

Clean Power Plan Fact Sheet

Energy Efficiency in Rate-based Plans

EPA has provided both a mass-based and a rate-based goal for each state covered by the Clean Power Plan (CPP). This Fact Sheet describes the effect of rate-based plans on energy efficiency.

- For rate-based approaches, the Clean Power Plan sets **emission standards for the carbon dioxide (CO₂) intensity of existing fossil-fired electric generating units (EGUs)** covered by the CPP. A state's rate-based plan can prescribe:
 - Separate ("subcategorized") emission standards for fossil steam units (mostly coal) and natural gas combined cycle (NGCC) units;
 - A single blended standard reflecting all the state's mix of regulated units; or
 - Standards specific to individual units, provided the state's overall performance satisfies the statewide rate set forth in the CPP.
- In a rate-based plan, there is **no limit on the amount of electricity that can be generated within a state**. Instead, each regulated entity must achieve the mandated emission rate (in lbs. of CO₂ per MWh), either by generating electricity cleanly enough to meet the standard or by acquiring sufficient clean MWh credits to essentially "dilute" the carbon intensity of its own generation. These credits are known as Emission Rate Credits, or "ERCs."
- An **ERC represents a zero-emitting MWh**. For compliance purposes, ERCs lower the emission rate of an EGU by factoring into the denominator of the following equation:

$$\text{Emission rate including ERCs} = \frac{\text{lbs. of CO}_2 \text{ from an EGU}}{(\text{EGU generation in MWhs} + \text{ERCs})}$$

- Certain ERCs known as **Gas Shift ERCs will be produced by incremental NGCC generation** and may only be used for compliance by steam units. ERCs created by energy efficiency projects are not similarly constrained and may be offered for sale to any EGU needing ERCs for compliance.
- **ERCs can be created by any eligible energy efficiency measure** or generation project connected to the bulk power grid of the lower 48 United States and located in a rate-based state. Renewables projects located in mass-based states as well as those in Canada, Mexico, the District of Columbia, Vermont, and on Tribal Land without affected EGUs can create ERCs, provided they meet load in a rate-based state (e.g., through a power purchase agreement). Energy efficiency projects located on Tribal Land without affected EGUs and connected to the grid will also be eligible to create ERCs, provided they are located within the borders of a rate-based state. Energy efficiency projects located in mass-based states, in DC, Vermont, or foreign countries are not eligible to create ERCs.
- **Eligible energy efficiency measures include building energy codes and appliance/equipment standards.** Demand response (DR) measures such as appliance direct load controls that reduce, rather than just shift, overall load are also eligible.
- A robust, but not exhaustive, list of measures eligible to earn ERCs may be found in the [draft Evaluation, Measurement & Verification \(EM&V\) Guidance](#) issued by EPA. Some eligible measures beyond traditional efficiency include:

- **Transmission and distribution (T&D) measures** such as Volt/VAR optimization that reduce system losses can also create ERCs.
- **Waste heat and power (WHP)** projects create ERCs since they are treated as zero-emission sources after accounting for any CO₂ from fossil fuels that may be added to generate power.
- **Combined heat and power (CHP)** projects that first provide heat and then use waste heat to generate electricity are treated similarly to WHP projects. CHP projects that initially generate electricity and then heat can also create ERCs under an accounting treatment that assigns to each generated MWh only those CO₂ emissions incremental to what would have been emitted to meet the thermal needs satisfied by the CHP unit. The resultant emissions rate for each MWh would then be assessed “relative to the applicable CO₂ rate-based emission standard for affected EGUs in the state,”¹ though whether this refers to a subcategorized rate or a blended rate is unclear. EPA is inviting comment on this accounting procedure.
- Energy storage projects and programs that derive emissions reductions from the use of electric vehicles are explicitly disallowed from creating ERCs.
- To create ERCs, eligible projects must go through two steps: (i) **be pre-approved** and (ii) **undergo measurement and verification (M&V) of their operations**:
 - Project developers must submit an eligibility application to the state, including an EM&V plan and a report from an independent verifier. If approved, the state must register the project (in a suitable ERC tracking system);
 - Once a project has operated for at least one year, an ex-post M&V report reviewed by an independent verifier is submitted to the state. Upon review, the state issues ERCs to the project.
- The CPP **encourages interstate trading** even in the absence of a formal multi-state arrangement. States adopting the subcategorized performance standards for steam units and NGCC may trade with one another. States developing a blended performance standard are limited to trading with states adopting the same blended rate. States with individual EGU standards will not be able to participate in interstate trading, a limitation with the potential to significantly increase the cost of compliance.

CEIP under a rate-based approach

- The proposed Clean Energy Incentive Program (CEIP) is a voluntary complement to the CPP designed to encourage early deployment of wind and solar renewable energy projects implemented in all communities and energy efficiency projects implemented in low-income communities. Eligible projects—those commencing construction (renewable) or implementation (energy efficiency) after approval of a state plan or September 2018 for states under a federal plan—will be rewarded for zero-emission energy generated or energy saved in 2020 and 2021 by being allocated ERCs by the states, with EPA providing matching credits up to a total equivalent to 300 million tons of CO₂. **Only the EPA match will be incremental in terms of emissions**, as states are expected to borrow their share of the CEIP credits from the future supply of ERCs, though just how this will be effected is open for comment. Energy efficiency projects in low-income communities will receive 2 ERCs for each MWh saved, one coming from the affected state and one from EPA. Renewables will receive 1-for-1 credit for each clean MWh generated, with half an ERC coming from the affected state and half from EPA. **Comments on the CEIP are due to EPA on or before January 21, 2016.**

¹ “Federal Plan Requirements for Greenhouse Gas Emissions From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations” *Federal Register* 80, no. 205 (October 23, 2015): 64996. This a proposed rule.