

## **FAQs About NERA's Analysis Of The Clean Power Plan**

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*On August 3, EPA finalized the Clean Power Plan. NERA Economic Consulting has modeled some of the economic impacts of the final Clean Power Plan.<sup>1</sup> NERA also modeled the proposed Clean Power Plan.*

### **What are some of the potential impacts of the Clean Power Plan?**

NERA projects the following:

- ✓ All of the Lower 48 states will have higher electricity prices because of the Clean Power Plan;
- ✓ Electricity prices will increase by double digits, on average, in as many as 40 states;
- ✓ 28 states are projected to see peak-year electricity price increases of more than 20%;
- ✓ Compliance spending will total \$29 billion to \$39 billion per year;
- ✓ Compliance spending over the period 2022 to 2033 will total \$220 billion to \$292 billion; and
- ✓ Household spending power will be reduced by \$64 billion to \$79 billion.

NERA's projections do not include other potential costs due to the Clean Power Plan, such as upgrading the electric transmission grid and expanding natural gas infrastructure.

**How did NERA do its analysis?** NERA used its N<sub>ew</sub>ERA model to project the economic impacts of the Clean Power Plan over a 12-year period from 2022 to 2033. The N<sub>ew</sub>ERA model is an integrated energy and macro-economic model of the U.S. economy. NERA's modeling focused primarily on the "mass-based" (cap-and-trade) option that EPA and others are encouraging states to adopt. Under one cap-and-trade scenario, NERA assumed that each state would meet its emissions cap by itself (i.e., through intra-state emission reduction measures). Under the other cap-and-trade

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<sup>1</sup> The lead authors for the NERA analysis are David Harrison, Ph.D. in economics from Harvard University, and Anne Smith, Ph.D. in economics from Stanford University, the co-chairs of NERA's Global Environment Practice.

scenario, NERA modeled regional cap-and-trade programs in which states are assumed to trade allowances within six regions of the country (inter-state trading). These are the same six regions that EPA assumed in its analysis of the proposed Clean Power Plan. For each of the cap-and-trade scenarios, NERA analyzed two approaches for allocating allowances. One approach assumed that utilities would have to purchase all of the allowances they need for compliance. This approach is similar to the nine-state Regional Greenhouse Gas Initiative which auctions allowances. The other approach assumed that half the allowances needed for compliance would have to be purchased, but the other half would be given free to utilities to defray retail electricity rate increases. This approach is similar to allowance allocation schemes in past federal cap-and-trade legislation. NERA also modeled EPA's rate-based approach; those results are included in an appendix to the analysis.

**Did NERA use any worst case assumptions?** No. All of NERA's key assumptions come from independent sources. NERA calibrated its model to the U.S. Energy Information Administration's 2015 Annual Energy Outlook (AEO 2015) and used AEO 2015 natural gas prices and costs for new technologies. For the cost of "energy efficiency" (which means reducing electricity use), NERA used EPA's cost, but NERA assumed the cost of energy efficiency would remain constant, whereas EPA assumed the cost would decline as more energy efficiency is adopted. Other experts believe the cost of energy efficiency will actually increase, not decrease, so NERA's assumption of a constant cost is conservative.<sup>2</sup> Even though EPA assumed the cost of energy efficiency would decline, EPA still projected that consumers will spend an average of \$25.5 billion per year — more than \$800 billion by 2050 — to reduce electricity use under the Clean Power Plan.

**Why are NERA's projected impacts different from EPA's?** Overall, NERA projects greater impacts from the Clean Power Plan than EPA projects. Much of the difference is due to EPA's projections of future CO<sub>2</sub> emissions in its "base case" (what the future would be without the Clean Power Plan), which are nearly 10% lower than EIA's projections (which NERA's assumptions match). Compared to EIA's projections, EPA assumes

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<sup>2</sup> See, for example, *U.S. Energy Efficiency Potential through 2035* (EPRI 2014) that shows an increasing cost of energy efficiency.

in its base case that less electricity will be generated with coal, more electricity will be generated with natural gas, and consumers will use less electricity. EPA's lower base case CO<sub>2</sub> levels mean that EPA projects fewer reductions are needed to reach the Clean Power Plan's targets. In addition, EPA assumes that one-third of the coal fleet (100,000 MW) will have retired by 2020 even without the Clean Power Plan. This is almost twice the retirements EIA projects (55,000 MW). Because EPA assumes more coal retirements before the Clean Power Plan takes effect, there are fewer coal units remaining that will retire because of the Clean Power Plan. All of these EPA assumptions lead to lower CO<sub>2</sub> emissions in the future without the Clean Power Plan, allowing EPA to claim the Clean Power Plan will cost less.

**How do the impacts of the final Clean Power Plan compare to the proposed Clean Power Plan?** Some of the impacts of the final Clean Power Plan are comparable to the impacts of the proposal. For example, NERA projected that the proposal would cause double-digit electricity prices in 43 states, with the highest being 24%. The final Clean Power Plan is projected to cause double-digit price increases in as many as 40 states, with the highest exceeding 40%. Other impacts are lower because the goals for many states are different from the goals EPA proposed last year. However, the final Clean Power Plan is still the most expensive rule ever imposed on the electric sector.

**What effect will the Clean Power Plan have on climate change?** Virtually no effect, even though the purpose of the Clean Power Plan is to reduce greenhouse gas emissions and help prevent climate change. The Clean Power Plan will reduce atmospheric CO<sub>2</sub> concentrations by 0.2%; global average temperature increase by 0.01 degree Fahrenheit; and sea level rise by 0.20 millimeter, the thickness of two sheets of paper.<sup>3</sup>

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<sup>3</sup> ACCCE, "Climate Effects" of EPA's Final Clean Power Plan, August 2015.