



Regulating Greenhouse Gasses Under the Clean Air Act

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About NACAA

- ❑ National association of air pollution control agencies, located in Washington, D.C.
- ❑ 41 state agencies, Washington, D.C. and Territories
- ❑ 116 (of 117) local agencies
- ❑ Air Pollution control agencies are given “primary responsibility” under the Clean Air Act for implementation



What I Will Cover

- ◆ GHG Regulatory History
- ◆ Overview of CAA § 111
- ◆ Proposed EPA carbon limits for new power plants
- ◆ Proposed EPA carbon limits for existing power plants
- ◆ Legal challenges to both standards



Take a deeper dive into Section 111 of the CAA

Talk about one of the most exciting and active regulatory areas of the CAA (top presidential priority; based on a previously little-used CAA section)

Massachusetts v. EPA , 549 U.S. 497 (2007)

- 1999 petition to regulate GHG emissions under § 202(a)(1) of CAA
 - ◆ the EPA “shall by regulation prescribe . . . standards applicable to the emission of any air pollutant from any class . . . of new motor vehicles . . . which in [the EPA Administrator’s] judgment cause[s], or contribute[s] to, air pollution . . . reasonably . . . anticipated to endanger public health or welfare,” 42 U. S. C. § 7521(a)(1)
 - ◆ “air pollutant” defined at CAA § 302(g)
- EPA denied the petition in 2003
- Supreme Court reviewed and found that:
 - ◆ GHGs are an “air pollutant” under § 302(g)
 - ◆ EPA lacks the discretion to decide whether to exercise its judgment under § 202(a)(1) to determine whether GHGs “cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.”
 - ◆ EPA ordered to express its judgment on the endangerment question



EPA’s denial rationale: (1) the CAA does not provide authority to set mandatory regulations to address global climate change; (2) even if it did, the causal connection between global temperature increases and GHGs is not firmly established. It would be unwise to issue regulations without more certainty.

Endangerment Finding

- Finalized December 15, 2009
- The emission of six anthropogenic GHGs are causing climate change
 - ◆ Carbon dioxide (CO₂)
 - ◆ Methane (CH₄)
 - ◆ Nitrous oxide (N₂O)
 - ◆ Hydrofluorocarbons (HFCs)
 - ◆ Perfluorocarbons (PFCs)
 - ◆ Sulfur hexafluoride (SF₆)
- Combined emissions of these substances from motor vehicles will contribute to human health and welfare effects including higher temperatures, more extreme weather events, sea level rise and greater demand for water.



Mobile Source GHG Standards

- **Phase One:**
 - ◆ Establishes carbon dioxide emission standards for light duty trucks and cars, commencing MY2012 (October 1, 2011)
 - ◆ Essentially a fuel efficiency standard, which will increase from 30.1 to 35.5 MPG in 2012-2016
 - ◆ Expected to reduce CO₂ emissions by 950 million metric tons over the lifetime of the MY2012-2016 vehicles and save 1.8 billion barrels of oil
- **Phase Two:**
 - ◆ GHG emissions standards for MYs 2017-2025 finalized in October 2012
 - ◆ Incentivizes production of electric and fuel cell vehicles
 - ◆ Requirement of 54.5 mpg by 2025



LDV MY2012 – 2016 rule finalized May 7, 2010

LDV MY2017-2025 rule finalized October 15, 2012

MDV and HDV MY2014-2018 rule finalized September 15, 2011

MDV and HDV MY2018-2027 rule proposed on June 19, 2025 (published in FR as on July 13)

CAA Cross-Triggering

□ **Timing Rule (2010)**

- ◆ GHGs will be “subject to regulation” on January 2, 2011, when the LDV standards go into effect.
- ◆ As of January 2, 2011, pending PSD permits for new or modified sources will be subject to GHG BACT
- ◆ States must implement a PSD program for GHGs by January 2, 2011
- ◆ PSD is triggered based on GHG emissions alone (that is, GHG emissions can cause a source to be a major source)

□ **Tailoring Rule (2010)**

- ◆ The Tailpipe Rule would increase Title V sources from 15,000 to six million, PSD permits from 300 per year to 40,000 per year
- ◆ EPA proposed Lower regulatory threshold levels in phases:
 - ✓ Phase I (January 2011-June 2011): 75,000 tpy CO₂e and otherwise subject to PSD
 - ✓ Phase II (July 2011-June 30, 2013): Phase I sources plus 100,000 tpy CO₂e new sources or 75,000 tpy CO₂ net emission increase sources
 - ✓ Phase III (July 1, 2012): Consider permanent exclusion of small sources
 - ✓ Phase IV (April 30, 2016): Final implementation rule



Utility Air Regulatory Group v. EPA (2014)

- ❑ EPA cannot “tailor” statutory emission thresholds
- ❑ EPA cannot require stationary sources to obtain Prevention of Significant Deterioration (PSD) and Title V permits based solely on their potential greenhouse gas (GHG) emissions
- ❑ Sources already subject to stationary source permitting requirements due to their emissions of conventional pollutants can be required to install best available control technology (BACT) for GHGs, if the source emits more than a de minimis amount of GHGs



Decided June 23, 2014

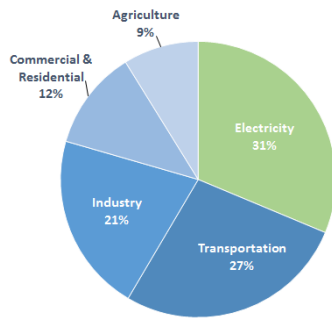
Case included broad set of challenges to the endangerment finding, tailoring and timing rule. EPA won everything in D.C. Circuit. SCOTUS only accepted cert on tailoring rule.

Tailoring rule struck down, but EPA regulatory program mostly left intact.

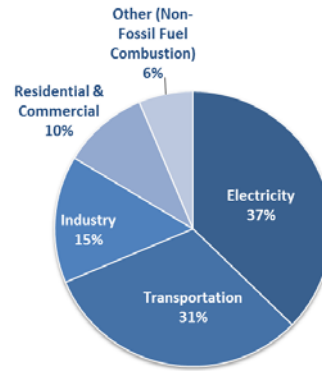
Now on to GHGs from stationary sources

Why Focus on the Power Sector?

Total U.S. Greenhouse Gas Emissions by Economic Sector in 2013



U.S. Carbon Dioxide Emissions, By Source



Source: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2013, U.S. EPA



- *All data from the most recent EPA GHG Inventory (1990-2013)
- Carbon dioxide accounts for 82 percent of U.S. GHG emissions
- Next highest contributory is methane – 10 percent

Section 111 of the Clean Air Act (42 U.S.C. § 7411)

- Section 111(b) – New Sources (includes modified and reconstructed sources)
 - ◆ Applies to any category of sources that “causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare”
 - ◆ EPA establishes “Federal standards of performance” for each source category
- Section 111(d) – Existing Sources
 - ◆ Applies to “any existing source for any air pollutant...”
 - ✓ Not covered by a NAAQS; or
 - ✓ Not “emitted from a source category which is regulated under section ...[112] of ... [the Clean Air Act]”
 - ✓ “but to which a standard of performance ... would apply if such existing source were a new source”
 - ◆ EPA issues emission guidelines (40 C.F.R. Part 60, Subpart B)
 - ◆ The state – not EPA – sets the standards of performance consistent with EPA guidelines
 - ◆ EPA reviews and approves the state plan. EPA may “prescribe a plan for a State in cases where the State fails to submit a satisfactory plan” or if a state fails to enforce its plan.

Best System of Emission Reductions

- Standard of Performance (42 U.S.C § 7411(a)(1))
 - ◆ “The term ‘standard of performance’ means a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.”
- Best System of Emission Reduction (BSER) is a key legal term for both § 111(b) and (d).
 - ◆ 111(b) – EPA uses BSER to set the “standard of performance” for new, modified, and reconstructed sources
 - ◆ 111(d) – EPA uses BSER to sets the guidelines by which state “standards of performance” will be evaluated for approval

111(b) Standard for New Units

- (Re)proposed on September 30, 2014, published in the Federal Register January 8, 2014
- Separate standards for coal and natural gas plants
 - ◆ Coal: emissions limit of 1000-1100 lb CO₂/MWh based on BSER of partial carbon capture and sequestration
 - ◆ Natural gas: emissions limit of 1000-1100 lb CO₂/MWh based on performance of modern (i.e., most efficient) natural gas units
- Rule will be finalized by “mid-summer” 2015



NSPS proposed on September 30, 2013 but not published in the Federal Register until January 8, 2014

Initial NSPS for new power plants proposed on March 27, 2012.

EPA received more than 2.5 million comments

On September 20, 2013, EPA withdrew the proposal and re-proposed the power plant NSPS

111(b) NSPS: Does CCS = BSER?

- Recall that the CAA definition of BSER requires that technologies be “adequately demonstrated”
- In its analysis, EPA cites four examples of CCS project at coal-fired power plants in the proposed rule:
 - ◆ Southern Company’s Kemper County Energy Facility in Kemper County, Mississippi
 - ◆ Texas Clean Energy Project in Odessa, Texas
 - ◆ Hydrogen Energy California Project in Kern County, California
 - ◆ SaskPower Boundary Dam Project in Estevan, Saskatchewan, Canada



111(b) NSPS: Does CCS = BSER?

- Immediate objection to the rule: EPA's examples are not sufficient to "adequately demonstrate" the technology.
- Attempts to disqualify project examples based on 2005 Energy Policy Act language:
 - ◆ "No technology, or level of emission reduction, solely by reason of the use of the technology, or the achievement of the emission reduction, by 1 or more facilities receiving assistance under this Act, shall be considered to be ... adequately demonstrated for purposes ... [CAA Section 111]." 42 U.S.C. § 15961 (i).
 - ◆ "No use of technology (or level of emission reduction solely by reason of the use of the technology), and no achievement of any emission reduction by the demonstration of any technology or performance level, by or at one or more facilities with respect to which a credit is allowed under this section, shall be considered to indicate that the technology or performance level is ... adequately demonstrated for purposes of section 111 of the Clean Air Act." 26 U.S.C. section § 48A(g).



2005 Energy Policy Act created a Department of Energy program called the Clean Coal Power Initiative. The program authorized \$200 million to develop new technologies to reduce air pollution from coal-fired power generation. It also authorized tax credits for investments in clean coal technology.

All three U.S. projects (MS, TX, and CA) received EPCRA funding *and* tax credits.

EPA released a Notice of Data Availability on February 26, 2014 to respond to these concerns. 79 Fed. Reg. 10750. EPA interprets the provisions to prohibit information from facilities that received EPCRA05 assistance as the sole basis for determining BSER. EPA may rely on information from those facilities in conjunction with other information.

111(d) Standard for Existing Units

- Called the “Clean Power Plan”
- Proposed on June 2, 2014; published in the Federal Register on June 18, 2014
- Sets a 2030 rate-based goal (lbs CO₂ / MWh) for each state based on BSER
- BSER defined to include
 - ◆ Efficiency improvements at each power plant
 - ◆ Shifting generation from affected coal-fired units to natural gas-fired units
 - ◆ Building zero/low-emitting energy sources
 - ◆ Using electricity more efficiently
- Includes an interim compliance period from 2020-2029
- Final rule expected “mid-summer” 2015
- Predicted to reduce CO₂ emissions from existing power plants by 30 percent from 2005 levels by 2030



Example State Goal Setting Procedure

| | | |
|--|-------|-----|
| Collect emission and generation data from affected EGUs (2012 Baseline) | 1,827 | |
| Assume a 6% heat rate improvement at all affected coal-fired steam EGUs | -99 | 16% |
| Increase NGCC power generation and emissions to 70% operating capacity. Reduce generation and emissions at coal-fired and oil- and gas-fired units as necessary to hold total energy generation constant at baseline levels. | -241 | 39% |
| Add projected levels of zero-emission energy production from renewable generation capacity and under-construction or preserved nuclear | -108 | 17% |
| Reduce total generation 1.5 percent annually due to demand-side energy efficiency programs | -176 | 28% |
| 2030 Goal: | 1203 | |



Example calculation uses WI data from proposed rule

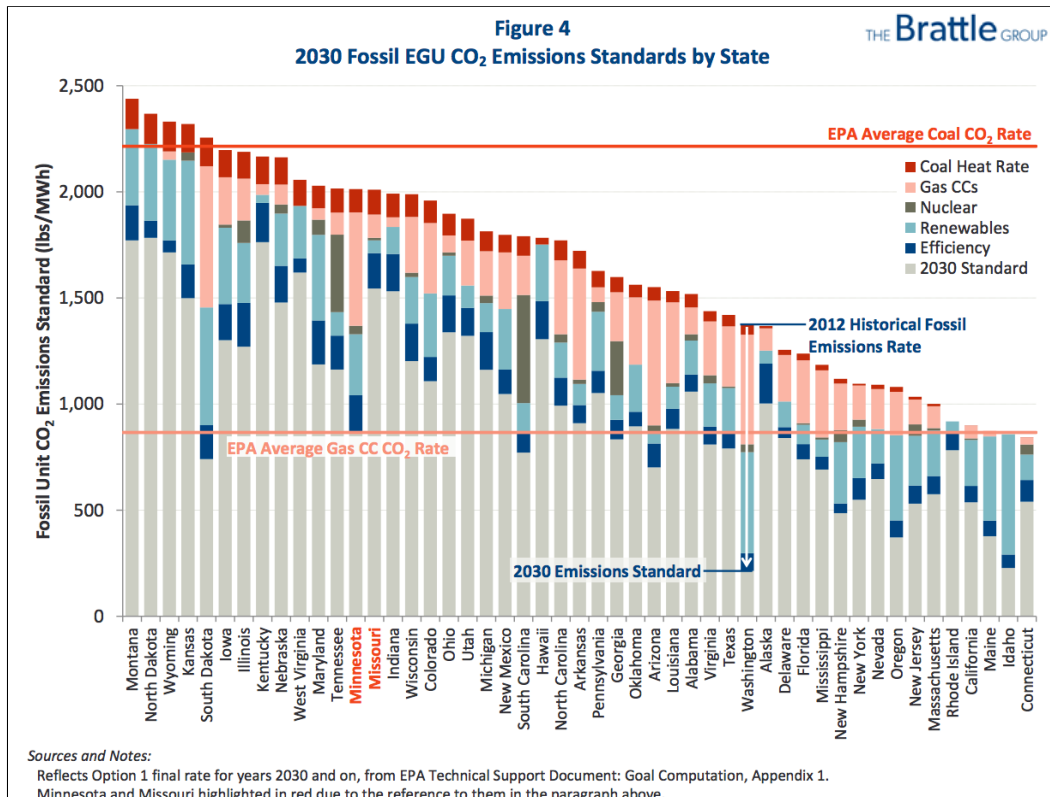
Total rate reduction is 624 lbs CO₂ / MWh, a 34% reduction from the 2012 baseline

How Stringent?

- ❑ Final rate goals range from 1,783 lbs CO₂/MWh (ND) to 215 lbs CO₂/MWh (WA).
- ❑ Absolute reductions in state rates range from 815 lbs CO₂/MWh (SC) to 59 lbs CO₂/MWh (ME)
- ❑ Percent reductions required range from 72% (WA) to 11% (ND)



Recall that the aggregate effect is a 30 percent decrease in CO₂ emissions by 2030



Source: The Brattle Group

Full report available at:

http://www.brattle.com/system/publications/pdfs/000/005/025/original/EPA's_Proposed_Clean_Power_Plan_-_Implications_for_States_and_the_Electric_Industry.pdf?1403791723

State CPP Implementation

- State plans due in 2016(?) with optional one- or two-year extension
- States may choose to convert their rate-based goal to a mass-based goal (lbs CO₂)
- States can join with other states for multistate compliance approaches
- States do not have to follow the building blocks to hit their targets
 - ◆ Use different levels of each building block
 - ◆ Use mitigation strategies outside the building blocks
- States can allocate enforceable obligations in different ways
- But, if a state fails to submit a “satisfactory plan” in a timely manner, EPA can impose a Federal Plan



Likely Legal Challenges - Section 111(d)

(d) Standards of performance for existing sources; remaining useful life of source

(1) The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title but (ii) to which a standard of performance under this section would apply if such existing source were a new source, and (B) provides for the implementation and enforcement of such standards of performance. Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies.



Conflicting Amendments

§ 7411. Standards of performance for new stationary sources

AMENDMENTS

1990—Subsec. (a)(1). Pub. L. 101-549, § 403(a), amended par. (1) generally, substituting provisions defining “standard of performance” with respect to any air pollutant for provisions defining such term with respect to subsec. (b) fossil fuel fired and other stationary sources and subsec. (d) particular sources.

...

Subsec. (d)(1)(A)(i). Pub. L. 101-549, § 302(a), which directed the substitution of “7412(b)” for “7412(b)(1)(A)”, could not be executed, because of the prior amendment by Pub. L. 101-549, § 108(g), see below.

Pub. L. 101-549, § 108(g), substituted “or emitted from a source category which is regulated under section 7412 of this title” for “or 7412(b)(1)(A)”.



Recall that Section 111 places three limits on when you can issue a 111(d) standard. (1) you can't have a NAAQS; (2) you can't be regulated under section 112; and (3) there must be an applicable 111(b) standard if the source was new (not existing)

Senate Amendment – Pub. L. 101-549 § 302(a)

42 U.S.C § 7411(d)(1)

The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) or 7412(b)~~(1)(A)~~ of this title, but (ii) to which a standard of performance under this section would apply if such existing source were a new source.



EPA: text of Section 111 included ambiguous drafting errors.

House Amendment – Pub. L. 101-549 § 108(g)

42 U.S.C § 7411(d)(1)

The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408(a) ~~or 7412(b)(1)(A)~~ or emitted from a source category which is regulated under section 7412 of this title, but (ii) to which a standard of performance under this section would apply if such existing source were a new source.



Opponents of the rule read this language to prohibit a 111(d) standard for and source category – regardless of the pollutant being regulated – if that source category is already regulated under Section 112, which addresses hazardous air pollutants.

EPA issued a 2012 a rule to regulate mercury emissions from power plants under Section 112. Under this reading of the statute, EPA cannot use 111(d) to regulate CO2 emissions from power plants because it already regulates mercury from power plants.

BUT, the Supreme Court struck down (without vacating) the Mercury rule on June X, 2015

111(d) Statutory Requirements

- EPA ... “shall prescribe” 111(d) regulations for “any existing source for any air pollutant”
 - ◆ “(i) for which air quality criteria **have not been issued** or is **not included** on a list published under section 7408(a) of this title”
 - ◆ “or emitted from a source category which is regulated under section 7412 of this title”
 - ◆ “(ii) but to which a standard of performance **would apply** if such existing source were a new source”
- Can EPA meet them?
 - ◆ No NAAQS for CO₂
 - ◆ In 2012 EPA finalized a Section 112 rule limiting mercury emissions from power plants
 - ◆ 111(b) Power Plant NSPS will be challenged



EPA MATS rule finalized on February 16, 2012

In Re: Murray Energy (2015)

- Attempt to strike down proposed CPP based primarily on MATS rule
- CAA its own judicial review provisions
 - ◆ Rules with national scope have to go to D.C. Circuit
 - ◆ Rule must be final agency action (consistent with APA requirement)
- Plaintiffs made three arguments to avoid final agency action problem
 - ◆ All Writs Act: “all courts established by Act of Congress may issue all writs necessary or appropriate in aid of their respective jurisdictions and agreeable to the usages and principles of law.” 28 U.S.C § 1651(a)
 - ◆ EPA’s public statements that it has authority to use 111(d) are a final agency action
 - ◆ 2011 EPA settlement with states and environmental groups
- D. C. Circuit rejected all three claims in June 9, 2015 decision



Henderson, Griffith, and Kavanaugh decided the case. 3-0 decision with Kavanaugh writing. Concurrence from Henderson with a different take on the All Writs Act.

So Where Are We?

- ❑ Awaiting the final “midsummer” 111(b) and 111(d) rules
- ❑ Awaiting proposed federal plan
- ❑ Awaiting clarity on status of the MATS rule
- ❑ Much more litigation on the horizon