Comments of the Center for Climate and Energy Solutions on

Carbon Pollution Emission Guidelines for Existing Stationary

Sources: Electric Utility Generating Units; Proposed Rule

United States Environmental Protection Agency

(80 Fed. Reg. No. 205 (October 23, 2015))

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This document constitutes the comments of the Center for Climate and Energy Solutions (C2ES) on the proposed federal plan requirements for greenhouse gas (GHG) emissions from electric utility generating units under the Clean Power Plan, proposed by the U.S. Environmental Protection Agency (EPA) and published in the Federal Register on October 23, 2015. C2ES is an independent, nonprofit, nonpartisan organization dedicated to advancing practical and effective policies and actions to address our global climate change and energy challenges. As such, the views expressed here are those of C2ES alone and do not necessarily reflect the views of members of the C2ES Business Environmental Leadership Council (BELC). In addition, the comments made in this document pertain to existing sources in the specific sector addressed by the Proposal and may not be appropriate for other industrial sectors or for new electric utility generating units.

Overarching Comments

C2ES believes a nationwide, economy-wide market based policy would be the most efficient and effective way to reduce GHG emissions by harnessing market forces to spur clean energy innovation, development and deployment. However, enactment of federal legislation that would establish a comprehensive market-based policy to reduce GHG emissions is not likely in the near-term. Given the urgency of addressing the rising risks that climate change poses to U.S. economic, environmental, and security interests, and the inability of Congress to establish our preferred approach of a nationwide price on carbon, C2ES believes EPA, as it implements the Clean Power Plan, should rely upon market-based approaches. Acting now will provide environmental benefits now and in the future, economic growth, and the opportunity for US companies to lead development of innovative technologies for which global demand is rapidly increasing.

The proposed federal plan requirements are an important component of the Clean Power Plan as they establish a framework for what may constitute a federal implementation plan in the event a state does not submit an adequate state implementation plan. The requirements are important as they may also serve as model rules offering guidance to states on possible provisions of an adequate state implementation plan.

C2ES supports the proposed federal plan requirements based on several key characteristics of the proposal.

 Market-based mechanisms to reduce carbon emissions are encouraged: The proposed federal plan requirements are market based and offer two market approaches, rate-based and mass-based trading. The inclusion of these market approaches in the proposal guides and facilitates the use of market-based policies by states. Moreover, the proposal retains flexibility for states to create markets that are responsive to specific state needs as well enact ancillary policies to achieve additional policy objectives.

- The Clean Power Plan could serve as a stepping-stone to a comprehensive, national program: In offering the proposed federal plan requirements as model rules, EPA is moving individual state actions toward a broader, nationwide program. The proposal could facilitate the development of market-based policies in more states and could thereby provide additional experience, learning opportunities, and frameworks necessary to ultimately develop a successful national program.
- *EPA-defined model provisions encourage interstate consistency*: Model provisions for topics such as tracking systems and what evaluation, measurement, and verification (EM&V) protocols to use to track efficiency measures will help states meet the deadline for their plans and could promote consistency across states. Such consistency could facilitate interoperability and the creation of a large, liquid market that reduces compliance costs for all participants.

Approach

EPA has invited comment on whether to finalize a single approach (i.e., either a mass- or rate-based approach) for a federal plan. While choosing a single approach that creates a large, liquid market would reduce compliance costs for all participants and a mass-based approach would likely be administratively simpler to implement, states should be allowed to maintain the flexibility to implement rate-based programs as under the final rule establishing the Clean Power Plan. If a federal implementation plan is necessary for a state, EPA should maintain the flexibility to implement either approach as warranted by the specific circumstances of that state.

Tracking Systems

C2ES believes states should have the flexibility to use existing systems or a new, EPA-administered tracking system. However, it would be in the best interest of the state and market if the tracking system were interoperable with the national market. Interoperability of tracking systems allow the credible and transparent tracking of assets across state lines, thereby facilitating a larger market which reduces compliance costs for all participants. Existing tracking systems provide insights for the Clean Power Plan. Please see the attached C2ES brief on tracking for more information.

Allocation

The allocation of allowances in a mass-based program is a significant policy decision. Allowances represent a significant source of value and can be used to compensate firms or individuals affected by climate change policy or to raise funds for other socially desirable policy objectives. The basic allocation decision involves whether to freely allocate or auction some or all emission allowances. And further, if freely allocated, to whom and how to distribute, and if to auction allowances, the type of auction and how to distribute the revenues. Please see the attached C2ES brief on allocation policies for more information.

Market Oversight

Carbon markets, like other commoditites markets, require provisions to ensure that the market functions effectively, is efficient and liquid, and is not manipulated by some participants. A carbon market can best achieve its environmnental aim if it is well designed and functions efficiently from the beginning. A well-designed policy should include effective means to prevent excessively high prices, extreme volatility, and market manipulation – the action by an individual or small group of individuals to alter the price of a good for their own advantage – which is best achieved through effective policy and market design. Please see the attached brief for more information.

TRACKING SYSTEMS IN THE CLEAN POWER PLAN



Tracking systems provide the foundation for a smoothly operating trading market. They are used by market participants to track the use, trading, banking, and retirement of tradable assets. In trading programs under the Clean Power Plan, tracking systems will be used to track emission reduction credits (ERCs) in rate-based programs and allowances in mass-based programs.

HOW IS A TRACKING SYSTEM USED AND WHY IS IT NEEDED?

Market participants can buy or sell emission reduction credits (ERCs) or allowances directly from each other or through authorized third-party brokers in electronic transactions tracked with registry software.¹ These transactions rely on individual accounts used to hold or trade ERCs or allowances. There are two types of accounts in most air quality trading programs - compliance and general use accounts. Compliance accounts are used by regulated entities to hold emission credits used to meet their emission limits. General accounts may be opened by regulated entities or other people, companies, or entities that are authorized to participate in the market to buy and sell credits or allowances. Entities that generate ERCs or allowances (e.g. renewable electricity generators) must open general accounts to receive their allotted credits, which they can then use to participate in the market with regulated entities.

The use of a centralized tracking system maintains program integrity by ensuring credits or allowances in the program correspond to one unit of emitted carbon dioxide, which is reported separately to the U.S. Environmental Protection Agency's (EPA) Emissions Collection and Monitoring Plan System. Every credit or allowance has a unique serial number so it can be tracked from the time it was created until it is turned in for compliance or retired, thus avoiding the potential that a credit or allowance is used twice—often called double counting.² Regulators can review and track regulated entities' emissions and overall program compliance by ensuring entities hold and surrender credits or allowances commensurate with their emissions.

A properly managed registry has additional benefits. The public may be given access to certain registry information to increase program transparency. Centralized tracking also minimizes transaction costs and increases transparency for market participants by providing certainty about the availability or status of a given credit or allowance.

HOW DO EXISTING CARBON MARKETS TRACK ALLOWANCES?

The Regional Greenhouse Gas Initiative (RGGI) uses a $\rm CO_2$ Allowance Tracking System (RGGI COATS) to track the allocation, awarding, and transfer of allowances in its carbon market. The tracking system is designed so each state can separately track compliance within its $\rm CO_2$ budget. RGGI COATS is administered by a private firm contracted to develop the system. The registry has an online portal that allows registered market participants to conduct transactions. The portal also offers a dozen reports on topics including transaction prices, emissions, and account owners that are available to the general public and not limited to registered market participants.³

Participants in California's cap-and-trade program use the Compliance Instrument Tracking System Service (CITSS). Account holders can track the ownership of allowances and offsets, and buy and sell allowances online.⁴ CITSS is administered by the Western Climate Initiative, Inc. (WCI) a non-profit corporation formed to provide administrative and technical services for state and provincial greenhouse gas emission programs. WCI Inc. contracts with a separate technology firm to host the system and provide functionality as the program changes and grows beyond California.⁵

WHAT DOES THE CLEAN POWER PLAN REQUIRE FOR TRACKING ALLOWANCES?

The Clean Power Plan requires states with either ratebased or mass-based trading plans to use a tracking system to ensure credits or allowances are tracked from issuance through submission to compliance.⁶ States can use an EPA-approved joint tracking system administered by two or more states, EPA-approved interoperable system, or EPA-administered tracking system.⁷ Tracking systems must electronically record issuance, transfer, surrender for compliance, and retirement of ERCs or allowances. Public access must be available about eligible allowances, set aside allowances, and certain reports, including evaluation, monitoring, and verification plans, monitoring and verification reports, and independent verifier verification reports.

The proposed federal plan and draft model rules provide for tracking systems. EPA proposes that the rate-based and mass-based federal trading program use the EPA's existing Allowance Tracking and Compliance System (ATCS) for both compliance and general accounts. Relevant information, including the record of ownership of units, dates of issuance, transfers, buyer and seller information, serial numbers, emissions data, and compliance information would be publicly available on EPA's website. However, price information would not be available through ATCS, as EPA believes that information is better obtained and disseminated by brokers.8 In the case of a rate-based trading program, EPA also proposes a complementary process to track the issuance of ERCs that provides transparency for renewable energy and other project processes.9

WHAT OTHER OPTIONS EXIST FOR STATES?

A state may use tracking systems other than ATCS, and faces similar choices whether it wants to allow electrical generating units to trade within the state or under specific bilateral or multilateral trading partnerships. A state may design a new tracking system that meets the specifications of the Clean Power Plan and is approved by EPA as part of the submitted state plan. It may also use an existing system that is EPA-approved, and in this case no additional approval of the system is necessary for regulated entities in the state to participate in interstate trading.

ENDNOTES

1 http://www.epa.gov/airmarkets/allowance-markets

2 http://www.epa.gov/airmarkets/allowance-markets

3 https://www.rggi.org/docs/RGGI_COATS_in_ Brief.pdf

4 https://www.wci-citss.org/

5 http://www.wci-inc.org/docs/SRA_Contract_ Posting_with_Attachments_061812.pdf

6 https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/ pdf/2015-22842.pdf p. 64850

7 https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/ pdf/2015-22842.pdf p. 64892

8 https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/ pdf/2015-22848.pdf p. 64998

9 https://www.gpo.gov/fdsys/pkg/FR-2015-10-23/ pdf/2015-22848.pdf p. 94999



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ALLOCATION OF ALLOWANCES UNDER THE CLEAN POWER PLAN



In August 2015, the U.S. Environmental Protection Agency (EPA) finalized the Clean Power Plan for existing power plants. Under the rule, states can implement a mass-based or rate-based compliance plan to reduce greenhouse gas emissions from the power sector. States choosing a mass-based approach must also decide how to allocate emission allowances. This fact sheet provides an overview of how allowances could be distributed under a mass-based approach and the policy objectives achieved by their distribution.

WHAT'S AN ALLOWANCE AND HOW IS IT USED FOR COMPLIANCE?

An emissions allowance is the legal right to emit one ton of carbon dioxide. Under a mass-based compliance approach, states must limit their total power sector emissions to a target level (e.g., expressed in tons of carbon dioxide) established by the U.S. Environmental Protection Agency (EPA). To comply with the target, regulated sources must obtain emissions allowances (typically, tradable permits) equal to the amount of their carbon dioxide emissions for each specified period. Note that in the Clean Power Plan, state emission targets decrease over time (starting in 2022 and thereafter), which guarantees that emission reductions actually occur. By limiting and reducing the number of allowances over time, the forces of supply and demand result in a market for tradable allowances, which in turn produces an allowance price.

WHAT'S THE DIFFERENCE BETWEEN FREE ALLOCATIONS AND AUCTIONING AL-LOWANCES?

States choosing a mass-based approach must also decide how to allocate emission allowances. Because total emissions are capped, the allocation method of allowances does not affect the environmental integrity of the program. The available distribution methods are: (1) distribute allowances for free, (2) auction the allowances, or (3) a combination of free allocation and auction.

Emission allowances may be distributed for free, but policymakers need to decide who would receive these allowances for what purposes (e.g., regulated sources to mitigate consumer impacts, other clean energy generators, or particular classes of electricity consumers) and on what basis (e.g., past emissions or output in a base year, environmental performance standard, or an updating approach based on more recent emissions or output).

Allowances could also be auctioned, with sales revenue accruing to the state. In this case, policymakers must determine the type of auction to be conducted (e.g., ascending-bid or sealed-bid auction), how often (e.g., quarterly or yearly), and how to use the funds generated from the auction (e.g., renewable energy and energy efficiency projects, assistance to low-income consumers, general state treasury, etc.).

If a combined approach is taken—with allowances distributed for free and auctioned—then policymakers will face all of these decisions.

HOW COULD A STATE ALLOCATE FREE AL-LOWANCES?

States can determine their preferred method for allowance allocation. Since total emissions are capped, how allowances are allocated does not affect the environmental outcome of the program. However, the method of allowance distribution will affect who bears the cost of the program.

A state may distribute allowances free of charge directly to regulated sources, and the result would be similar in practice to traditional command-and-control regulations that allow sources to emit up to a permitted level for free. However, tradable allowances have a market price, so regulated sources face an opportunity cost for using allowances for compliance rather than reducing emissions by other means. Utility sector regulations will determine, in part, how costs may be passed on to end-use consumers. In traditional Cost-of-Service states, the allocation to covered sources will flow through to consumers and buffer any price increase otherwise created by the program. Therefore, regulators should monitor entities to ensure that affected sources are choosing the lowest cost options and maximizing benefits for the end-users.

Alternatively, a state could address electricity rate concerns in deregulated electricity markets by giving a share of the allowances at no cost to local distribution companies (i.e., entities that deliver electric power to end users and wholesale customers) on behalf of electricity consumers. At the bottom of the energy value chain, end-use consumers cannot pass on energy costs. As such, a state may want to take an allocation approach that distributes allowances to mitigate the end user's cost burden.

States may also choose to provide allowances to others in the electricity sector, such as those who have taken early action to reduce their emissions, emissions-free electric generators (e.g. renewable, nuclear, or hydroelectric generators), or energy efficiency operators.¹ This policy step would provide resources for other objectives by allowing them to sell emissions on the market.

HOW DOES THE PROPOSED FEDERAL PLAN ALLOCATE ALLOWANCES?

EPA would implement a federal plan in any state that does not have an approvable plan. Under EPA's proposed mass-based federal plan, allowances would be distributed for free to affected electric generating units based on historical generation (i.e., average annual net generation from 2010 to 2012, and for units after 2012, EPA-estimated 2012 net generation based on net summer capacity). About 90 percent of total allowances would be allocated to affected electricity generating units. The remaining allowances would be pooled into three set-asides for: early action on renewable energy and energy efficiency projects, output-based allocation for existing natural gas combined cycle units, and renewable energy projects. The set-asides for early action and output-based allocations vary state by state while the set-aside for renewable energy is set at a 5 percent for each state.

HOW COULD A STATE USE REVENUE FROM ALLOWANCE AUCTIONS?

If states choose to auction allowances, they must determine how to use auction revenues. Some states may need additional legal authority to establish an auction and to specify how the resulting revenues are used. Auction revenues may be used to meet specific policy goals, such as protecting consumers and industries from the impacts of higher electricity rates, spurring deployment of renewable energy and energy efficiency projects, or even reducing other taxes.

Ten states already have cap-and-trade (i.e. massbased) programs for greenhouse gas emissions and these states have taken different approaches in how to use auction revenues. The states in the Regional Greenhouse Gas Initiative—where 100 percent of allowances are auctioned—direct at least 25 percent of all auction revenue to consumer benefit, renewable energy, or energy efficiency programs. California uses a framework to determine how the state will invest auction revenues in local projects.

ENDNOTES

1 Such allocations would not create additional emissions reductions, but would provide additional financial support to these sources beyond what they can expect from rising wholesale prices caused by the Clean Power Plan. While this may raise the overall cost of the program by decreasing economic efficiency, it may also satisfy local preferences for particular investments.



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MARKET OVERSIGHT UNDER THE CLEAN POWER PLAN



Carbon markets, like other commodities markets, require provisions to ensure that the market functions effectively and is not manipulated by some participants. Regulators conduct oversight to ensure that buyers can procure carbon credits when needed at a price that reflects the cost of reducing emissions and buyers' risk tolerance. By making sure that buyers only pay a fair and transparent price, regulators help protect consumers from overpaying for cleaner electricity. This fact sheet investigates the options and implications of potential market oversight provisions that might be useful as states consider implementing the Clean Power Plan.

Carbon markets differ from traditional commodity markets in two distinct ways. First, they are developed specifically to address an environmental goal set out by regulation. Second, the regulation creates both the demand and conditions for supply necessary for a market and trading. A central feature of a trading program is that it creates a price on emissions, which in turn provides information to firms about whether it is cheaper for them to reduce their emissions or buy credits from the market.

A carbon market can best achieve its environmental aim if it is designed to function efficiently from the beginning. A well-designed policy should include effective means to prevent excessively high prices, extreme price volatility, and market manipulation—actions by an individual or small group of individuals to alter the price of a good for their own advantage. Examples of manipulation could include speculators buying enough credits to cause a price spike and then selling them for a large profit or environmental activists buying credits and refusing to sell them, thereby reducing supply in the market and forcing more reductions (at a higher cost) than required by the Clean Power Plan. Experience shows these risks are small; nonetheless, proper oversight is key to preventing manipulation, promoting confidence in the market, and allowing trading to achieve the desired reductions at the least cost.

HOW DO CLEAN POWER PLAN PROVI-SIONS PROMOTE MARKET OVERSIGHT?

While the Clean Power Plan does not explicitly reference "oversight," the plan contains a few key provisions that promote price transparency, accuracy, and consistency to help ensure a fair and functional market. First, the Clean Power Plan requires that states use an approved tracking system that can monitor the holding and transfer of compliance units. The U.S. Environmental Protection Agency (EPA) proposes to use its existing Allowance Tracking and Compliance System as a tracking system in states in which it implements a federal plan, and states could also use this existing system in their state implementation plans. Any individual or company wishing to participate in the market would have to register with the government and request an account in the tracking system. Select information about accounts in this system would be made public, for example information about ownership and transactions, to promote transparency. Regulators could have access to additional confidential information that would allow them to monitor for market manipulation.

Trading systems rely on carbon credits accurately reflecting the emissions or reductions they purport to represent; they must have environmental integrity. Allowances, used for compliance under a mass-based approach, are issued solely by the government and thus, if properly allocated and tracked, will tend to have a high level of environmental integrity. Under a rate-based approach, additional steps are necessary to ensure the environmental integrity of emission reduction credits (ERCs). The Clean Power Plan, for example, requires third-party verification that an ERC accurately represents a zero-emissions megawatt hour of electricity before it may be issued. Third-party verification is used by many programs to ensure accuracy, and in this case, prevents fraudulent ERC issuance from undermining the environmental objectives of the regulation.

In addition, the Clean Power Plan only allows interstate trading among covered emitters under certain conditions. One allowable interstate trading option is between facilities in "ready-for-interstate-trading" states. To qualify, a state must be implementing either a massbased emission standards approach or a rate-based emission standards approach using subcategory-specific standards. Under these plan types, the tradable unit, either an allowance or an ERC for a mass-based approach or rate-based approach respectively, has a consistent meaning across states. Alternatively, states can join together to submit a multi-state plan that achieves a uniform weighted average rate across participating states. Facilities in states implementing this type of approach would also be trading ERCs with a consistent meaning across state lines. These provisions to guarantee a consistent meaning of the tradable unit maintain the environmental integrity of Clean Power Plan markets and also prevent market manipulation by making sure a facility cannot mistakenly purchase a unit that was not eligible for compliance in its state.

WHAT ARE SOME MARKET OVERSIGHT PROVISIONS IN EXISTING CARBON TRAD-ING PROGRAMS?

The two existing carbon trading programs in the U.S., the Regional Greenhouse Gas Initiative (RGGI) and California's cap-and-trade program, primarily distribute allowances via auctions, so many of their market oversight provisions focus primarily on ensuring fair auctions. Auctioning some or all allowances can help promote market transparency by distributing allowances at a price that is made public. Furthermore, both programs selected an auction design that has been shown to be at low risk for manipulation. Both programs use an outside company to monitor the market and evaluate auction data to ensure that manipulation has not occurred. They also impose purchase limits on auction participants so that a single entity cannot procure an unfair number of allowances that might give them a competitive edge in their electricity market.

Additionally, states in RGGI grant authority to the market monitor to review transaction data in the program's tracking system to investigate for signs of market manipulation. To date, no evidence of RGGI market manipulation has been found.¹

California also sets holding limits, a maximum volume of allowances that any single market participant is allowed to hold in their account. This limit is enforced in the tracking system for allowances that the state oversees. An exemption exists for entities with a compliance obligation so that they can acquire allowances up to their expected compliance needs.

DOES LIMITING THE TYPES OF MARKET PARTICIPANTS LOWER THE RISK OF MAR-KET MANIPULATION?

No, in fact markets with broad participation by a large number of entities are less likely to experience price manipulation. One key element of any market that helps promote fairness and transparency is market liquidity, having enough buyers and sellers participating in the market to prevent any single trade from changing the price. Non-covered entities, like banks, can play a role in carbon markets by providing liquidity. These participants can help promote price discovery and provide capital that can facilitate trading. Additionally, independent actors and market intermediaries like exchanges and brokers play a valuable role in protecting market participants by facilitating transactions between compliance entities and providing anonymity for buyers, which can help prevent one party from taking advantage of information about the other. For example, suppose that a single power plant was responsible for the majority of emissions in a state. If a seller knew that this power plant was interested in purchasing from it, the seller could demand an above-market price because it knows the buyer needs these credits for near-term compliance.

HOW DO CONCERNS ABOUT MARKET MANIPULATION DIFFER UNDER RATE-BASED AND MASS-BASED PLANS?

In theory, because the two compliance options have inherently different timelines for distributing credits to market participants, they could experience different market dynamics, particularly in the first compliance year. Under a rate-based plan, ERCs would be issued only after generation occurs and verification reports are submitted - potentially a year or more after the ERC-generating activity occurred. In contrast, under a mass-based plan, allowances would be in circulation prior to emissions occurring. Under the proposed federal mass-based plan, EPA would distribute most allowances for a full multiyear compliance period on June 1 in the year prior to the start of the compliance period. Having compliance units in circulation even before the start of compliance could lead to greater trading activity, and greater trading activity often results in less market manipulation.

In practice, however, the timing of credit issuance may have little impact on market dynamics. Experience shows that financial markets for carbon credits can be developed even before these credits are issued. Futures contracts for California Carbon Allowances began trading in August 2012, three months before allowances were first distributed and more than a year before the first compliance surrender deadline. A large and robust financial market promotes price discovery and lowers the risk of market manipulation.

Market manipulation is also less likely when information about market fundamentals, supply and demand, is available to all participants. This would be the case un-

der a mass-based program when the supply of allowances is defined in the final Clean Power Plan and thus known even today. Demand would be somewhat uncertain until emissions data is released, but it can be estimated by electricity generation data that is widely available to the public. In contrast, ERCs are issued only after generation or electricity avoidance has occurred (ex-post). Consequently, rate-based programs would have inherent uncertainty about supply. While supply could be estimated by market participants, especially the volume of ERCs to be issued to electricity generators, ex-post issuance could make it more difficult for buyers to determine the market price, which may inhibit trading. Fewer transactions can make manipulation easier, which implies that states with rate-based trading should monitor the market and potentially take additional additional steps, like more frequent ERC distribution, to prevent this.

Carbon markets can be an effective policy tool under the Clean Power Plan for promoting cost-effective emission reductions and can serve to promote innovation and spur investment in new, sustainable technologies. Because they will be a government-created market and because they are linked directly to electricity markets, it is important to ensure that carbon market manipulation does not negatively impact electricity users and result in consumers overpaying for cleaner electricity.

ENDNOTES

1 For example, see the 2014 annual report. http:// www.rggi.org/docs/Market/MM_2014_Annual_Report.pdf The report with data for 2015 is due later this spring.



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