

# Clean Power Plan Fact Sheet

## Introduction

On August 3, 2015, the U.S. Environmental Protection Agency (EPA) released its final rule for the Clean Power Plan (CPP). This is a significant and positive step toward reducing CO<sub>2</sub> emissions from existing electric power plants, while creating billions of dollars in economic benefits and maintaining a reliable and resilient grid.

The structure of the final rule is broadly intact from the proposal, in that the goal-setting is separated from compliance – i.e., the goals set for each state do not dictate how a state must comply to achieve its goals. However, based on more than four million comments received on the proposed rule, EPA made significant and positive changes related to the determination of the Best System of Emission Reduction (BSER), making the final rule more equitable among states, and ensuring more transparent, verifiable and enforceable compliance from states.

Most notably in the final rule, energy efficiency has been removed from the goal-setting. **It is crucial to note that this does nothing to impact the viability of energy efficiency as the fastest, easiest and most cost-effective compliance mechanism available to states.** EPA continues to encourage energy efficiency as a least-cost compliance mechanism: by including it in the proposed federal plan, through state economic analyses which conservatively project one percent energy efficiency improvements per year, by double-crediting for early implementation of energy efficiency in low-income communities, and expanded flexibility through trading of energy efficiency credits or allowances.

There is still opportunity to strengthen implementation of the final rule, enhancing its ability to support a cleaner environment and a more robust economy. EPA is seeking comments on the proposed federal plans, the proposed model rules, draft evaluation, measurement and verification (EM&V) guidance within the proposed model rule, and the Clean Energy Incentive Program. The Alliance will work to ensure that cost-effective energy efficiency is prescribed in the implementation guidance to its fullest extent, and will continue to encourage state and federal policy makers and regulators to encourage cost-effective energy efficiency as a least cost resource for compliance. Comments are due within 90 days of the publication in the Federal Register, which is expected by mid-to-late October. EPA will not accept comments on the CPP preamble, which establishes the state goals.

## Overview

- With the plan fully implemented, EPA forecasts carbon dioxide (CO<sub>2</sub>) emissions from the power sector in 2030 to decline 32 percent relative to a 2005 baseline.
- EPA is setting interim (2022-2029) and final (2030 and onward) CO<sub>2</sub> emission performance rates for existing fossil fuel-fired electric generating units (EGUs). The rates are uniform across the nation, specific to two types of power plants (“subcategories”):
  - fossil-fired steam generating units (coal as well oil and natural gas), and
  - natural gas-fired combined cycle turbines (NGCC).
- By establishing these subcategory performance rates in the final plan, EPA has both strengthened the final rule against legal challenges and facilitated interstate trading, since all affected power plants within each subcategory now confront the same standard, regardless of their jurisdiction.

- These nationally uniform performance targets are used to set state goals by assessing the base-year (2012) mix of plants in each state. EPA has established interim and final statewide goals in three forms; a state can choose to comply with either:
  - A rate-based state goal measured in pounds per megawatt hour (lbs./MWh),
  - A mass-based state goal measured in total short tons of CO<sub>2</sub>, and
  - A mass-based goal with a new source complement measured in short tons of CO<sub>2</sub> (to resolve the potential “leakage” issue in mass-based plans).
- EPA has set a final goal for each state, and these are no longer open for comment, but states retain the flexibility to design their own compliance plans, subject to EPA approval. States face three crucial choices to determine whether plans are: (a) directly enforced upon the EGUs or more broadly implemented with complementary state-directed measures; (b) feature mass-based or a rate-based compliance accounting; and (c) executed by the individual state, in a multi-state agreement, or with the capability to cooperate with other states. Through the flexibility of these options, EPA has enabled states to utilize lower-cost compliance mechanisms such as energy efficiency.

### Economic Impacts and the Enduring Value of Energy Efficiency

- EPA estimates that the Clean Power Plan will produce public health and climate benefits between \$34 billion and \$54 billion per year in 2030. These benefits far outweigh estimated costs in that same year: \$8.4 billion for a rate-based approach and only \$5.1 billion for a mass-based plan.
- EPA’s cost estimates for energy efficiency are conservative, \$0.092/kWh in 2022 decreasing to \$0.081/kWh in 2030. Real-world data suggest the cost of energy efficiency is closer to \$0.028/kWh.<sup>1</sup> If a state pursues deployment of cost-effective efficiency as estimated in EPA’s analysis at one percent per year, the net benefits stand to be even higher than projected. More energy efficiency utilized by a state will produce even higher net benefits.
- For the average American family, electric bills in 2030 are estimated to decline \$7 per month as a result of the plan.

### How the Goals are Derived

- The BSER is now formed from three building blocks, rather than four in the proposed rule.
- Recognizing the operational realities of the power grid, where electricity flows are not constrained by state boundaries, EPA has separately analyzed the potential for emission reductions within each of the nation’s three regional grids: the Eastern, Western, and Texas Interconnections.
- Each state rate goal reflects the state’s mix of EGUs by subcategory in the baseline year (2012). EPA translates each rate goal into a mass goal, multiplying the target rate by 2012 baseline generation and then adjusting by a certain amount to account for the ability of affected EGUs to increase generation from baseline levels (as is possible in a rate-based system).
- EGUs in the two subcategories that went into operation on or before January 8, 2014 are subject to the rule.

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<sup>1</sup> Data for 20 states from 2009-2012.

<http://aceee.org/sites/default/files/publications/researchreports/u1402.pdf>.

## A Closer Look at the Building Blocks

- Perhaps most notably, demand-side energy efficiency is no longer used in the goal-setting. This does nothing to limit the role energy efficiency can play in achieving the required emissions reductions. In fact, by deploying energy efficiency as a compliance strategy, states can reach their compliance goals faster, more easily, and more cost effectively than through any other tool.
- **Building Block 1: heat rate improvements at coal-fired facilities.** Potential for improvement has been adjusted downward compared with the proposal, identifying an average improvement potential of between 2.1 percent and 4.3 percent depending on the interconnection; the building block no longer specifically expects improvements from equipment upgrades. This building block alone cannot meet system-wide emissions reduction targets; it must be implemented with one or both of the other building blocks.
- **Building Block 2: shifting from higher-emitting steam unit to NGCC.** The target for natural gas combined cycle turbines is now 75 percent of net summer capacity, not 70 percent of nameplate capacity as in the proposal. Only combined cycle gas turbine plants are covered; other gas turbines and gas reciprocating engines are left out of the building block and remain free to act as peak-shaving units and to augment intermittent renewable generation.
- **Building Block 3: incremental utility-scale renewable generation.** The potential in this building block is now seen to be greater, driven by actual historical deployment data and modeling of recent cost declines for eligible technologies (land-based wind, utility-scale photovoltaics, concentrated solar power, geothermal, and hydropower). Only incremental (post-2012) deployments are counted. The finalized building block now excludes at-risk or under-construction nuclear capacity.

## Compliance

- Energy efficiency projects that enter service after 2012 and remain in service from 2022 onward can contribute toward interim and final compliance.
- In mass-based plans, energy efficiency programs and projects are not subject to federally approved evaluation, measurement & verification (EM&V). In these plans, each state administers and documents its own EM&V. In rate-based plans, energy efficiency programs must be quantified and verified in order to generate ERCs.
- EPA has allowed more time for states to prepare, although the year for final compliance, 2030, remains unchanged. States must submit their initial plans by September 6, 2016 but will be granted extensions though September 6, 2018 if they submit a satisfactory initial plan. Mandatory reductions begin on January 1, 2022. Required emissions reductions are phased in over multi-year stages.
- States may submit and adopt state-specific plans, regional compliance plans, or trading-ready plans for administered tracking, which can be adopted from the proposed federal trading rules. Eligible energy efficiency measures can be used to generate emission rate credits (ERCs, in a rate-based plan) or allowances (in a mass-based plan). These are “tradeable” by regulated EGUs within states and between trading-ready states to adjust the CO<sub>2</sub> emission rate of an affected EGU, regardless of where the emission reductions occur. In this manner, energy efficiency savings may be “traded” between states.
- Among trading-ready states, rate-based states may only trade ERCs with other rate-based states, and mass-based states may only trade allowances with other mass-based states. An exception to this rule is

that renewable generation located in mass-based states may be credited toward rate-based states if it can be documented that the generation is used to meet load in a rate-based state, e.g., through a power purchase agreement (PPA).

- States may submit either an Emissions Standards Plan, which places all reduction requirements on affected EGUs; or a State Measures Plan, through which a state more broadly can apply measures beyond EGUs to other entities that can contribute to emissions reductions in a more cost-effective manner.
- Mass-based plans must account for “leakage”—the potential for the shift of generation from affected EGUs to new, non-affected fossil-fired EGUs (EPA finds no potential for leakage in rate-based states, since existing NGCC EGUs will be economically incentivized to increase generation in order to produce ERCs). Mass-based states can address leakage in one (or more) of three ways:
  - Regulate (under state law) new, non-affected fossil-fired EGUs to the same targets;
  - Shift allowances to affected EGUs if they increase generation, or shift to new sources of energy efficiency or renewable generation; or
  - Demonstrate in the state plan that leakage is unlikely to occur because of state characteristics or plan design elements.
- The final rule includes a “reliability safety valve” that will provide states with flexibility to deal with potential threats to reliability through temporary (90-day) and, where necessary, lasting modification of emissions standards.

### Early Action and Efficiency – The Clean Energy Incentive Program

- Under the newly proposed Clean Energy Incentive Program (CEIP), the federal government will provide matching ERCs or allowances to incentivize early deployment of energy efficiency projects in low-income communities and renewable generation.
- In proper recognition of their social, economic and environmental benefits, demand-side energy efficiency projects implemented in low-income communities will receive two ERCs or two allowances for each MWh of generation avoided in 2020 and 2021. Efficiency is the only compliance tool in the Clean Power Plan to receive this level of bonus credit.
- Renewable projects commencing construction will receive one ERC or one allowance for each MWh generated in 2020 and 2021.
- Efficiency investments made outside of low-income communities are not slated for credit under the proposed CEIP at this time.
- To be eligible for matching, projects must go into service after a state submits a final plan or, for those states not offering their own, after a state is assigned a federal Plan).