

PROCEEDING REPORT

“Exploring Clean Power Plan Compliance Options for Pennsylvania”

March 23rd, 2015

Introduction

On March 23, the Kleinman Center for Energy Policy (Center) at the University of Pennsylvania hosted an invitation only meeting entitled, “Exploring Clean Power Plan Compliance Options for Pennsylvania.” The day-long meeting held at the Center’s facilities in Philadelphia brought together Pennsylvania Clean Power Plan (CPP) stakeholders, including but not limited to: traditional electric power generation interests, renewable energy and energy efficiency trade associations, energy and environmental regulators, industrial users of energy, labor unions, environmental advocates, business and industry associations, and others. The event featured experts from around the country discussing innovative CPP compliance options being developed, strategies other states are considering, and regulatory considerations that compliance plans must examine.

In June 2014, the U.S. Environmental Protection Agency (EPA) proposed the CPP rule which aims to nationally reduce carbon dioxide emissions by 30% (from 2005 levels) by 2030. The regulatory construct of the CPP enables states to develop their own individualized plans to reduce emissions, but the plans must be submitted and approved by the EPA. States are required to meet state-specific goals, which may be higher or lower than the national 30% average, depending on application of EPA “best system of emissions reduction” (BSER) methodology.¹ The flexibility to develop compliance plans has been a noted trademark of the CPP proposal, allowing states to tailor their approach to specific state needs. However, this flexibility presents a wide range of choices and tradeoffs states must consider in crafting their plans.

The following is a summary of some of the key points made by attendees and presenters at the meeting. The meeting was held under Chatham House rules, so there is no attribution of particular comments. To focus the discussion the meeting was held under the following guidelines: 1) knowing the CPP rule may be delayed and/or legally challenged, we assumed for purposes of the discussion that Pennsylvania will have a compliance requirement under the CPP, 2) understanding the proposed rule may be different than the final rule, we conducted the discussion given currently available information about the proposed rule, and 3) avoided debate over the issue of climate change.

¹EPA’s “Best System of Emissions Reductions” is a formula used to develop state carbon reduction goals. The BSER starts with each state’s emissions rate (lbs/mwh) in 2012, and then applies four common emissions reduction strategies. In general terms, these strategies include: 1) improving energy efficiency at coal power plants, 2) increasing dispatch of high efficiency natural gas plants, 3) increasing zero carbon energy sources such as nuclear and renewables, and 4) increasing retail energy efficiency.

Opportunities

Constructed properly, Pennsylvania's CPP compliance strategy could be used to stimulate economic and employment growth. The following key points were made related to opportunities for Pennsylvania:

SIPs versus SPs – The difference between state implementation plans (SIPs) under Clean Air Act (CAA) section 110 and state plans (SPs) under CAA section 111 were discussed. The main difference highlighted was that states may have greater flexibility and opportunities to innovate in SPs, compared to SIPs. However, states may be hesitant to exercise this opportunity to be innovative for fear of how EPA will interpret (i.e. accept or reject) cutting-edge proposals.

State Authority to Price Carbon – Pennsylvania has broad authority under the CAA and corresponding state law to charge fees or otherwise establish a price on carbon. However, authority to implement specific strategies will need to be examined carefully to determine if existing authorities are enabling.

Benefits of Regional Strategies – Data and analysis was reviewed to illustrate the cost-effectiveness of regional compliance strategies, especially with respect to strategies that allow for clear price signals and avoid dispatch distortions. Some benefits of regional approaches included reducing or mitigate leakage, better reflecting the interstate nature of the electricity system and lowering compliance costs.

Regional Communication – There is significant opportunity to increase communications between Pennsylvania and other states in the PJM and general geographic region. Specifically, both air and energy regulators need to talk to one another to understand challenges and opportunities.

Role of Natural Gas– Some commenters felt that low priced natural gas presents an opportunity to reduce emissions in the electric power sector, lower consumer costs and increase manufacturing opportunities. Some felt more could be done in Pennsylvania to leverage the natural gas opportunity as a long term bridge to a lower carbon future.

Mass versus Rate-Based Approaches – In general, experts believed that permit-based rate or mass-based approaches to compliance tends to be simpler than state commitment approaches. Moreover, the simplicity and track record of success with mass-based approaches may prove to be attractive to many.

EGU versus EGU-Plus Compliance Approaches – States can choose to put federally enforceable compliance obligations on existing electric generation units (EGUs) only, or allow for expanded state responsibility by allowing other entities (in addition to existing EGUs) to share in meeting compliance (e.g. renewables, retail efficiency) through state commitment measures.

National Governor's Association (NGA) Grant – Pennsylvania was recently selected by the NGA's policy academy for a grant related to technical assistance and modeling around CPP options. There is an opportunity to supply data and compliance recommendations to the state for consideration in the NGA effort. Through the NGA process, Pennsylvania may have the opportunity to inform compliance strategies for other states.

Challenges

Reducing carbon dioxide emissions under the CPP could harm the economic health of certain sectors; especially those depended on coal production and use. Several other challenges were identified, including but not limited to:

Potential Result of Legal Challenges – Some believe that legal challenges to the CPP rule at the federal level may result in facility-based carbon dioxide regulations that will be less flexible for electric power generators. In addition, there is broad agreement that the rule will face new legal challenges upon finalization in late summer/early fall. Regulatory and market uncertainty is created due to the unknown impacts of these challenges.

Citizen Suits – Once the state's compliance plan is approved by the EPA, portions of the plan may be federally enforceable. Concerns were raised about federal enforcement of state laws and also how this could result in increased volumes of litigation brought under citizen suit provisions.

Impacts of New Power Plants – Compared to existing plants, new power plants that are regulated under CAA section 110, will be comparatively lower priced and dispatched more often if they do not have a carbon cost of compliance. The cost and benefits of bringing new power plants under the 111 construct was examined, as a potential solution.

Coordination with Pennsylvania General Assembly – PA Act 175 of 2014 requires the PA DEP to submit its CPP compliance plan to the General Assembly for review and approval prior to submitting to the EPA. Concerns were raised about the state's limited ability to impact CPP guidelines and other requirements established at the federal level, by the EPA.

Compliance Options Requiring Legislation – The political viability of certain compliance options, particularly options that require amendments to or new legislation, were discussed. It is possible that the most technically and economically efficient compliance options may not be implementable if they require changes to or new statutory authority.

Avoiding Increased Ozone Pollution – Concerns were expressed that certain strategies to reduce carbon dioxide emissions may result in increased ozone pollution. This could be of particular concern given federal proposals to increase the stringency of the national ambient air quality standard for ozone.

Energy Efficiency Measurement and Verification – Energy efficiency investments - resulting from and in addition to - Pennsylvania's Act 129 utility energy efficiency resource standard provide lowest cost carbon reduction opportunities. However, choices about the measurement and verification protocols required for compliance certainty have the potential to make some energy efficiency uneconomic.

Complexities with Regional Approaches - Regional approaches offer certain benefits, but there was a degree of skepticism about the viability of these options and associated transaction costs. For example, multi-state coordination may present delays and complexities that complicate regulatory planning, and transaction costs may be high if states within the multi-state coalition later decide to leave the program. In addition, joining certain regional programs, such as the Regional Greenhouse Gas Initiative (RGGI), would require legislative authorization that complicates the viability of this program as a compliance strategy.

Challenges cont.

Reliability Concerns – The impacts of the CPP on electric reliability are unknown, with studies claiming there will or will not be reliability issues. There seemed to be greater concerns with the state-to-state variance of compliance approaches impacting reliability, as opposed to drop dead compliance dates (as is the case with reliability concerns and EPA’s mercury rule). Concerns were expressed about how facility-by-facility run time limitations, a potential compliance option, could negatively impact dispatch and reliability.

Potential Solutions

Capping Compliance Costs – Entities that must comply with the CPP might find value in setting a ceiling price on the cost of compliance, potentially set by either a market for emissions reductions or at the upper bound of a range of costs to meet the performance standard. The idea of establishing an alternative compliance payment (ACP) schedule, where entities could achieve emissions reductions and/or remit the ACP to the state, was discussed. The state could then invest the ACP funds in carbon reduction activities to help achieve compliance. Although it is unclear if EPA would accept this strategy in the CPP, examples of EPA accepting this approach for other rules were cited, including rules related to emissions from aerospace coatings and solvents and gas-fired water heaters.

Leveraging Compliance Investments - The idea of a green bank or compliance bank was identified as a potential pathway for CPP compliance, where sources of funds (from public or private funds, compliance fees or other capital sources) could be invested in carbon reduction strategies to lower compliance costs. A compliance or green bank could engage in credit support, co-investment, warehousing or other financing strategies to leverage investments; in some states these programs have enabled \$1 of public monies to support up to \$10 of private investment.

State Plans with Regional Conformity – To overcome barriers related to regional planning and multi-state coordination, states can develop individual compliance plans that can “link” with other states so that credits/allowances from all linked states can be traded for compliance. This would allow for individual state certainty on compliance, but enable access to low cost compliance credits across a broader region.

Quantifying Energy Efficiency Emissions Reductions - Various cost-effective strategies to measure energy efficiency-based emissions reductions were discussed, including drawing parallels to how EPA allows mobile sources to measure and verify (M&V) emissions reductions through statistical modeling. If accepted by EPA, this would be a cost effective option of M&V that would enable dispersed energy efficiency investments to count towards compliance.

RGGI – This market-based, regional cap and trade program to reduce carbon emissions from power plants in several northeastern and mid-Atlantic states, has resulted in a 40% reduction in carbon emissions while diversifying energy sources and allowing for economic growth. RGGI is working with EPA to enable the mechanism to serve as a CPP compliance tool, potentially providing a geographically proximal, plug-and-play solution for Pennsylvania.

Solutions cont.

Smart Dispatch Proposal – Although unclear if EPA would approve this approach, this market based proposal would allow for implementation of a regional transmission organization (RTO)-wide compliance strategy that preserves efficient economic dispatch. The proposal would have EPA set a price on carbon and states would be deemed in compliance as long as they require power plants to pay these costs. The carbon cost would be incorporated into generator wholesale bids, discounted from generator payments, and could be returned to the states or to consumers to offset increased energy costs.

This first Pennsylvania stakeholder meeting is part of the Center's ongoing investigations into the Clean Power Plan. The Kleinman Center for Energy Policy, along with two other Pennsylvania universities, is a support team advisor to Pennsylvania's NGA policy academy grant and will continue to explore CPP technical and policy issues specific to Pennsylvania. In addition, the Center will be exploring ways to increase multi-state communication about compliance opportunities, challenges and solutions.

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