



Preparing for CO₂ Regulations for Existing Power Plants: 10 Points to Look for in the Proposed Rule

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The U.S. Environmental Protection Agency (EPA) is expected to release a proposal to regulate carbon dioxide (CO₂) emissions from existing fossil fuel-fired electric generating units (EGUs) under section 111(d)¹ of the Clean Air Act by June 2014. Similar to the state role of establishing implementation plans for ambient air quality standards, Section 111(d) obligates states to implement of the rule. The EPA has regulated under section 111(d) just a handful of times, and as a result, there is uncertainty about what the rulemaking might require as well as the degree of flexibility available for implementation. This policy brief identifies ten points to look for in the EPA's forthcoming section 111(d) proposal. These ten aspects of the proposal will inform the likely impact and available frameworks for state plans.

1. The level of emission reduction and how it is measured

Once the proposed level of emission reduction is known stakeholders can begin to evaluate the target in the context of state-specific factors, such as the electricity generation profile, emissions trajectory, and how the electricity sector is regulated. Depending on the level of reduction required, some states may already be on track to meet the regulation while others may need to implement new emission reduction measures. If the proposed level of reduction is measured against a historical baseline, the choice of year(s) may affect the ability of states to earn credit for early action to reduce emissions. Another important aspect of the level of emission reduction is how it is measured (e.g. annually or on a multi-year basis). Some stakeholders have requested that the EPA provide for multi-year compliance, thereby allowing extra time to implement emission reduction activities and account for year-to-year fluctuations in energy demand.²

2. The “Best System of Emission Reduction”

The Clean Air Act directs the EPA to determine the level of emission reduction achievable through application of the “best system of emission reduction” (BSER).³ Therefore, the BSER will inform the level of emission reduction required. The particular emission reduction strategies the EPA includes in the BSER will also inform the implementation strategies available to states. While the BSER does not necessarily constitute the universe of potential implementation strategies—which could be more expansive—anything included in EPA's definition of the BSER would likely be available to states in section 111(d) plans.

3. Separate standards for **sub-categories** of sources

¹ For an overview of Section 111(d), see Tarr, J. (2013, September). The Clean Air Act and Power Sector Carbon Standards: Basics of Section 111(d). *NI PB 13-03*.

² Regional Greenhouse Gas Initiative. (2013, December 3). RGGI States Recommend that EPA Support Flexible Market-Based Compliance Programs: States Submit Comments on Proposed Carbon Pollution Rules for Existing Power Plants.

http://www.rggi.org/docs/PressReleases/PR120213_EPAComments_Final.pdf; Pennsylvania Department of Environmental Protection Bureau of Air Quality. (2014, April 10). Recommended Framework for the Section 111(d) Emissions Guidelines Addressing Carbon Dioxide Standards for Existing Fossil Fuel Power Plants.

³ 42 U.S.C. § 7411(a)(1) (2012); 40 C.F.R. § 60.22(b)(5) (2013).



The proposal could include a single standard for all fossil-fuel electric generating units or separate standards for subcategories of units (e.g., separate targets for coal and natural gas).⁴ Creating separate standards for subcategories of sources could affect the level of emission reduction required from states with different fuel mixes. It also raises questions about the relationship between subcategories. For example, whether interaction between subcategories (e.g. trading of emissions credits) is legal or desirable.

4. The timeline for implementation

The EPA’s proposal may address a number of section 111(d) timing issues. The thirteen-month timeline⁵ for developing state plans outlined in the President’s Climate Action Plan may limit state opportunities to pursue administratively complex programs, such as the inclusion of energy efficiency, trading, or coordination with other states. The thirteen-month timeline may also be difficult to meet for states that require the state legislature to approve the plan—for example because the legislature meets infrequently—or where state law prohibits the implementing agency from working on a plan before the federal rule is final. To address the timeline issue for plan development, some stakeholders have requested that EPA allow states to revisit their implementation plans or earn a determination of “presumptive equivalency” and submit a more detailed plan later.⁶

A second important aspect of timing is the timeline for compliance with the emission guideline after the plan is in place. This will determine the amount of lead-time the proposal provides for EGUs to make investments to reduce emissions, including the amount of time for state public utility commissions to review those decisions. The form of the timeline may also be an important consideration for states and EGUs. For example, does the proposal provide a single target, a target that declines in phases, or something else?

Finally, it is possible that the proposal will speak to whether the proposed framework is one that will be revisited or updated in the future. Section 111 requires the EPA to revisit standards for *new* stationary sources but does not speak to whether the EPA can update existing source standards.⁷ Whether the EPA proposes a framework that requires periodic updates may affect the attractiveness of certain implementation measures. For example, flexible mechanisms such as trading schemes as well as investments in end-use energy efficiency and zero-emitting generation may be easier to tighten than heat rate improvements.

5. Whether the emission guideline is expressed as a mass, rate, or both

The proposal could require achievement of a mass-based target (e.g., tons of CO₂ per year), a rate-based target (pounds of CO₂ emissions per megawatt hour), or provide states with a choice of equivalent mass- and rate-based targets (e.g., by providing a formula for conversion). Some types of potential implementation strategies—such as a mass-based emission trading system or a rate-based tradable performance standard—may be easier to incorporate in state plans if the emission guideline is in the form the program would require or provides guidance on conversion. The administrative burden of including flexible compliance measures may also be different depending on the form of the standard. For example, reductions from end-use energy efficiency would be easier to account for under a mass-based approach than a rate-based approach, which would require the state to develop a system for crediting reductions and applying them to the rate.

⁴ *Id.*

⁵ Executive Office of the President. (2013, July 1). Power Sector Carbon Pollution Standards. *78 Fed. Reg.* 39533–39537.

⁶ National Climate Coalition. (2013, December). Program Design Recommendations. <http://bipartisanpolicy.org/sites/default/files/NCC.pdf>.

⁷ 42 U.S.C. § 7411(b)(1)(B)(2012).

6. Emission reduction opportunities included as compliance options

The universe of activities that could reduce emissions from the electricity sector is broad, and compliance flexibility would allow states and EGUs to pursue to the lowest-cost approaches to emission reduction. For example, possible strategies range from on-site activities such as thermal efficiency improvements or co-firing to off-site activities such as investments in end-use energy efficiency or zero-emitting generation. The policy discussion around section 111(d) has contemplated a wide range of on- and off-site activities as potentially contributing to emission reductions, and the EPA has indicated that its proposal will look beyond the fence line of fossil-fuel power plants for abatement opportunities.⁸ The proposal may provide clarity on specific activities that, in the EPA's view, could be incorporated into state plans.

7. The level of **specificity** related to compliance options.

To the extent that the EPA speaks directly to the range of compliance options available to states as part of their section 111(d) plans, the level of specificity provided may influence whether and how states take advantage of those opportunities. For example, the proposal could include: information on acceptable frameworks for trading programs and methods for projecting future emissions; methods for estimating and verifying energy savings from efficiency programs and translating those savings to avoided emissions; or methods for quantifying avoided emissions from zero-emitting generation. The EPA could provide guidance, tools, or even model rules for incorporating various strategies into a section 111(d) plan. For example the EPA has issued guidance on incorporating energy efficiency and renewable energy into section 110 State Implementation Plans, including simplified tools that allow states to evaluate the magnitude of emission reductions achievable without conducting resource-intensive energy modeling.⁹

8. How state plans interact

The electric grid does not observe state borders. This raises an important question of how state section 111(d) plans would interact given that activities in one state may influence emissions in another. For example, if offsite activities such as energy efficiency and zero-emitting generation are included in state plans, it is possible—if not probable—that investments in one state could reduce emissions in a different state. The framework for determining which state receives credit could have important consequences for state implementation options. In light of this challenge, some stakeholders have asked the EPA to allow regional compliance, such as through a multi-state trading program or at the level of regional transmission organizations (RTOs) or independent system operators (ISOs).¹⁰ Service-territory or company level cooperation is another potential option for states that do not participate in an RTO, ISO, or formal emissions trading program.

9. Criteria for state plans

According to President Obama's timeline, states must submit section 111(d) plans by June 30, 2016.¹¹ The proposal may provide clarity on the EPA's view of what is necessary for approval as well as acceptable methods and tools for demonstrating equivalency of state programs—for example whether the proposal speaks to acceptable methods for projecting emissions reductions associated with different CO₂ reduction measures or policies. For state plans that include off-site emission reduction activities (e.g., end-use energy efficiency, zero-emitting generation, transmission/distribution efficiency), the proposal

⁸ Juliano, N. (2014, April 17). Release of rule for existing power plants may slip, will include ideas to promote renewables. *Environment & Energy Publishing*. <http://www.eenews.net/eenewspm/2014/04/17/stories/1059998096>.

⁹ U.S. Environmental Protection Agency. (2012, July). EE/RE Roadmap Manual. <http://epa.gov/airquality/eere/pdfs/EEREmanual.pdf>.

¹⁰ MJ Bradley & Associates. (2014, April). Multi-State Responses to GHG Regulation Under the Clean Air Act.

¹¹ Executive Office of the President. (2013).

may also specify whether the plan must include certain evaluation, measurement, and verification requirements for the energy savings or methods for quantifying associated emission reductions.

Another open question is whether a state could assume part or all of the compliance obligation or, alternatively, include backstops that would deliver any missed emission reductions to avoid noncompliance. An option to assume part of the compliance obligation could influence the inclusion of certain offsite activities in state plans because it may be untenable to require regulated sources (EGUs) to assume responsibility for activities over which they have little control. For example, a state plan that includes improvements in building codes would not be enforceable against EGUs.

10. Where the proposal seeks **feedback**

Finally, to the extent that the proposal seeks feedback it will provide clarity on areas where the EPA has the most uncertainty about the final rule and where comments may have the most influence. For example, the proposal could propose alternative versions of certain aspects of the rule or pose new questions to states and other stakeholders.¹² EPA Administrator Gina McCarthy has stated that the proposal will be the starting place for a discussion, and that the Agency may propose and solicit feedback on multiple options.¹³

¹² U.S. Environmental Protection Agency. (2013, September 23). Considerations in the Design of a Program to Reduce Carbon Pollution from Existing Power Plants. <http://www2.epa.gov/carbon-pollution-standards/questions-state-partners>.

¹³ McCarthy, G. (2014, April 7). State, Regional and Company Approaches to Reduce Power Sector GHG Emissions Keynote Remarks. <http://bipartisanpolicy.org/events/2014/04/state-regional-and-company-approaches-reduce-power-sector-ghg-emissions>