CLEAN POWER, CLEAR SAVINGS

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The EPA Clean Power Plan Can Cut Household Electricity Bills in Every State

Acknowledgments

This report was written by David Arkush, managing director of Public Citizen's Climate Program. Kevin Steinberger of the Natural Resources Defense Council provided helpful input and reviews of the methodology.

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Introduction

In August 2015, the U.S. Environmental Protection Agency (EPA) finalized its first-ever rule to curb carbon pollution, known as the Clean Power Plan.[1] This study finds that the EPA rule can lower household electricity bills in every state covered by the rule.

Detractors often argue that the EPA proposal will raise electricity rates. That claim focuses on the wrong question from the standpoint of electricity customers. For consumers focused on costs, the key question is what effect the Clean Power Plan will have on what they actually pay, which means their electricity *bills*. Although the retail price of electricity will rise modestly under the Clean Power Plan compared to a business-as-usual scenario, the rule also will spur improvements in energy efficiency so that people use less electricity. The net result is that electricity bills will fall, not rise.

The EPA estimates that, in addition to mitigating climate change and boosting public health, the Clean Power Plan will lower electricity bills nationwide by 7.0 to 7.7 percent by 2030 compared to a business-as-usual scenario.[2] But the agency did not conduct state-by-state analyses of bill impacts. For this report, Public Citizen analyzed data from the EPA and the U.S. Energy Information Administration to project the Clean Power Plan's effect on electricity bills in each state. We find that household electricity bills should decline by 2025 in nearly every state under the Clean Power Plan. By 2030, bills should be lower than business-as-usual in every state.[3] Moreover, the savings reported in this study are likely underestimates. They are based on the EPA's analysis of energy efficiency, which the agency notes is conservative in multiple respects. In short, the Clean Power Plan offers states the opportunity to lower electricity costs for consumers in addition to fighting climate change—and states that get a head start on energy efficiency will save their consumers the most.

It is important to note that the actual outcomes will depend on state policy choices. State officials will decide how to comply with the Clean Power Plan, and they can choose policies that are better or worse for electricity customers. Energy efficiency should feature prominently in state compliance plans, as it is the lowest-cost way to reduce carbon emissions. It also happens to save consumers a great deal of money on their electricity bills. But the choice lies with policymakers in each state.

The Clean Power Plan Can Lower Electricity Bills in Every State

The Clean Power Plan aims to cut carbon pollution from power plants by 32 percent from 2005 levels by 2030. Under the plan, the EPA has set carbon-reduction targets for the states, and the states choose how to meet the targets. States can opt to meet either a rate-based goal, meaning a target rate of CO_2 emissions expressed in pounds per megawatt hour of electricity produced, or a mass-based goal, meaning a target measured in short tons of CO_2 emitted.[4] States can use mix of different strategies to hit their targets—improving the efficiency of existing coal-fired power plants, shifting some electricity generation from coal to natural gas plants, shifting to renewable energy sources, or using energy efficiency to reduce electricity consumption.

Energy efficiency should play a major role in state plans, as it is the lowest-cost and most effective strategy for reducing carbon pollution by a wide margin. Improving energy efficiency means using less electricity to do the same or more work. For example, better insulated homes require less power to heat and cool. There are many other ways to improve efficiency, ranging from switching to more efficient appliances and light bulbs to using combined heat and power (CHP) systems in industrial processes to generate electricity and usable heat in a combined system rather than independently.[5] Efficiency gains are usually so inexpensive that they pay for themselves quickly in reduced electricity costs. A 2014 study by the American Council for an Energy-Efficient Economy (ACEEE) found that energy efficiency programs run by utilities return $1.41 to $4 for every dollar spent.[6] For this reason, even if the retail price of electricity increases modestly under the Clean Power Plan, households and businesses will use substantially less electricity due to efficiency measures, and their bills will decline.

Table 1: Ten States with Greatest Savings in 2025 Under Rate-Based Scenario Versus Business-as-Usual, Ranked by Percentage Savings

Rank	State	Percentage Decrease in Bills	Dollar Amount
1	Maine	-7.3%	-$60
2	Massachusetts	-7.3%	-$73
3	Rhode Island	-7.3%	-$68
4	Connecticut	-7.3%	-$86
5	Ohio	-6.7%	-$74
6	New York	-6.7%	-$68
7	Maryland	-6.7%	-$88
8	Illinois	-6.7%	-$60
9	Indiana	-6.7%	-$82
10	Pennsylvania	-6.6%	-$71

The data bear out this prediction. First, electricity rates rise modestly in 2020 as states begin implementing measures to reduce carbon pollution under both the rate-based and the mass-based scenario. The smallest rise is 0.04 percent in Kansas, and the largest is 6.3 percent in Delaware and New Jersey. Electricity bills rise in 2020 as well, although by slightly less than rates.

By 2025, however, bills are already down in nearly every state. Under a rate-based scenario, they are down by as much as 7.3 percent, in Maine, Massachusetts, Rhode Island, and Connecticut. Under the mass-based scenario, New York edges those states out, with a 6.7 percent decline to their 5 percent decline. Under the rate-based scenario, only North Dakota's bills increase in 2025, and by just 0.3 percent, or roughly $5 per household. Under the mass-based scenario, only Kansas, North Dakota, and Virginia experience increases, by just 1 percent, 0.3 percent, and 0.1 percent, or $12, $5, and $1, respectively. Tables 1 and 2 list the 10 states in which households save the highest percentage of their annual bills under the rate-based and mass-

Table 2: Ten States with Greatest Savings in 2025 Under Mass-Based Scenario Versus Business-as-Usual, Ranked by Percentage Savings

Rank	State	Percentage Decrease in Bills	Dollar Amount
1	New York	-6.7%	-$68
2	Massachusetts	-5.0%	-$50
3	Rhode Island	-5.0%	-$47
4	Maine	-5.0%	-$42
5	Connecticut	-5.0%	-$59
6	Arizona	-3.9%	-$58
7	Michigan	-3.9%	-$33
8	Maryland	-3.8%	-$51
9	New Jersey	-3.6%	-$32
10	Pennsylvania	-3.6%	-$39

base scenarios, respectively.

By 2030, bills are down in every state under either scenario. Under the rate-based scenario, the four leading northeastern states experience bill decreases of 19.9 percent, saving the average household $190 (Maine) to $272 (Connecticut) annually. In the mass-based case, New York again edges ahead, with bills declining by 15.4 percent versus business-as-usual, for a household savings of $177. Tables 3 and 4 list the 10 states that fare best under the rate- and mass-based scenarios, respectively.

Tables 5 and 6, after this report's conclusion, provide the data for all of the states under each scenario.

Table 3: Ten States with Greatest Savings in 2030 Under Rate-Based Scenario Versus Business-as-Usual, Ranked by Percentage Savings

Rank	State	Percentage Decrease in Bills	Dollar Amount
1	Massachusetts	-19.9%	-$230
2	Maine	-19.9%	-$190
3	Rhode Island	-19.9%	-$215
4	Connecticut	-19.9%	-$272
5	New York	-18.3%	-$210
6	New Hampshire	-18.1%	-$208
7	New Jersey	-16.2%	-$159
8	Maryland	-16.1%	-$236
9	Pennsylvania	-15.6%	-$186
10	Illinois	-14.1%	-$139

A Head Start on Energy Efficiency Generates Greater Savings

Two principal factors influence this study's projections of savings under the Clean Power Plan: each state's existing energy efficiency policies and the electricity prices in its region. States that consistently show the greatest savings under the Clean Power Plan are those that already have a head start on energy efficiency. There is heavy overlap between states that are projected to have made the most progress on energy efficiency by 2020 and those in which consumers save the most money in later years. The EPA projects that the following ten states will make the strongest cumulative efficiency gains by 2020: New York, Maryland, Michigan, Connecticut, Massachusetts, Rhode Island, Maine, Wisconsin, Illinois, and Ohio.[7]

Table 4: Ten States with Greatest Savings in 2030 Under Mass-Based Scenario Versus Business-as-Usual, Ranked by Percentage Savings

Rank	State	Percentage Decrease in Bills	Dollar Amount
1	New York	-15.4%	-$177
2	Maine	-14.1%	-$135
3	Rhode Island	-14.1%	-$153
4	Massachusetts	-14.1%	-$163
5	Connecticut	-14.1%	-$193
6	New Jersey	-14.0%	-$138
7	Maryland	-13.3%	-$195
8	New Hampshire	-13.2%	-$152
9	Delaware	-12.8%	-$174
10	Pennsylvania	-12.3%	-$147

Costs Will Likely Decline More Than This Report Indicates

It is important to note that the estimated cost reductions in this report are likely understated because they are based on the compliance scenarios that the EPA has modeled for states, which are conservative in multiple respects. First, the EPA's state scenarios incorporate only one category of energy efficiency, utility programs, omitting large and significant other areas in which states can make substantial gains, such as building codes and appliance standards.[8] A related issue is that the EPA model assumes states will improve their energy savings by only 1 percent annually

even though stronger gains are technically and economically feasible. Eleven states have already set targets above 1.5 percent.[9] Indeed, the EPA notes that essentially every aspect of its energy efficiency analysis is "conservative."[10] Finally, the agency overstates the cost of efficiency programs by a wide margin. It treats first-year efficiency program costs as 2 to 3.1 times what leading studies indicate,[11] terming the resulting figure "reasonable but conservative."[12]

In short, states can make far greater efficiency gains than the EPA projects, at far lower cost. That means more savings for electricity consumers.

Conclusion

The Clean Power Plan offers states a great opportunity to lower electricity bills while curbing climate change. If states follow the course that the EPA envisions for them, then household electricity bills will fall in every state by 2030—and in nearly every state by 2025. These numbers are likely too low, as they incorporate the EPA's admittedly conservative take on energy efficiency. States can and should choose to exceed the EPA's expectations. If a state makes stronger improvements in energy efficiency, and makes them more quickly, then its households will enjoy even greater savings.

Table 5 : Impacts of Rate-Based Compliance with Clean Power Plan

	RB Bill Impact ($)			RB Bill Impact (%)			RB Rate Impact (%)		
State	2020	2025	2030	2020	2025	2030	2020	2025	2030
Alabama	$14	-$30	-$120	1.0%	-2.0%	-7.7%	1.1%	1.4%	4.0%
Arizona	$25	-$58	-$163	1.7%	-3.9%	-10.2%	2.8%	1.9%	2.7%
Arkansas	$23	-$54	-$188	1.9%	-4.2%	-13.3%	2.4%	0.7%	3.4%
California	$24	-$47	-$106	2.5%	-5.0%	-10.5%	3.5%	0.8%	0.8%
Colorado	$20	-$37	-$109	2.5%	-4.5%	-12.2%	3.4%	1.2%	1.1%
Connecticut	$51	-$86	-$272	4.2%	-7.3%	-19.9%	5.3%	-1.6%	-4.9%
Delaware	$81	-$48	-$189	6.3%	-3.9%	-13.9%	6.3%	-1.0%	-5.3%
Florida	$24	-$53	-$130	1.7%	-3.6%	-8.5%	1.9%	0.1%	4.8%
Georgia	$10	-$42	-$133	0.7%	-3.0%	-9.0%	1.0%	1.1%	4.1%
Idaho	$22	-$34	-$87	2.3%	-3.6%	-8.7%	2.9%	1.5%	1.4%
Illinois	$28	-$60	-$139	3.3%	-6.7%	-14.1%	4.4%	-1.0%	0.4%
Indiana	$38	-$82	-$189	3.3%	-6.7%	-14.1%	4.3%	-1.0%	1.0%
Iowa	$24	-$25	-$81	2.4%	-2.5%	-7.6%	3.5%	3.4%	2.2%
Kansas	$0	-$11	-$12	0.0%	-1.0%	-1.1%	0.0%	2.0%	3.2%
Kentucky	$16	-$32	-$98	1.3%	-2.6%	-7.6%	1.7%	2.0%	3.4%
Louisiana	$32	-$37	-$187	2.3%	-2.5%	-11.7%	2.4%	0.5%	3.4%
Maine	$36	-$60	-$190	4.2%	-7.3%	-19.9%	5.3%	-1.6%	-4.9%
Maryland	$70	-$88	-$236	5.0%	-6.7%	-16.1%	6.1%	-1.0%	-4.7%
Massachusetts	$44	-$73	-$230	4.2%	-7.3%	-19.9%	5.3%	-1.6%	-4.9%
Michigan	$31	-$49	-$77	3.7%	-5.8%	-8.8%	4.8%	0.0%	2.8%
Minnesota	$21	-$23	-$72	2.4%	-2.5%	-7.5%	3.4%	3.4%	2.2%
Mississippi	$17	-$40	-$143	1.2%	-2.8%	-9.3%	1.4%	1.2%	3.8%
Missouri	$32	-$63	-$146	2.7%	-4.9%	-10.7%	3.2%	-0.1%	0.3%
Montana	$18	-$27	-$72	2.4%	-3.4%	-8.6%	3.0%	1.7%	1.5%
Nebraska	$37	-$4	-$68	3.3%	-0.4%	-5.5%	3.4%	3.4%	2.2%
Nevada	$26	-$36	-$104	2.3%	-3.1%	-8.6%	2.8%	1.8%	2.5%
New Hampshire	$53	-$52	-$208	5.1%	-5.2%	-18.1%	5.3%	-1.6%	-4.9%
New Jersey	$52	-$56	-$159	5.6%	-6.3%	-16.2%	6.3%	-1.0%	-5.3%
New Mexico	$18	-$27	-$101	2.1%	-3.1%	-10.7%	2.7%	2.0%	2.9%
New York	$44	-$68	-$210	4.3%	-6.7%	-18.3%	5.3%	-0.9%	-6.3%
North Carolina	$6	-$42	-$103	0.4%	-3.1%	-7.3%	1.0%	2.2%	3.2%
North Dakota	$45	$5	-$69	3.4%	0.3%	-4.8%	3.4%	3.4%	2.2%
Ohio	$33	-$74	-$168	3.2%	-6.7%	-14.1%	4.3%	-1.0%	1.0%
Oklahoma	$26	-$21	-$181	2.3%	-1.7%	-12.8%	2.5%	2.5%	3.4%
Oregon	$16	-$37	-$86	1.9%	-4.3%	-9.4%	2.9%	1.5%	1.4%
Pennsylvania	$54	-$71	-$186	4.8%	-6.6%	-15.6%	5.8%	-1.0%	-3.7%
Rhode Island	$41	-$68	-$215	4.2%	-7.3%	-19.9%	5.3%	-1.6%	-4.9%
South Carolina	$8	-$38	-$100	0.6%	-2.7%	-6.9%	1.0%	2.2%	3.2%
South Dakota	$38	-$7	-$74	3.3%	-0.6%	-5.9%	3.4%	3.1%	2.1%
Tennessee	$12	-$23	-$80	0.9%	-1.8%	-6.0%	1.2%	2.6%	3.8%
Texas	$28	-$8	-$233	1.9%	-0.5%	-12.5%	2.1%	3.5%	-1.1%
Utah	$14	-$29	-$70	2.1%	-4.1%	-9.3%	2.9%	1.5%	1.4%
Virginia	$23	-$22	-$105	1.6%	-1.5%	-6.9%	1.6%	1.5%	2.7%
Washington	$17	-$40	-$92	1.9%	-4.3%	-9.4%	2.9%	1.5%	1.4%
West Virginia	$52	-$70	-$189	4.0%	-5.0%	-12.6%	4.3%	-1.0%	1.0%
Wisconsin	$25	-$42	-$93	3.0%	-5.0%	-10.4%	4.1%	0.8%	2.6%
Wyoming	$24	-$21	-$75	2.9%	-2.4%	-8.2%	3.1%	1.4%	1.3%

Table 6: Impacts of Mass-Based Compliance with Clean Power Plan

	Bill Impact ($)			Bill Impact (%)			Rate Impact (%)		
State	2020	2025	2030	2020	2025	2030	2020	2025	2030
Alabama	$14	-$18	-$80	1.0%	-1.3%	-5.1%	1.1%	2.2%	2.2%
Arizona	$25	-$58	-$102	1.7%	-3.9%	-6.4%	2.8%	1.9%	1.8%
Arkansas	$13	-$39	-$81	1.0%	-3.0%	-5.7%	1.5%	1.9%	2.3%
California	$18	-$34	-$69	1.8%	-3.6%	-6.8%	2.8%	2.3%	1.5%
Colorado	$11	-$19	-$35	1.4%	-2.3%	-3.9%	2.3%	3.5%	4.5%
Connecticut	$51	-$59	-$193	4.2%	-5.0%	-14.1%	5.3%	0.8%	-6.3%
Delaware	$81	-$13	-$174	6.3%	-1.1%	-12.8%	6.3%	1.9%	-6.2%
Florida	$24	-$39	-$84	1.7%	-2.7%	-5.5%	1.9%	1.0%	1.9%
Georgia	$10	-$28	-$82	0.7%	-2.1%	-5.6%	1.0%	2.1%	2.1%
Idaho	$22	-$21	-$52	2.3%	-2.2%	-5.2%	2.9%	2.9%	2.9%
Illinois	$28	-$28	-$76	3.3%	-3.1%	-7.7%	4.4%	2.8%	0.7%
Indiana	$38	-$35	-$100	3.3%	-2.8%	-7.4%	4.3%	3.1%	1.0%
Iowa	$24	-$25	-$66	2.4%	-2.5%	-6.2%	3.5%	3.4%	2.2%
Kansas	$0	$12	-$14	0.0%	1.0%	-1.2%	0.0%	4.1%	6.2%
Kentucky	$16	-$24	-$72	1.3%	-2.0%	-5.6%	1.7%	2.6%	2.3%
Louisiana	$20	-$20	-$78	1.4%	-1.4%	-4.8%	1.4%	1.7%	2.2%
Maine	$36	-$42	-$135	4.2%	-5.0%	-14.1%	5.3%	0.8%	-6.3%
Maryland	$70	-$51	-$195	5.0%	-3.8%	-13.3%	6.1%	2.1%	-5.4%
Massachusetts	$44	-$50	-$163	4.2%	-5.0%	-14.1%	5.3%	0.8%	-6.3%
Michigan	$31	-$33	-$58	3.7%	-3.9%	-6.6%	4.8%	2.0%	1.9%
Minnesota	$21	-$23	-$59	2.4%	-2.5%	-6.2%	3.4%	3.4%	2.2%
Mississippi	$12	-$30	-$82	0.9%	-2.1%	-5.3%	1.1%	2.0%	2.2%
Missouri	$32	-$28	-$86	2.7%	-2.2%	-6.3%	3.2%	2.8%	1.8%
Montana	$18	-$17	-$44	2.4%	-2.1%	-5.3%	2.9%	3.0%	2.8%
Nebraska	$37	-$4	-$64	3.3%	-0.3%	-5.2%	3.4%	3.4%	2.3%
Nevada	$26	-$32	-$72	2.3%	-2.8%	-5.9%	2.8%	2.1%	2.1%
New Hampshire	$53	-$29	-$152	5.1%	-2.9%	-13.2%	5.3%	0.8%	-6.3%
New Jersey	$52	-$32	-$138	5.6%	-3.6%	-14.0%	6.3%	1.9%	-6.2%
New Mexico	$18	-$24	-$57	2.1%	-2.8%	-6.0%	2.7%	2.3%	2.0%
New York	$44	-$68	-$177	4.3%	-6.7%	-15.4%	5.3%	-0.9%	-7.6%
North Carolina	$6	-$28	-$84	0.4%	-2.1%	-6.0%	1.0%	3.2%	2.2%
North Dakota	$45	$5	-$70	3.4%	0.3%	-4.9%	3.4%	3.4%	2.2%
Ohio	$33	-$32	-$88	3.2%	-2.9%	-7.4%	4.3%	3.1%	1.0%
Oklahoma	$26	-$6	-$75	2.3%	-0.5%	-5.3%	2.5%	3.7%	2.3%
Oregon	$16	-$25	-$50	1.9%	-2.9%	-5.5%	2.9%	2.9%	2.9%
Pennsylvania	$54	-$39	-$147	4.8%	-3.6%	-12.3%	5.8%	2.2%	-4.3%
Rhode Island	$41	-$47	-$153	4.2%	-5.0%	-14.1%	5.3%	0.8%	-6.3%
South Carolina	$8	-$23	-$84	0.6%	-1.7%	-5.8%	1.0%	3.2%	2.2%
South Dakota	$36	-$2	-$60	3.1%	-0.2%	-4.9%	3.3%	3.5%	2.6%
Tennessee	$12	-$23	-$70	0.9%	-1.8%	-5.2%	1.2%	2.6%	2.6%
Texas	$27	-$32	-$171	1.9%	-1.9%	-9.2%	2.1%	2.0%	-2.0%
Utah	$14	-$20	-$41	2.1%	-2.7%	-5.5%	2.9%	2.9%	2.9%
Virginia	$23	$1	-$80	1.6%	0.1%	-5.2%	1.6%	3.2%	1.9%
Washington	$17	-$27	-$54	1.9%	-2.9%	-5.5%	2.9%	2.9%	2.9%
West Virginia	$52	-$16	-$101	4.0%	-1.1%	-6.7%	4.3%	3.1%	1.0%
Wisconsin	$25	-$24	-$53	3.0%	-2.8%	-5.9%	4.1%	3.1%	2.6%
Wyoming	$21	-$6	-$38	2.5%	-0.7%	-4.2%	2.7%	3.1%	3.4%

Methodology

The Clean Power Plan allows states to choose whether to meet (1) targets for the rate of carbon emissions per unit of electricity produced by affected power plants, measured in pounds of CO_2 per megawatt hour, or (2) targets for the mass of carbon that plants emit, measured in short tons of CO_2. Therefore, the agency provides data for two scenarios: rate-based or mass-based compliance. This report does the same.

Household consumption. EPA provides business-as-usual ("BAU") sales data for the years 2013 through 2040, using 2013 historical data and making projections forward based on EIA sales projections.[13] We use EPA's BAU sales numbers for the years 2020, 2025, and 2030 as the baseline figures for electricity consumption in each state. To calculate average household electricity consumption, we begin with EIA data on household electricity consumption in 2013.[14] EIA's household data do not include projections of future consumption. We develop household BAU values for 2020, 2025, and 2030 by adjusting the 2013 household consumption figures in proportion to the growth in EPA's aggregate BAU sales data for those periods. In other words, we assume that household electricity consumption will rise or fall at the same rate as general electricity consumption.

To calculate household consumption under the Clean Power Plan, we use the EPA's projections of each state's cumulative energy efficiency savings for each year to modify the estimates of household consumption.[15]

Household costs. For each Electricity Market Module (EMM) region, the EPA's Regulatory Impact Analysis provides an estimate of electricity rates in the base case and under each compliance scenario for the years 2020, 2025 and 2030.[16] To calculate household costs for each scenario, we multiply our estimate of household consumption by these projected electricity rates.

In many instances, the boundaries between EMM regions and states do not align perfectly. When a state is split across multiple EMM regions, we weight the price data for each region by its proportion of state electricity sales on the EIA's 2013 form 861 (the sales data that the EPA uses).[17] For example, if 75 percent of a state's electricity sales are in a region with a price of 10 cents per kilowatt hour and 25 percent of sales are in a region where the price is 9 cents per kilowatt hour, we derive an overall state price from the sum of 10 x 0.75 and 9 x 0.25. In this hypothetical case, the state price would be 9.75 cents per kilowatt hour.

ENDNOTES

[1] EPA, *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, Proposed Rule*, 80 FED. REG. 64,661 (Oct. 23, 2015).
[2] EPA, REGULATORY IMPACT ANALYSIS FOR THE CLEAN POWER PLAN FINAL RULE 3-40 (2015) (hereinafter RIA).
[3] This study omits Alaska, the District of Columbia, Hawaii and Vermont because they are not covered by the Clean Power Plan. The EPA omitted Alaska and Hawaii because the agency lacks the analytic tools needed to set the states' carbon-reduction goals. The District of Columbia and Vermont have no affected power plants. *See* 80 FED. REG. at 64,664.
[4] 80 FED. REG. at 64,666:2. Alternatively, states may simply enforce the EPA's emission performance rates for the individual power plants to which the rule applies rather than use a variety of strategies to meet a statewide rate-based or mass-based target.
[5] CHP systems, used most commonly in the steel, chemical, paper, and petroleum-refining industries, are vastly more efficient than generating electric power and heat separately. *See* ACEEE, COMBINED HEAT AND POWER AND CLEAN DISTRIBUTED ENERGY POLICIES 1 (2009).
[6] ACEEE, THE BEST VALUE FOR AMERICA'S ENERGY DOLLAR: A NATIONAL REVIEW OF THE COST OF UTILITY ENERGY EFFICIENCY PROGRAMS 24 (2014) (hereinafter BEST VALUE).
[7] EPA's estimates for cumulative savings can be found in the tab labeled "Savings_Cumulative" in the EPA spreadsheet entitled, *Data File: Demand-Side Energy Efficiency Appendix - Illustrative 3% Scenario*, at http://www2.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents.
[8] *See* ACEEE, CHANGE IS IN THE AIR: HOW STATES CAN HARNESS ENERGY EFFICIENCY TO STRENGTHEN THE ECONOMY AND REDUCE POLLUTION 7 (2014) (hereinafter CHANGE IS IN THE AIR).
[9] RIA at 3–13; ACEEE, CHANGE IS IN THE AIR at 8.
[10] *See* EPA, DEMAND-SIDE ENERGY EFFICIENCY TECHNICAL SUPPORT DOCUMENT 58 (2015) (hereinafter EE TSD) ("The pace of improvements, average measure life, and distribution of measure lives are each conservative and, therefore, lead to lower cumulative savings than would otherwise result. Similarly, the EE plan scenario, being based solely on results from and requirements of EE programs, is less stringent than a level would be that accounted for potential impacts of other EE strategies such as building energy codes, state appliance standards, or energy services performance contracting.").
[11] After citing studies that found first-year efficiency program costs of $177 to $275 per MWh of savings, the agency opted to treat the cost as $550. *See* EPA, EE TSD at 67–69.
[12] *Id*. at 69.
[13] These sales numbers are in the tab labeled "Sales" in the spreadsheet entitled, *Data File: Demand-Side Energy Efficiency Appendix - Illustrative 3% Scenario*, at http://www2.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents.
[14] *See* EIA, ELECTRIC SALES, REVENUE, AND AVERAGE PRICE, Table 5A, at http://www.eia.gov/electricity/sales_revenue_price/.
[15] These numbers can be found in the tab labeled "Savings_Cumulative" in the EPA spreadsheet entitled, *Data File: Demand-Side Energy Efficiency Appendix - Illustrative 3% Scenario*, at http://www2.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents.
[16] RIA at 3-37–3-39.
[17] These sales numbers are in the tab labeled "F861_2013_Sales" in the spreadsheet entitled, *Data File: Demand-Side Energy Efficiency Appendix - Illustrative 3% Scenario*, at http://www2.epa.gov/cleanpowerplan/clean-power-plan-final-rule-technical-documents. We added utilities' EMM regions to these sales numbers using data that EIA provided to Public Citizen. In some cases, the two data sets could not be aligned perfectly, and a small portion of state sales could not be attributed to any particular EMM region. These discrepancies were insignificant enough that they could be ignored without any material impact on the conclusions. In all but three cases, the unattributed portion of sales was vanishingly small—just 0.1 to 0.5 percent of total state electricity sales. In two states, unattributed sales approached 2 percent, and in one state they were just over 3 percent.