

Fairness, Health, and the Clean Power Plan

Understanding the Policy Impacts of EPA's New Carbon Rule

February 2, 2016

Sarah Jackson and Pat Knight

Synapse Energy Economics

- Research and consulting firm specializing in energy, economic, and environmental topics
- Leader for public interest and government clients in providing rigorous analysis of the electric power sector
- Services include economic and technical analyses, regulatory support, research and report writing, policy analysis and development, representation in stakeholder committees, facilitation, trainings, and expert witness services
- Develops resources such as the Synapse Clean Power Plan Toolkit to promote transparent decision-making
- All non-confidential publications and open-source tools available for free at www.synapse-energy.com

Agenda

Clean Power Plan Planning Process

- EPA's Clean Power Plan
- Threats to Communities' Health
- When and How to Act
- What to Expect from the State

Key Clean Power Plan Policy Details

- Rate vs. Mass Emission Targets
- Allowance Trading and Pollution Hotspots
- Who Gets the Value from Trading?
- Role of Energy Efficiency

Clean Power Plan Planning Process

EPA's Clean Power Plan

What is it?

- Finalized by EPA in October 2015, the Clean Power Plan limits carbon dioxide (CO₂) emissions from existing U.S. power plants, as required by the Clean Air Act.
- A separate rule limits emissions from new power plants.

How does it work?

- States may create their own plans for emission reduction, but must engage stakeholders in the planning process and must submit their plan to EPA for approval.
- States may instead choose to use EPA's "off-the-shelf" model compliance plan, which may also be assigned to them if their own plan fails to meet EPA's standards (or they fail to submit a plan at all).

Key concerns for advocates:

- The Clean Power Plan gives states a lot of freedom to design a compliance plan that best meets their policy goals. Different choices regarding emission reductions measures will result in different distributions of electric-sector profits, bill increases or savings, and emissions from "co-pollutants" like NO_x, SO₂, and particulate matter.
- Economic incentives for clean energy will cause a shift in which resources are more or less profitable for power plant owners. Advocates should be aware that this may be important to understanding the choices made by owners of generation resources.



Threats to Communities' Health

What is it?

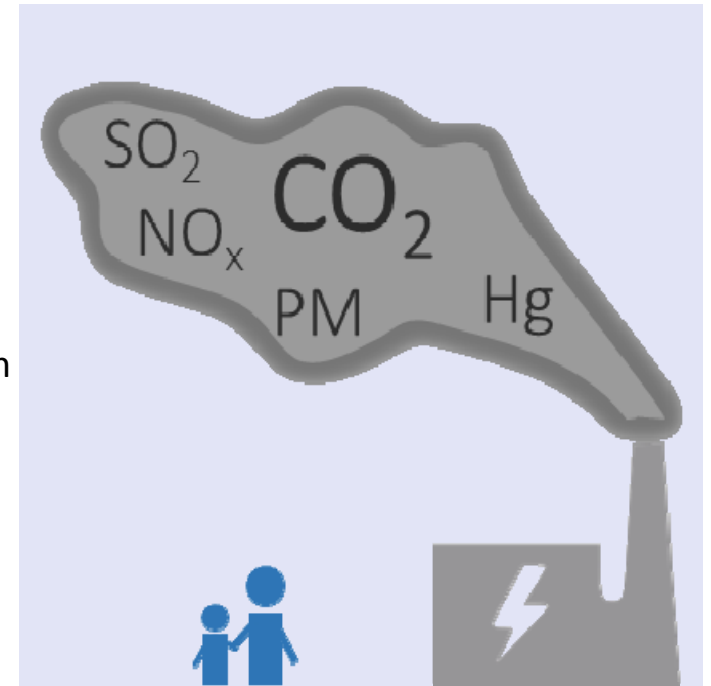
- Low-income communities, communities of color, children, the elderly, and the infirm are disproportionately impacted by power plant emissions like mercury, soot, and smog-forming pollutants.

How does it work?

- Increased emissions from power plants can lead to severe health effects and are particularly dangerous for children and adults with existing health problems.
- As electric generation shifts to reduce CO₂ from high-emitting plants, some plants in vulnerable communities could end up running more frequently to ensure there is enough electricity for all customers.
- Certain compliance options may exacerbate these impacts.

Key concerns for advocates:

- Advocates should encourage states to maximize clean energy and energy efficiency in vulnerable communities, including through participation in the Clean Energy Incentive Program.
- Power plants located in vulnerable communities should be required to install advanced pollution controls and should be barred from exceeding current emission levels.
- Advocates should be aware of plans promoting increased use of biomass, which can cause localized concentrations of particulates and other substances that pose a threat to respiratory health.



When and How to Act

What is it?

- States must submit initial plans to EPA by September 6, 2016, even if they are seeking a two-year extension.

How does it work?

- State environmental agencies work with other relevant agencies (e.g., utility commissions, energy offices, consumer advocates) to develop compliance plans.
- States must facilitate meaningful public engagement during plan development, including sharing information, holding public hearings, and receiving public comments.

Summer 2016	EPA to publish final model rule
September 2016	Initial state plans and extension requests due
September 2018	Final state plans due to EPA
January 2020	Clean Energy Incentive Program begins
January 2022	First compliance period begins

Key concerns for advocates:

- Maximizing co-benefits: While many communities will experience reduced emissions as dirty fossil plants are replaced by newer, cleaner generation, some plants could run more as a result of certain strategies; advocates should focus on how a state's approach will impact emissions from individual power plants in vulnerable communities.
- EPA does not specify how, exactly, states must engage the public, so advocates should monitor activities at their state's agencies for opportunities to participate and should push for greater engagement opportunities where they are not being provided.

What to Expect from the State

What is it?

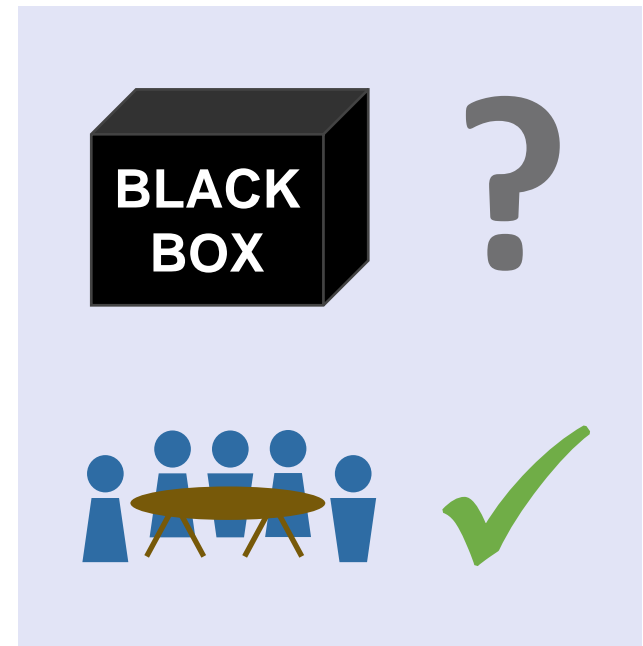
- States must demonstrate how their plans will achieve the required emission reductions and avoid harmful impacts on vulnerable communities.
- States must also report on their efforts to engage the public, especially vulnerable communities, during the planning process.

How does it work?

- Electric system modeling and other technical analyses will be needed to verify emission reductions.
- Air quality monitoring, electric generation modeling, and health impact data will be needed for assess the effects on vulnerable individuals and communities.

Key concerns for advocates:

- To select the compliance plan most likely to meet a state's other public policy objectives (including keeping utility bills low and protecting the health of vulnerable populations), the state must evaluate the pros and cons of many different possible emission reduction strategies.
- To ensure a transparent public process, all information regarding the evaluation and selection of compliance strategies must be made easily accessible. This may mean posting materials online and providing translations and summaries written for a non-technical audience.
- Environmental justice communities should also expect the state to provide health impact analyses and targeted engagement opportunities.



Key Clean Power Plan Policy Details

Rate vs. Mass Emission Targets

What is it?

- EPA gives states two approaches to compliance: rate or mass.
- A mass-based approach imposes a limit on total tons of CO₂ that can be emitted.
- A rate-based approach imposes a limit on how much CO₂ is emitted per unit of electricity generated (i.e. the CO₂ intensity).

How does it work?

- A state chooses whether to impose rate-based or mass-based limits on its power plants.
- Two plants with the same *rate* limit will emit different amounts of CO₂ depending on how much electricity each one generates.
- Trading is allowed under both rate and mass approaches.

Key concerns for advocates:

- Every state is a little different—the lowest-cost option in one state may not be lowest-cost in another.
- Rate-based approaches limit CO₂ intensity, but may not necessarily result in an overall CO₂ reduction.
- Rate-based approaches may impede efforts to expand energy efficiency and renewables.
- Both rate and mass approaches can lead to localized increases of emissions, or “hot spots.”

RATE:
pounds

megawatt-hour

MASS:
total tons

Allowance Trading and Pollution Hotspots

What is it?

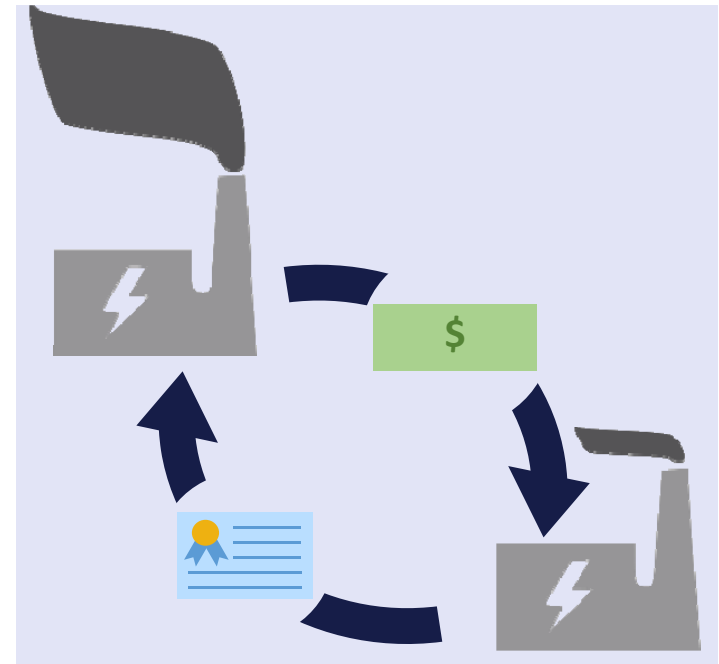
- Under the Clean Power Plan, states can allow power plant owners to purchase emission permits through trading programs rather than reducing their own emissions.

How does it work?

- Power plants can comply by purchasing emission permits from: 1) low-emission plants that don't need them, 2) zero-carbon generators, or 3) energy efficiency programs.
- Without trading, a power plant must meet its mass- or rate-based limit on its own.

Key concerns for advocates:

- Trading of emission permits can lower customers' electric bills by making it possible for emission reductions to take place where they are the cheapest—and emissions to continue where reductions would be more costly.
- Customer bills, however, are not the only impact of the electric industry on families. Trading can lead to concentration of power plant air pollution, can pose a risk to vulnerable communities, and can increase societal health costs.
- Note that under the plan, both “rate-based” and “mass-based” compliance include options for states to use emission trading.



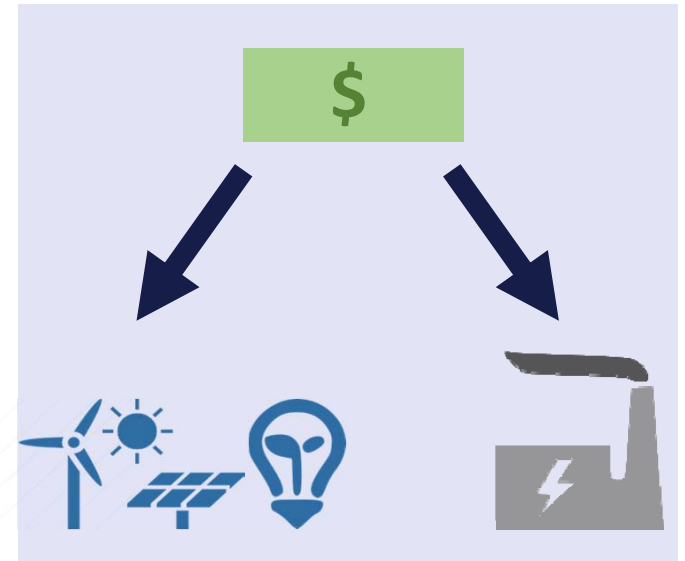
Who Gets the Value from Trading?

What is it?

- Both rate-based credits and mass-based allowances can be bought and sold.
- Who gets this value will depend on the details of each state's compliance plan.

How does it work?

- In rate-based approaches, each MWh of energy efficiency, renewable energy, new nuclear, and even some kinds of natural gas generation results in an emission reduction credit (ERC).
- In mass-based approaches, the state creates an allowance for each ton of CO₂ that can be emitted under the cap. States can choose to sell these allowances or give them away. Polluting plants must acquire an allowance for every ton of CO₂ they emit.
- Who gets the value depends on who owns—and has the right to sell—these credits or allowances.



Key concerns for advocates:

- Auctions result in competitive markets for certificates. States decide what to do with the auction revenue.
- If allowances are given away for free to fossil fuel power plants, that revenue is a windfall for polluters.
- The value of rate-based credits goes to whoever produces efficiency savings or low-carbon energy.
- The way in which rate-based credits are verified could make creating them (and getting their value) more or less accessible to groups other than utilities and generators.

Role of Energy Efficiency

What is it?

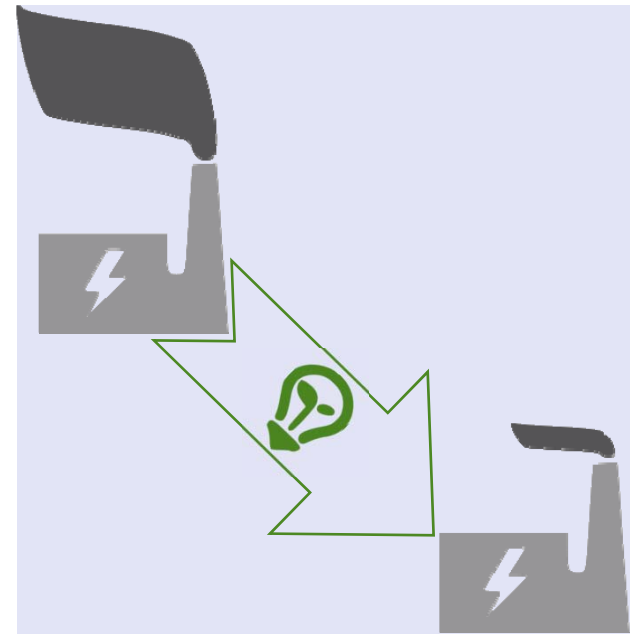
- Energy efficiency is anything that reduces the amount of energy used while giving the same benefit to the consumer: for example, insulation that lets you keep your home just as warm while spending less on heat.
- Energy efficiency is one of the most important—and least expensive—tools that states can use to comply with the Clean Power Plan.

How does it work?

- When less energy is used, you generate fewer emissions. In most states it costs less to save electricity than to generate it.
- For states that choose EPA's rate-based compliance option, polluting power plants will have to pay energy efficiency programs for credits from the electricity saved.
- All states will be able to take advantage of the Clean Energy Incentive Program, which can subsidize energy efficiency programs for low-income families and provide an incentive to give these programs an early start.

Key concerns for advocates:

- Some states have misread the Clean Power Plan and concluded that efficiency savings cannot be used for compliance. This is incorrect; ignoring energy efficiency will result in higher costs for consumers.
- States should recognize energy efficiency's potential for reducing co-pollutants as well as CO₂.



Related Resources

- Clean Power Plan Final Rule: <http://www.gpo.gov/fdsys/pkg/FR-2015-10-23/pdf/2015-22842.pdf>
- EPA's *EJSCREEN Environmental Justice Screening and Mapping Tool*: <http://www.epa.gov/ejscreen>
- EPA's *Guidance on Considering Environmental Justice During the Development of Regulatory Actions*: <http://www3.epa.gov/environmentaljustice/resources/policy/considering-ej-in-rulemaking-guide-final.pdf>
- California AB 32 Environmental Justice Advisory Committee information: <http://www.arb.ca.gov/cc/ejac/ejac.htm>
- Harvard Environmental Policy Initiative's State Clean Power Plan Resources: <http://environment.law.harvard.edu/state-clean-power-plan-resources/>
- Past Synapse Clean Power Plan Webinars: <http://synapse-energy.com/synapse-projectsand-webinars-related-clean-power-plan>
- Clean Power Plan Handbook for National Association of State Utility Consumer Advocates: <http://synapse-energy.com/sites/default/files/CleanPower-Plan-Handbook.pdf>
- Synapse Blog Posts on Clean Power Plan: <http://synapseenergy.com/tags/clean-power-plan>
- Synapse Clean Power Plan Toolkit: <http://synapse-energy.com/CleanPowerPlan>

Contact Information

Liz Stanton, eastanton@synapse-energy.com

Sarah Jackson, sjackson@synapse-energy.com

Pat Knight, pknight@synapse-energy.com

**Please remember to send any questions on content to
webinar@synapse-energy.com**