Working Paper: Supporting State Plan Compatibility and Interstate Compliance with the Clean Power Plan

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Introduction

As states and stakeholders consider options to comply with EPA's Clean Power Plan requirements to reduce emissions in the power sector, there is growing interest in developing individual state plans that give regulated entities the option of working across multiple states to achieve compliance. One way that states could make this option available is to design their plans to be compatible with other states' plans, and then to allow regulated entities to meet their CPP obligation by using compliance instruments issued by other states with similarly approved plans. Such plans would not require formal coordination with other states during the development of the plan, but would share common infrastructure and design elements that would facilitate the use of standardized compliance instruments by regulated entities in different states.[1] States may or may not choose to allow interstate compliance when they first begin implementing the plan, but many have indicated an interest in having the option available.

Facilitating interstate reduction strategies provides multiple benefits to states and regulated entities, including opportunities to: find the lowest-cost means of compliance; lessen competitiveness concerns between jurisdictions; respond to changes in fuel prices, weather, and other uncertainties; improve administrative efficiency; and align better with regional electricity markets. Designing plans to be compatible allows states to "opt in" to interstate compliance in the future without committing to it in the state plan. Even without interstate compliance, many of these benefits can be gained by designing compatible individual state plans that use common elements and infrastructure, and establishing areas of commonality upfront provides states the flexibility to decide to allow interstate compliance in the future.

Through convenings and other conversations with states, stakeholders, facilitators of regional conversations, and other experts, and building upon our own research in this area, we have identified areas in which guidance and tools from EPA could facilitate the compatibility of individual state plans and support a relatively easy path to interstate compliance. The suggestions identified in this working paper are informed by conversations in and around the Georgetown Climate Center's State, Power Company, and NGO Dialogue series, although they should not be understood to reflect the views of any participants in particular.[2] This working paper also builds on the Center's earlier work with states on opportunities to align and link regional emissions reduction programs.[3]

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[1] For more information on single-state approaches with optional interstate compliance, or "common elements" approaches, *see* Lissa Lynch et al., Georgetown Climate Center, Clean Power Plan Implementation: Single-State Compliance Approaches with Interstate Elements (May 2015), http://www.georgetownclimate.org/single-state-clean-power-plan-compliance-approaches-with-interstate-elements; Franz T. Litz and Jennifer Macedonia, Choosing a Policy Pathway for State 111(d) Plans to Meet State Objectives (April 2015), http://www.betterenergy.org/publications/choosing-policy-pathway-state-111d-plans-meet-state-objectives; Jonas Monast et al., Nicholas Institute, Enhancing Compliance Flexibility under the Clean power Plan: A Common Elements Approach to Capturing Low-Cost Emissions Reductions (March 2015), http://nicholasinstitute.duke.edu/sites/default/files/publications/ni_pb_15-01.pdf.

[2] The fifth and most recent dialogue in this series, held March 10, 2015, focused on exploring opportunities, in either a rate- or mass-based context, for states to develop individual state plans that could provide regulated entities with the option of interstate trading. More information on the convening series is available at: http://www.georgetownclimate.org/clean-power-plan-implementation-a-state-power-company-and-ngo-dialogue.

[3] Kathryn A. Zyla, Georgetown Climate Center, Linking Regional Cap-and-Trade Programs: Issues and Recommendations (April 2010), http://www.georgetownclimate.org/linking-regional-cap-and-trade-programs-issues-and-recommendations.

Specifically, EPA could support the compatibility of individual state plans and facilitate interstate compliance by:

- Making available common infrastructure for tracking both mass-based allowances and rate-based credits.
- Supporting an opt-in mass-based interstate compliance approach by establishing streamlined plan approval criteria.
- Assisting states with potential rate-based interstate approaches by identifying default rules and providing guidance.
- Taking comment in the forthcoming federal plan proposal on an option that works together with compatible individual state plans.

This discussion addresses both mass-based programs and rate-based programs. For a mass-based program this working paper outlines a framework that would provide a streamlined way for states and regulated sources to opt into interstate compliance. This framework is not meant to be limiting; states could develop other approvable frameworks for interstate compliance by accepting each other's allowances. However, this mass-based framework would ensure that the system of state plans that provide for exchange of allowances would maintain the required level of aggregate emissions performance even if new participants entered and exited the market. It is designed to lessen barriers to participation by states and affected units. In contrast, more complex systems to link plans—for example, those that include plans using a state commitment[4] approach—may require multi-state modeling and specialized reporting requirements to demonstrate that they are projected to achieve (and will maintain) required emissions performance.

In the rate-based context, we have identified ways that EPA could better support interstate compliance; however, a streamlined opt-in rate-based system is significantly more complicated, and questions remain about whether and how such a framework would operate.

EPA is also preparing to release a proposal for a federal plan that would be implemented in states that do not have an approved state plan in place. It is just as beneficial for this federal plan to integrate smoothly with the plans in place in other states as it is for the plans developed by states to work well together. Therefore, this working paper proposes ways that the federal plan could be compatible with individual state plans.

I. Common Infrastructure to Track Mass-Based Allowances and Rate-Based Credits

States interested in allowing regulated entities to use interstate compliance instruments—"allowances" in a mass-based context or "credits" in a rate-based context—will need a way to transfer instruments from entities in one state to entities in another, and to enable an allowance or credit generated in one state to be submitted for compliance in another state. While it is possible for individual states to establish their own tracking systems and ensure that they are securely interoperable (and this should remain an option for states), it could greatly facilitate interstate efforts if a common system were available. Even if states choose not to allow interstate compliance, there are benefits to consistency among states. For example, it would be much more administratively efficient for states to work together than to each create their own infrastructure, and for regulated parties operating in multiple states to be able to use one platform for all of their compliance activities rather than different platforms in each state. In addition, should these states later decide to allow interstate compliance, it will be far easier if they are already using common infrastructure.

[4] EPA takes comment on a "state commitment approach," under which emission limits for affected EGUs would not, on their own, assure achievement of the emission performance level, and the state plan "would include an enforceable commitment by the state itself to implement state-enforceable (but not federally enforceable) measures that would achieve a specified portion of the required emission performance level on behalf of affected EGUs." 79 Fed. Reg. at 34,902.

EPA has significant experience developing tracking systems like this for other pollution programs, and existing products on which this system could be based (e.g., the Emissions and Allowance Tracking System, EATS). EPA could work with states to develop a tracking system (or identify a third-party system) that would be available nationwide to any state that chooses to use it for Clean Power Plan programs.

Tracking Mass-Based Allowances

A tracking system for mass-based programs would provide accounts for entities to hold allowances and provide the means of securely allocating allowances, transferring allowances among entities, and retiring allowances for the purposes of compliance. For example, EPA's EATS tracks emissions, allowances, compliance assessment, and other relevant information, and is the basis for existing tracking systems used by the Regional Greenhouse Gas Initiative (CO_2 Allowance Tracking System, COATS) and the Western Climate Initiative (Compliance Instrument Tracking System Service, CITSS). To the extent possible, tracking infrastructure to support the Clean Power Plan could be interoperable with other existing allowance tracking systems such as these (i.e., there should be a mechanism for securely transferring allowances between accounts in the different systems).

Tracking Rate-Based Credits

A rate-based tracking system would provide accounts for entities to be assigned credits from renewable energy, energy efficiency and other creditable resources. Each credit would identify the power generation or energy savings (in MWh) and/or emission attributes (in tons) associated with it.[5] The system could be designed to be interoperable with existing Renewable Energy Credit (REC) tracking systems and with third-party energy efficiency tracking systems that are developed and used by states.

II. An Opt-In Mass-Based Interstate Compliance Approach

Under a mass-based compliance system, the owner or operator of an affected EGU would be required to hold allowances equal to the annual CO_2 emissions from the unit. To demonstrate compliance, each affected source would be required to retire a number of allowances equivalent to its emissions over the compliance period. In an interstate version of this approach, a state plan would allow affected EGUs the option of using allowances issued by other states for compliance.

As EPA develops its criteria for what makes any state plan approvable under the Clean Power Plan, the Agency could establish minimum criteria for streamlined approval of plans for opt-in mass-based interstate compliance. In short, an opt-in plan would be approved to allow regulated entities the option of using allowances from other states with similarly approved plans. By meeting minimum plan criteria, such as those suggested below, the system of compatible state plans would be ensured to maintain the required level of aggregate emissions performance.

Being approved to opt into interstate compliance does not mean that a state must allow this option at the outset, nor does it mean that regulated parties are required to participate in an emissions market. A state with this type of plan could limit or constrain the ability of regulated entities to use out-of-state allowances for compliance.[6]

Whether a state allows compliance through out-of-state allowances or limits its program to in-state allowances, the regulated parties would maintain the option not to make use of these mechanisms or to comply only using in-state allowances. This system merely expands the options available to regulated parties.

[5] See APX, Using Tracking Systems with the Implementation of Section 111(d) State Plans (Oct. 2014), http://www.narecs.com/wp-content/uploads/sites/2/2014/10/APXAnalytics_1_Section111d.pdf.
[6] Some states may want to accept allowances only from states whose plans meet certain criteria.

Importantly, states would not have to commit to any degree of interstate compliance in their plans. EPA could indicate that opt-in plans would be approved to allow interstate compliance, and states could decide later whether and to what degree to accept out-of-state allowances without requiring a plan revision. The decision to accept out-of-state allowances would be a state decision that would be made pursuant to the regulatory framework in the approved plan. It would be helpful for EPA to clarify that plans approved for opt-in interstate compliance under these criteria would not have to be reapproved if other states (or regulated parties) enter or leave the interstate system. EPA might also clarify that the failure of one participating state to meet its goal (e.g., by not enforcing its state plan or by repealing its regulations) will not jeopardize another participating state's compliance.

Criteria for Opt-In Mass-Based Interstate Compliance Plan Approval

The following criteria could form the basis for an opt-in mass-based compliance plan. Any plans containing these elements could be approved to allow regulated entities the option of using allowances from other states with similarly approved plans. These criteria represent one model designed to facilitate the approval of interstate compliance; however, this framework is not the only possible option for an interstate system, and other plans that include interstate elements would also be approvable by EPA.

- *Common infrastructure:* The plan either uses common tracking infrastructure or another system that has been demonstrated to be securely interoperable with the common system.
- *Common units for allowances:* The plan uses default common units or includes a conversion factor for accepting interstate allowances denoted in different units.

  Mass-based interstate compliance could be more efficiently implemented if EPA were to identify default units for allowances, as well as an acceptable way to translate between units. For example, if EPA were to identify metric tons as the default units, short-ton allowances could be accepted as long as a regulated entity retires sufficient short-ton allowances to cover its full emissions in metric tons (or vice versa).
- *Budget integrity:* The plan will not allow emissions to exceed the state's mass-based budget.

  The cap should not exceed the state's mass-based goal.[7] The plan will require affected units to retire allowances to match their emissions, with the total quantity of allowances equal to or below the state's mass-based goal, aggregated over the compliance periods specified by EPA's final rule.[8] Compliance flexibility mechanisms such as borrowing[9] or set-asides[10] must be "under the cap," preventing overall emissions from rising above the capped level during the compliance periods.

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[7] As proposed by EPA, states have the option of translating the rate-based goal to a mass-based goal based on either historical data for existing affected fossil fuel-fired sources or on historical and projected data for existing and new fossil fuel-fired sources. If a state chooses the latter approach, it must include both existing and new sources in its mass-based program. U.S. EPA, Translation of the State-Specific Rate-Based CO2 Goals to Mass-Based Equivalents Technical Support Document (Nov. 2014), http://www2.epa.gov/sites/production/files/2014-11/documents/20141106tsd-rate-to-mass.pdf.

[8] Such a plan would be "self-correcting" according to EPA's formulation, because it "inherently would assure interim performance and full achievement of the state plan's required level of emission performance through requirements that are enforceable against affected EGUs." 79 Fed. Reg. 34907.

[9] Borrowing is a temporal flexibility mechanism that allows the use of allowances from a future compliance period to meet a compliance obligation in an earlier compliance period. U.S. EPA, Tools of the Trade: A Guide to Designing and Operating a Cap and Trade Program for Pollution Control 3-19 (June 2003), http://www.epa.gov/airmarkets/resource/docs/tools.pdf.

[10] A set-aside is an allowance distribution flexibility mechanism under which the regulator withholds a certain number or percentage of allowances for a specific purpose. Set-aside allowances can but used to support specific technologies or address equity issues, or as a cost-containment reserve to release additional allowances if allowance prices exceed a certain level. *See id*. at 3-18.

Given the complexities of state commitment approaches and multi-sector programs, approval for opt-in interstate compliance could be limited to single-sector mass-based budgets. Designing a plan to meet these criteria would not necessarily foreclose links with multi-sector programs in the future; however, this would likely require a more detailed evaluation and demonstration to EPA that the required power sector reductions were being achieved.

To demonstrate budget integrity, the plan would also include enforcement penalties for holding insufficient allowances that are punitive enough to ensure compliance, as well as provisions for emissions monitoring and reporting.

- *Interstate allowances:* The plan specifies that the state will only accept allowances from states that are also approved by EPA for opt-in interstate compliance. This limitation ensures that the entire system of compatible plans maintains budget integrity; states whose plans do not meet these requirements will not be connected to the others.[11]

- *New sources:* The plan specifies that the state will only accept allowances from other states that treat new generation units similarly (i.e., whether the state includes or excludes new units in its mass-based budget). This approach would prevent the use of allowances from states with dissimilar treatment of new units, which could help address emissions leakage and result in greater environmental integrity.

  Under EPA's proposal, states have the option of including new generation units in a mass-based program (with a higher state goal reflecting the share of load growth attributable to new sources).[12] A number of states and stakeholders have argued for the inclusion of new units in mass-based programs. This is because the exclusion of new units from a compliance obligation creates an economic incentive to have these units supply as much electricity as possible, resulting in "leakage" of emissions from old to new units. The exchange of allowances between systems that include new units and those that do not could exacerbate this problem by allowing emissions from states that cover new units to leak to states that do not.

The criteria listed above are minimum criteria that would be required to be consistent for individual state programs to be compatible within the opt-in interstate compliance framework. States may wish to voluntarily make additional plan elements consistent, to improve efficiency, standardize the administrative process for parties regulated in multiple states, or minimize market distortions, or to limit the acceptance of allowances to states that are compatible beyond these minimum criteria.

Additionally, states may be interested in other ways of linking mass-based programs beyond the opt-in approach proposed here, including jointly-developed regional plans or linked multi-sector programs. It would be helpful for EPA to provide guidance on the requirements for approval of other types of linked plans or other customized plans that include interstate trading elements that do not meet the criteria listed above.

[11] Some states may want to create a plan that provides the option to allow interstate compliance in the future, but particularly at the outset of the program, may not make use of the option to accept out-of-state allowances. Other states may want to agree together to create a network among which interstate allowances will be accepted, or to limit acceptance of allowances to states with plans meeting certain criteria. One approach that may achieve these goals would be for EPA to include a "reciprocity" requirement in the minimum criteria, which would specify that the state will only accept allowances issued by a state that reciprocally accepts its allowances.

[12] U.S. EPA, Translation of the State-Specific Rate-Based CO2 Goals to Mass-Based Equivalents Technical Support Document (Nov. 2014), http://www2.epa.gov/sites/production/files/2014-11/documents/20141106tsd-rate-to-mass.pdf.

III. State Coordination on Rate-Based Programs

In a rate-based crediting approach, states would allow affected units that are operating above the required CO_2 emission rate to purchase credits from operators of renewable energy generation, energy efficiency programs, creditable nuclear generation, or affected sources operating below the required rate. Allowing regulated entities to use out-of-state credits for compliance offers flexibility, but also involves significant complexity. A key question is how to ensure consistent approaches to calculating the compliance value provided for renewable energy generation, energy efficiency measures, and other creditable measures, so that these credits can be exchanged with entities in other states. In addition, the impacts of interstate compliance on overall emissions reductions and power market dynamics may require further consideration in the state plan development and approval process. Given the uncertainty surrounding these potential impacts, it is unclear whether a streamlined opt-in approach such as the one proposed above for a mass-based system could work for a rate-based system; therefore no such system is suggested here. However, there are ways that EPA might make it easier for states to develop compatible rate-based plans.

Rate-Based Crediting Consistency: Default Crediting Methodology

In order for rate-based credits to be exchanged between states, there must be a consistently defined credit to exchange. Therefore, states will need a consistent approach to assigning credit for resources produced (e.g., renewable energy generated or energy avoided through energy efficiency) in one state but used for compliance in another.[13] The emission value of a credit could be calculated in a number of different ways: based on the target rate of either the buying or selling state, on the regional marginal fossil emissions rate, on a blended or average rate, on the actual emission rate of the generation being displaced or avoided, or on a rate derived from the ratio of the target rates of the buying or selling state.[14] Each of these options has different implications for actual reductions achieved by the programs, and may create different incentives for operation of—and investments in—these creditable resources.

EPA proposes that states interested in multi-state rate-based compliance would submit a joint plan to comply with a single aggregate rate based on a weighted average of their individual state rates.[15] While this would be a straightforward way to address the issue of determining the emission value of interstate credits, it would require a higher degree of coordination than the single-state approaches supporting interstate compliance in which states and stakeholders have expressed interest. A multi-state joint plan with a blended rate would also raise issues if states wanted to join or leave the multi-state program at a later date.

If EPA allows interstate rate-based compliance options that do not require a blended rate, identification of a common methodology for crediting emission reductions would be necessary to ensure that credits are consistently defined. EPA could support compatibility of rate-based state plans by establishing a default approach for calculating the compliance value of interstate rate-based credits if it does not require a blended rate. Some stakeholders have suggested that this default should be aligned with the way state goals are calculated to ensure that the amount of reduction the programs ultimately achieve is in line with the goals set by EPA. Some stakeholders have also suggested that EPA should seek to avoid changing incentives for siting renewable energy and energy efficiency. Although default rules from EPA would provide some level of consistency, EPA could allow states to negotiate the use of other approaches if they are able to demonstrate that such an approach has integrity and does not result in emissions leakage, potential double counting, and perverse incentives for siting low- and zero-carbon resources.

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[13] As EPA notes in its proposed rule, another way to approach this crediting question is to ask whether zero-emissions MWh should simply be added to the denominator of the affected unit.

[14] *See* Steven Michel and John Nielsen, Western Resource Advocates, Carbon Reduction Credit Program: A State Compliance Tool for EPA's Clean Power Plan Proposal (Nov. 12, 2014), http://www.westernresourceadvocates.org/energy/pdf/CRC%20Program%20-%20WRA%20working%20paper%2011%2012%2014.pdf.

[15] 79 Fed. Reg. at 34,911.

Rate-Based Crediting Consistency: Guidance on Treatment of Distinct EM&V Methods

Even with a clear crediting methodology, credit for avoided emissions may not be assigned equivalently to similar energy-saving activities in states with different approaches to evaluation, measurement, and verification (EM&V), particularly if the rigor of evaluation programs differs among states. Ensuring that credits are real and equivalent between states does not mean that states must adopt the same approach to EM&V of energy-saving measures. Instead, EPA could allow states to take different approaches to EM&V by providing guidance for discounting the quantity of credits generated based on the EM&V approach. For example, measures that are evaluated through a less rigorous EM&V process would receive a lower level of credit than those evaluated through an approach that provides more certainty about the level of electricity generation avoided.

Other Considerations for Interstate Rate-Based Compliance

The interstate exchange of rate-based credits may raise additional complications depending on how such a system is structured, including potential increases in overall emissions or negative energy market effects. Due to the differences between individual state target rates, identical resources in two states could face very different market signals. A natural gas facility in a state with a target rate above its operating rate could sell credits, effectively receiving a subsidy, while an identical facility in a state with a target rate below its operating rate would need to purchase credits. These different price signals could lead to shifts in siting of generation and overall emissions outcomes. At least in some circumstances, interstate exchange of rate-based credits between states with different target rates could magnify price signals that lead to higher overall emissions or impacts on competitiveness. Since further analysis is needed to understand these effects, no streamlined opt-in pathway is suggested here.

Multi-state compliance with a blended rate target, as proposed by EPA, may help to address these issues by equalizing the target rate that all affected units must meet. However, a blended rate approach would require significant cooperation among participating states, preventing a simple opt-in interstate compliance approach. Even without an opt-in option, EPA could make it easier for interested states that want to collaborate on a rate-based approach to do so by providing guidance on default crediting methodologies (if EPA choses not require a blended rate) and on the treatment of differing EM&V measures.

IV. A Federal Plan that is Compatible with Individual State Plans

While the suggestions above would enable states to develop individual plans that achieve the benefits of interstate programs, some states may not submit an approvable plan, in which case a federal plan will be implemented. Just as it is beneficial to states, regulated entities, and the electricity system to have individual state plans work well together, it is equally important for the federal plan to work well with other state plans and with existing state programs. For this reason, EPA could take comment in the forthcoming federal plan proposal on whether a federal plan might make use of the same default elements that are recommended for individual state plans, such as using the default crediting protocol for rate-based programs, or the default units for mass-based programs. Likewise, the federal plan could make use of the same common tracking infrastructure made available to states developing their own plans. Finally, if a mass-based version of a federal plan is available, EPA could propose and take comment on a plan that meets the opt-in interstate compliance approval criteria, and contains all of the elements necessary to allow regulated entities the option of using out-of-state allowances from states approved for opt-in interstate compliance. EPA could also take comment on whether to allow states using the federal plan to decide whether to limit the allowances that will be accepted. In addition, as noted above, there are elements of state programs that it would be beneficial, if not necessary, to standardize. If those elements are included in the federal plan, it could also serve as a template for states interested in greater compatibility to follow. While states developing their own plans would be free not to follow this template, this approach leads to a system in which program elements are compatible by default, and deviating from the common approach is an option that states affirmatively choose to take.

Conclusion

Many states and stakeholders are interested in the additional flexibility that comes from allowing affected units to use allowances or credits from another state, in order to reap the benefits of multi-state collaboration without the administrative complexity of developing a joint plan. EPA can assist states by providing infrastructure and guidance to facilitate the development of compatible state plans, and by taking comment on a federal plan that integrates well with individual state plans.

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Please contact Kathryn Zyla (zyla@law.georgetown.edu) with any questions.

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