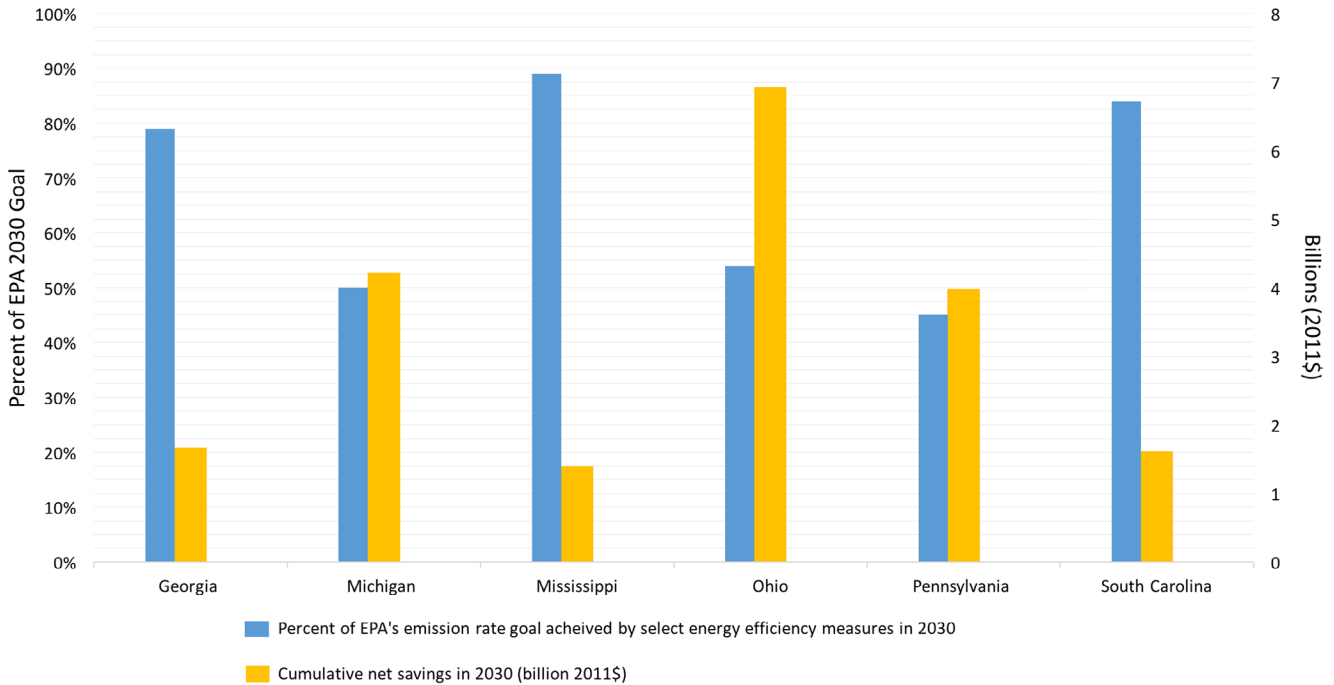


Energy Efficiency Lowers the Cost of Clean Power Plan Compliance



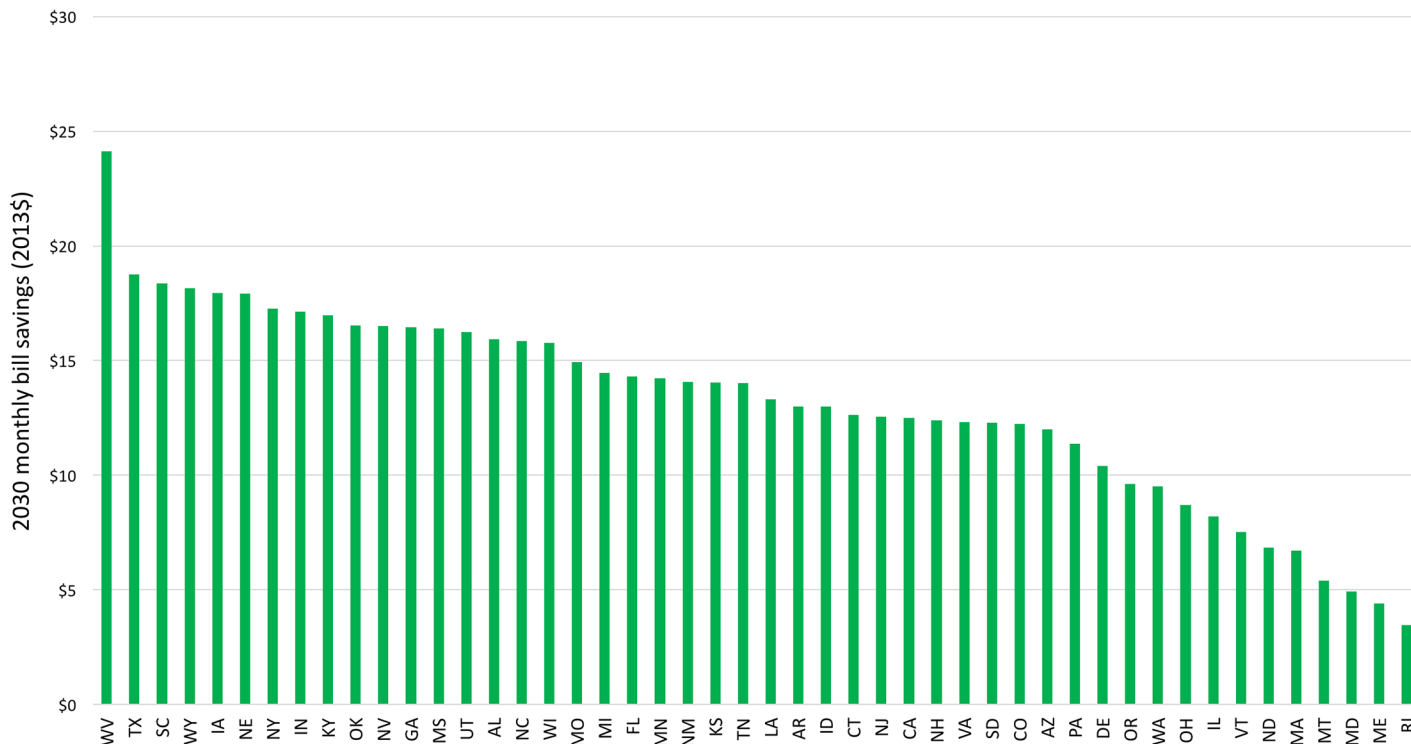
Impact of using energy efficiency for Clean Power Plan compliance in select states. Source: ACEEE estimate using ACEEE SUPR2 model for the states shown. <http://aceee.org/research-report/e1601>

The Clean Power Plan provides extra incentive to ramp up efficiency efforts. Energy efficiency is often the low-cost compliance strategy and, as shown above, can get most states more than 50% towards their emissions target.

The figure above comes from ACEEE’s SUPR2 calculator. SUPR2 allows states to estimate the energy savings, carbon reductions, and costs of various energy efficiency programs and policies. The chart looks at the impact of three energy efficiency policies in six states: a 1% per year energy savings target, updated building codes, and a medium level of new combined heat and power systems. In all these states, these energy efficiency policies can meet 45–90% of the state’s emissions targets with cumulative net savings (benefits

minus costs) of \$1–\$7 billion by 2030. And these benefits do not include the fact that energy efficiency reduces the need for other investments that would be necessary to meet the targets if energy efficiency were not pursued.

Several recent studies have compared the cost of Clean Power Plan compliance with and without energy efficiency. These studies use different cost metrics and hence it is difficult to directly compare them. However, all of them come to the same conclusion: that energy efficiency can reduce compliance costs. For example, MJ Bradley and Associates analyzed the average national cost of an allowance for one ton of carbon emissions, comparing scenarios using current levels of efficiency with scenarios where efficiency savings



Monthly energy bill savings from energy efficiency in 2030 by state. Source: Knight, P., et al. 2016. Cutting Electric Bills with the Clean Power Plan – EPA’s Greenhouse Gas Reduction Policy Lowers Household Bills: March 2016 Update. Synapse Energy Economics, Inc. <http://www.synapse-energy.com/sites/default/files/cutting-electric-bills-cpp-march2016.pdf>

are 1% or 2% of sales each year. The study found that greater efficiency means lower allowance prices (see table). Perhaps even more important than the cost of allowances is the cost impact on customers’ bills. MJ Bradley found that if states use energy efficiency programs to total 2% savings per year, retail electric bills will be reduced by 17%.¹

Scenario	Average allowance price	
	2025	2030
Existing + new plants, current EE, nationwide	\$0.76	\$19.55
Existing + new plants, 1% EE, nationwide	\$0	\$16.37

Source: MJ Bradley and Associates, “EPA’s Clean Power Plan, Summary of IPM Modeling Results,” 2016 http://www.mjbradley.com/sites/default/files/MJBA_CPP_IPM_Analysis.pdf. Prices in 2012\$.

Likewise, Synapse Energy Economics looked at possible compliance plans for each state and found that consumer energy bills would be \$3–\$24 lower per month if states ramped up energy efficiency savings to 3% per year by 2029 relative to likely state-by-state scenarios without energy efficiency (see above).

These analyses show that energy efficiency can make a substantial contribution to the emissions reductions states need. Including energy efficiency in states’ plans will lower their compliance costs.

¹MJ Bradley and Associates, “EPA’s Clean Power Plan, Summary of IPM Modeling Results,” 2016 http://www.mjbradley.com/sites/default/files/MJBA_CPP_IPM_Analysis.pdf.