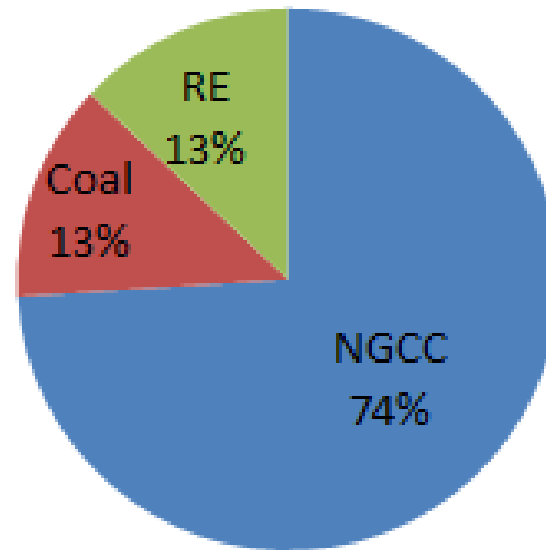
Market Share in the Western Interconnection

Current Market Share of Fossil-steam Generation by Fuel



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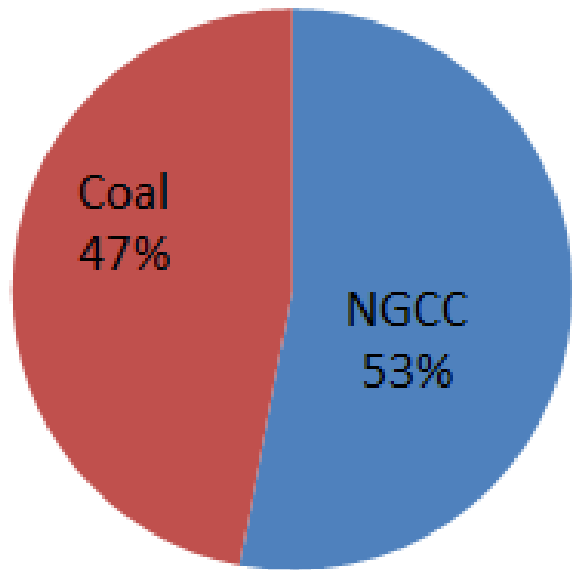
New Market Share under Final Rule



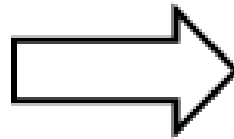
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Market Share in ERCOT

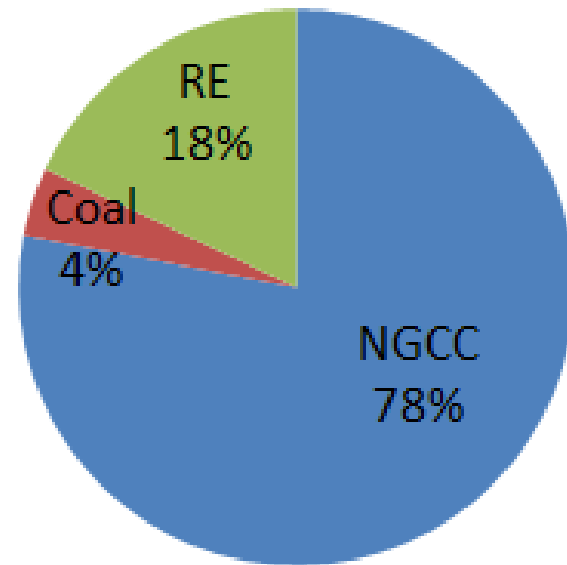
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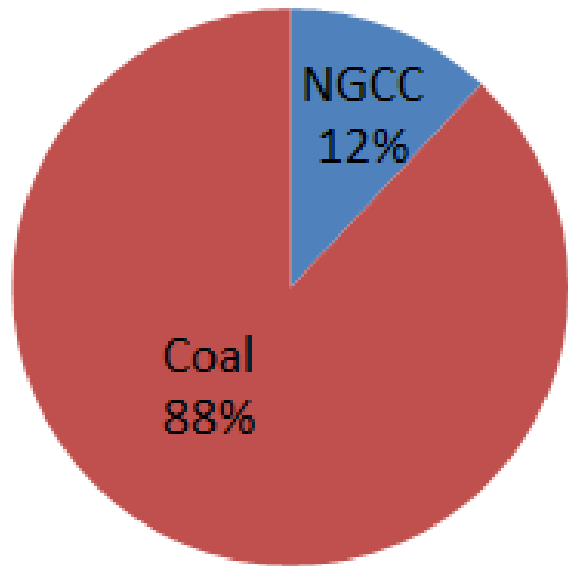
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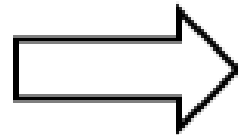
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Market Share in Indiana

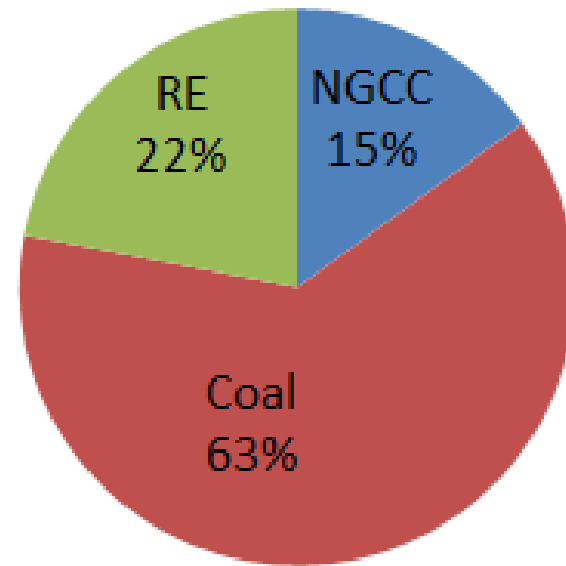
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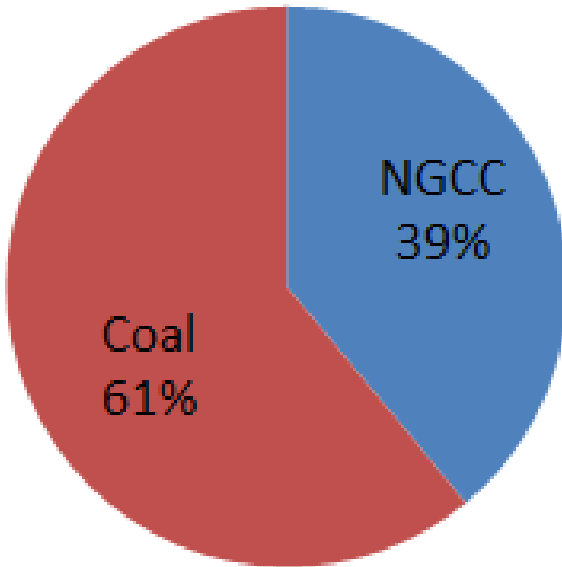
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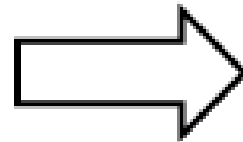
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Market Share in Pennsylvania

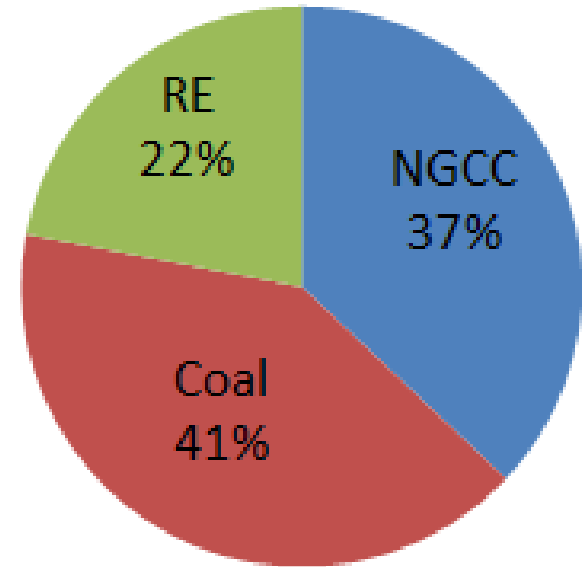
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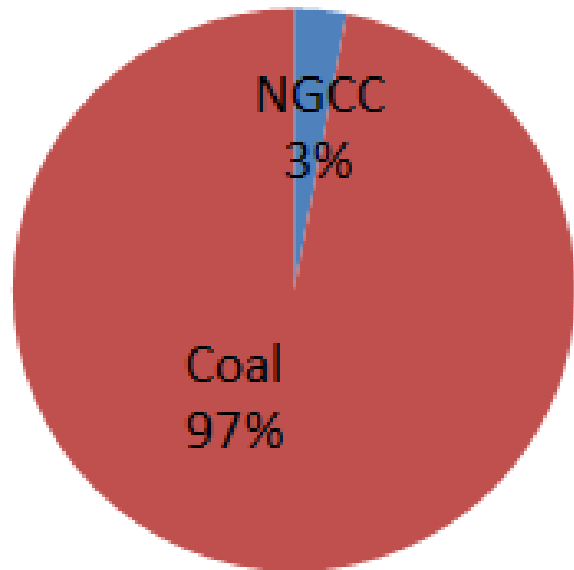
New Market Share under Final Rule



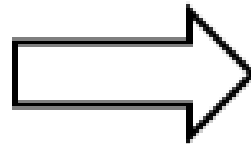
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Market Share in Maryland

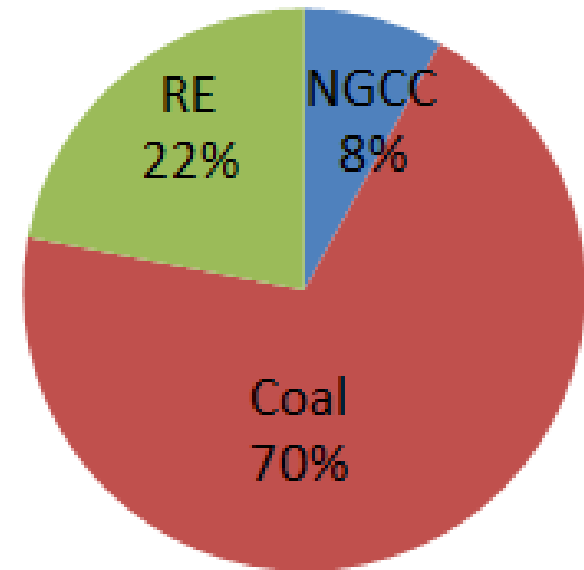
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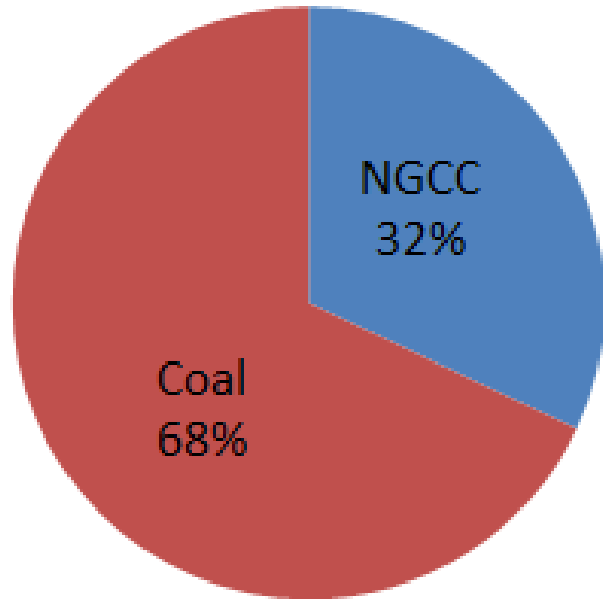
New Market Share under Final Rule



EPA's World

Market Share in North Carolina

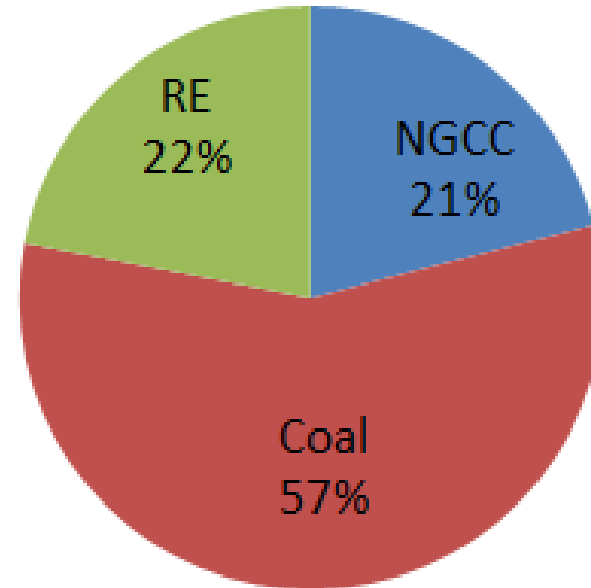
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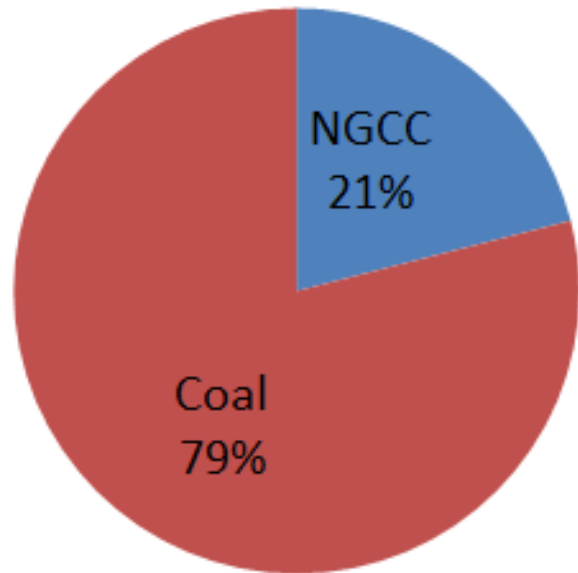
New Market Share under Final Rule



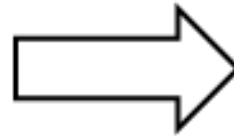
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Market Share in Ohio

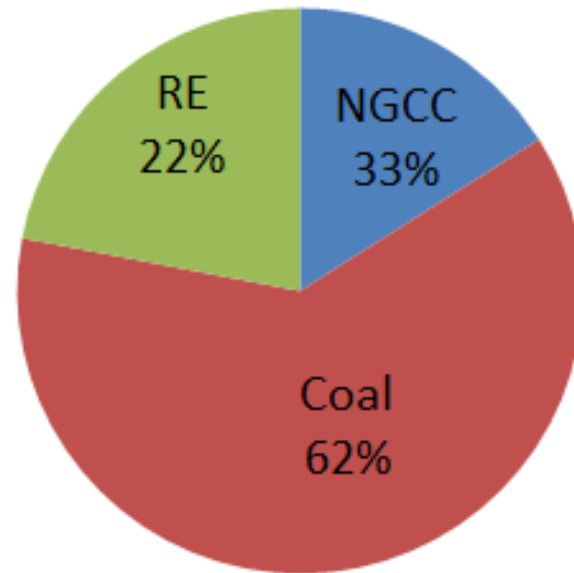
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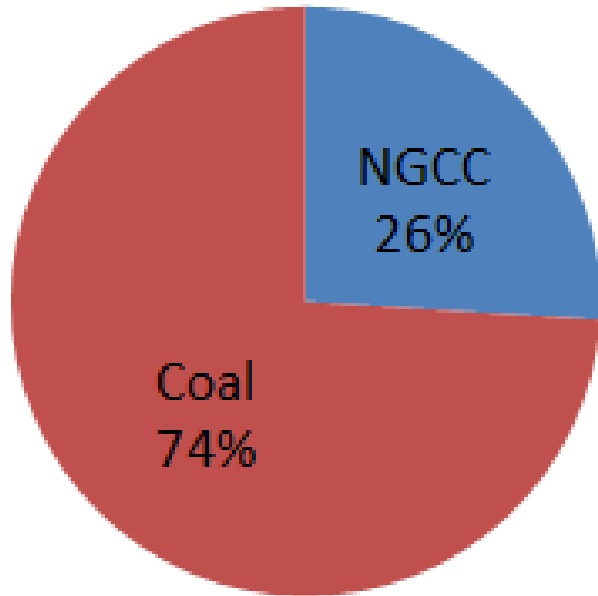
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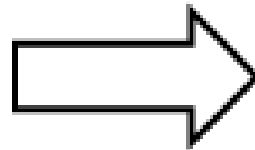
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Market Share in Michigan

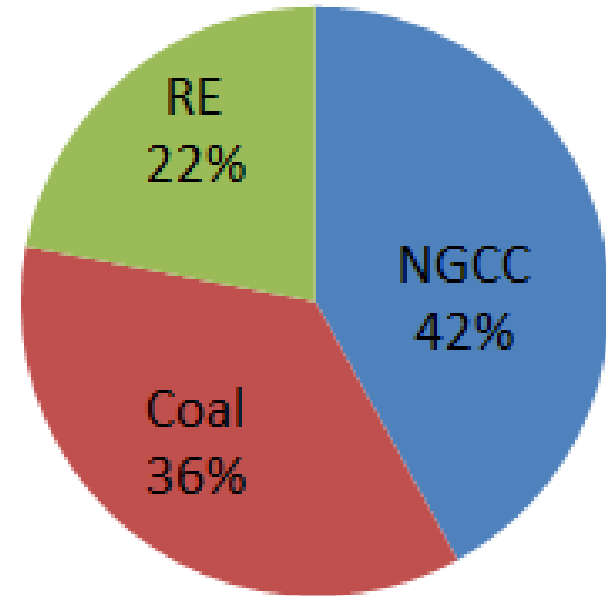
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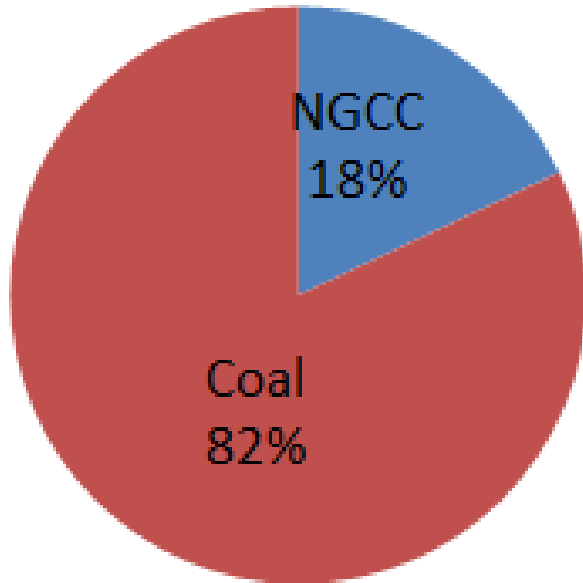
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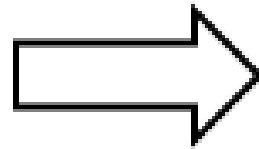
EPA's World

Market Share in Tennessee

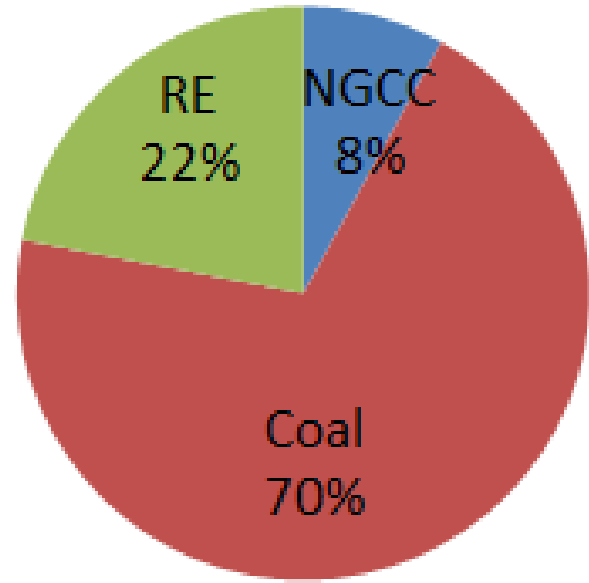
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New Market Share under Final Rule



EPA's World

Impact of Changes on States

- For the Final Rule, most coal-dependent states now have more stringent emission targets (15 states) from Proposed to Final Rule
 - Montana: 21% in Proposed Rule; 47% reduction in Final Rule
 - North Dakota: 11% in Proposed Rule; 45% reduction in Final Rule (4x)
 - Iowa: 16% in Proposed Rule; 42% reduction in Final Rule
 - Kentucky: 18% in Proposed Rule; 41% reduction in Final Rule
 - West Virginia: 20% in Proposed Rule; 37% reduction in Final Rule
- 9 states (+DC) can actually emit *more* carbon by 2030 than 2005 levels
 - CA, CT, ID, ME, NJ, OR, SD, VA, WA

Legal Impact of Changes

- Final Rule still has numerous legal vulnerabilities
- EPA has attempted to shore up its legal exposure by:
 - Dropping Building Block 4 in an attempt to increase focus on generator and not consumers
 - Appearing to delay compliance dates in an attempt to weaken irreparable harm argument in stay motions
 - Trying to deflect “commandeering” argument by promising not to withhold federal funds from noncompliant states
 - Appearing to delay compliance and adding “safety valve,” in an attempt to deflect reliability concerns

Legality of the Final Rule

- Grounded in Section 111(d) of the Clean Air Act:
 - Each state must develop plans that establish source-specific “standards of performance for any existing source” within each State. These plans require states to analyze each individual source in determining the standards’ stringency and “to take into consideration, among other factors, the remaining useful life of the existing source to which the standard applies.”

Legality of the Final Rule (cont'd)

- The Final Rule faces a number of legal vulnerabilities. Among other things, the Final Rule:
 - exceeds EPA's statutory authority
 - reduces emissions by reducing generation, not pollutants (i.e., the rate of what is being emitted)
 - this is the first time ever that EPA has taken this approach to Section 111(d)
 - reductions can't be achieved by any single generator acting alone
 - requires new construction of renewables
 - intrudes on authority of FERC
 - intrudes on authority of States
 - violates the doctrine of Separation of Powers
 - violates the Tenth Amendment

Legality: EPA Exceeds Its Statutory Limits

- Section 111(d) requires “standards of performance **for any existing source**”
 - This is focused on regulation of plants themselves by installing emission-reduction technology at stationary sources, not regulation of an entire industry
 - Reductions can’t be achieved by any single generator
- The Final Rule necessarily requires new construction to meet mandates
 - Section 111(d) is solely for *existing* sources

Legality: EPA Exceeds Its Statutory Limits

- EPA misinterprets Section 111(d)'s “best system of emission reduction” (“BSER”) by going “outside the fence line”
- EPA historically interpreted a BSER to be a physical control or an operational change that could be applied to a particular facility
 - EPA abandons this interpretation and now contends that a “best system of emission reduction” can be any “set of measures [anywhere] that work together to reduce emissions” based on a dictionary definition of “system” as “any set of things”
 - This new interpretation violates the Supreme Court’s instruction in *UARG v. EPA* that statutory terms “must be read in their context and with a view to their place in the overall statutory scheme”
- Thus, EPA’s restructuring of the entire electric utility industry is being accomplished through a novel and unprecedented interpretation of five words

Legality: EPA Intrudes on FERC & State Authority

- The Final Rule intrudes on FERC and State authority
 - Congress empowered **FERC** to ensure that “[a]ll rules and regulations affecting or pertaining to” “rates and charges . . . for or in connection with the . . . sale of electric energy subject to the jurisdiction of” FERC are “just and reasonable.” 16 U.S.C. § 824d
 - i.e., pricing in interstate commerce
 - Congress empowered **States** with jurisdiction “over facilities used for the generation of electric energy[,] over facilities used in location distribution or only for the transmission of electric energy in interstate commerce, [and] over facilities for the transmission of electric energy consumed wholly by the transmitter.” 16 U.S.C. § 824(b)(1)
 - i.e., regulating utilities re: need, reliability, cost, etc.

Legality: EPA Intrudes on FERC & State Authority (cont'd)

- The Final Rule will usurp both FERC and State authority by prescribing the resource planning decisions utilities must make
 - The Final Rule will determine mix of generation a utility deploys regardless of prudence decisions in non-restructured states and dictate resource decisions in organized markets
- What happens if FERC decides EPA's carbon-dispatch model is not "just and reasonable"?

Legality: Final Rule Violates Separation of Powers

- The Executive Branch through its Rule (as promulgated by the EPA) violates the Legislative Branch's power to legislate and delegate authority to rulemaking agencies such as FERC
 - EPA oversteps the authority delegated to it by Congress in the Clean Air Act to interfere with FERC's authority under the Federal Power Act
 - Congress failed to enact similar sweeping emission reductions in 2009 when the American Clean Energy and Security Act of 2009 (the “Waxman-Markey Bill”) died in the Senate
 - The Waxman-Markey Bill attempted to achieve similar results to EPA's Final Rule, including, among other things, the establishment of a cap-and-trade system

Anticipating Legal Outcomes

- If successful, what remedies will a court likely impose?
 - Stay
 - Return to EPA to revise scope
 - Invalidate altogether
- If upheld, what will be the main implementation challenges?
 - Achieving compliance deadlines
 - Maintaining reliability
 - Implementing environmental dispatch model

Response to Final Rule: Opposing States

- 16 states filed a request for an emergency writ staying the Final Rule
 - Alabama, Arkansas, Florida, Indiana, Kansas, Kentucky, Louisiana, Michigan, Nebraska, Ohio, Oklahoma, South Carolina, South Dakota, West Virginia, Wisconsin, Wyoming
 - Emergency writ was denied on September 9, 2015
- More than 30 states have said they intend to ask the DC Circuit for a Stay
- Oklahoma Governor Mary Fallin (R) issued Executive Order 2015-22 on April 28, 2015 announcing Oklahoma's intention not to comply
- Common concerns about Final Rule:
 - Impact on jobs and the economy
 - Cost of electricity
 - Harm to coal industry
 - No real environmental benefit (more harm than good)

Effectiveness of the Final Rule: Does It Achieve Its Goals?

- The Final Rule does not accomplish the EPA's goals
- Emission reductions from Clean Power Plan are not significant globally
 - The 555-million-ton reduction in United States CO₂ emissions predicted by the Final Rule would equal just 1.13 percent of global human-made emissions
- Little environmental benefit beyond already-occurring changes
 - EPA and White House estimate that the U.S. will have already achieved 80-90% of the desired reductions *before compliance begins in 2022!*
 - Utilities are already retiring coal units and building new gas/RE
 - EPA estimates between 413-415 million tons of CO₂ emission reduction; reduces less than 1.2% of human-made emission (made by humans) in 2030
 - Many states are already producing more RE than required under the Final Rule
 - 17 CPP targets are actually less than targets set by states themselves
 - CPP targets 21% RE in CA by 2030; CA law requires 33% by 2020
 - CPP targets 10% RE in HI by 2030; HI's official goal is 40%

Where We Are Today

- Utilities, Chambers of Commerce, and States are already preparing to challenge the Final Rule
 - As noted, more than 30 states will be requesting a stay of the Rule
 - Utilities, Coal Producers, Local Governments and Community Groups will all be requesting stays
 - If granted, a stay will defer implementation costs pending legal outcome

Questions?

