

EPA's Proposed GHG Rule for Existing Power Plants

Background

On June 2, the EPA released a proposed rule (called the "Clean Power Plan") under section 111(d) of the Clean Air Act that will require CO₂ emissions reductions from existing power plants in 49 states (Vermont and the District of Columbia are not covered because they have no fossil-fuel based generation). The rule was published in the Federal Register on June 18, kicking off a 120-day public comment period which concludes on October 16, 2014. The EPA has scheduled four public hearings on the proposed rule in Atlanta, Denver, Pittsburgh, and Washington, DC the week of July 28. The EPA intends to issue a final rule in June of 2015, and states will then have one year to develop implementation plans, or if they collaborate on multi-state or regional plans, they are allowed two years to develop their plan. Case by case, states can seek a 1-year extension from the EPA. Therefore, in some states it may take until June of 2018 to fully understand what compliance with this proposal will mean.

Proposal Overview

The EPA's proposal is incredibly complex and spans more than 1,600 pages including the rule and supporting technical and legal documents. Fundamentally, the proposal has two basic components. The EPA's 111(d) rule:

- ① Sets a CO₂ intensity target (pounds of CO₂ emitted per MWh of generation) for each state for the year 2030 (listed in Table 2 at the end of this document), as well as an "interim goal" applied as an average of the 2020-2029 period, and
- ② Requires every state to create its own plan to achieve the CO₂ reduction target set for the state.

The emission target EPA set for each state is based on EPA's assessment of the "Best System of Emission Reductions" (BSER). Rather than identifying what could be done to reduce CO₂ emissions at each power plant (called an "inside the fence" approach – which is how EPA addresses other emissions covered by the Clean Air Act), the EPA took an "outside the fence" approach and defined the BSER in a much broader manner – all the way from the generating plant to the end-use consumer. This approach results in setting emission guidelines that are not achievable at the affected source of the emissions (the power plant). These options allow the agency to set a much more stringent standard than would be set using an "inside the fence" approach because there is not (by EPA's admission) currently available technology to capture CO₂ emissions from existing power plants.

EPA's Building Block Approach

EPA established each state's reduction target by analyzing four "Building Blocks" – areas that the agency believes will result in CO₂ reductions. The four building blocks are: (1) making coal plants more efficient; (2) displacing existing coal with existing natural gas plants; (3) increasing the use of nuclear and renewable energy; and (4) decreasing electricity consumption by increasing end-user energy efficiency.

① Coal Plant Efficiency

Make physical and operational changes at existing coal-based power plants to improve heat-rate efficiency by 6%, which reduces the amount of coal needed per MWh of generation, thereby reducing CO₂ emissions.

② Natural Gas

Existing natural gas combined cycle plants are used more or less frequently, depending upon a variety of factors. EPA's CO₂ reduction goals are based on dispatching those natural gas plants more frequently (up to 70% capacity factor) while closing or curtailing existing coal-based generation sources.

③ Renewable and Nuclear Power

Nuclear power and renewable resources like hydro, wind, and solar power do not have direct CO₂ emissions. EPA's goals are based on keeping some existing nuclear power plants (that are at risk of closing) operating, ensuring that new nuclear plants under construction get finalized, and that more sources of renewable energy are developed.

④ Consumer Energy Efficiency

Improving energy efficiency by consumers reduces the need for power generation. EPA's CO₂ reduction goals envision all states increasing energy efficiency programs to result in the avoidance of 1.5% of energy demand per year.

Figure 1: EPA's "Building Blocks"

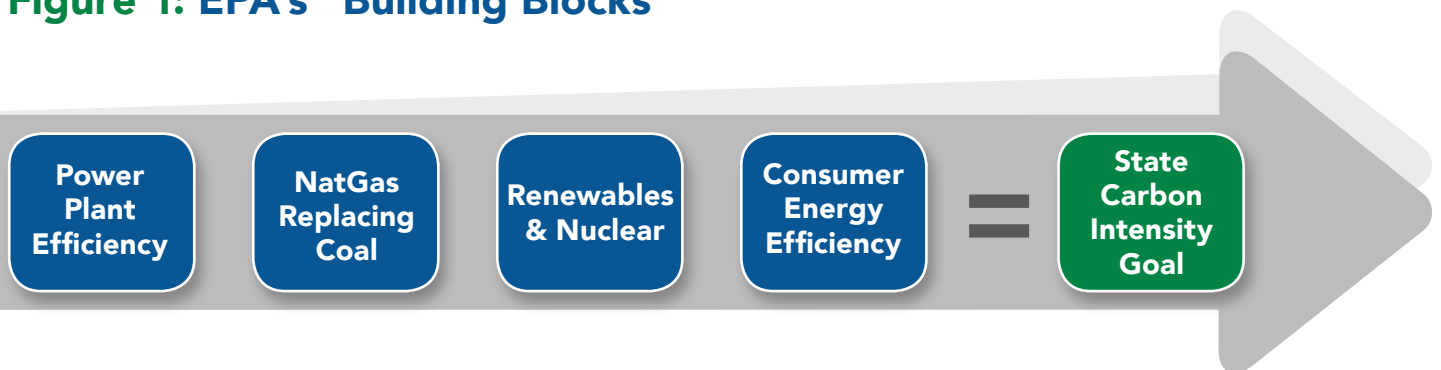


Table 1: Summary of EPA's "Best System of Emission Reduction" Building Blocks

	Building Blocks	Description	Assumptions Used by EPA	Inside the Fence?
①	Improving Existing Coal Plant Efficiency	Improve the "heat rate" of existing power plants to make them more efficient, reducing CO ₂ output per MWh generated	An average of 6% improvement in the heat rate of existing coal-based generation units	Yes
②	Using Existing Natural Gas Plants More to Displace Coal	Reduce CO ₂ emissions by closing or curtailing coal plants (the most CO ₂ -intensive), and substituting that generation with power from less CO ₂ -intensive natural gas plants currently operating or under construction	Existing natural gas combined cycle power plants can be dispatched above their current utilization, up to a 70% capacity factor	No
③	Increase Renewable and Nuclear Power	Reduce CO ₂ emissions by closing or curtailing coal plants (the most CO ₂ -intensive), and substituting that generation with power from existing and new zero-CO ₂ -emitting nuclear and renewable power sources	Existing nuclear power plants that are "at risk" of shutting down could be continued; additional renewable power generation sources can be added nearly nationwide	No
④	Increase End-use Energy Efficiency	Reduce electricity demand, thereby reducing the amount of electric generation needed to meet demand	Energy efficiency by consumers can reduce electricity demand by 1.5% annually nationwide by 2030	No

● ● ● **Impacts of the Proposal** ● ● ●

This proposal could easily be considered the nation's electricity policy for the next two decades. It will dictate how cooperatives and other utilities **generate** power and how co-op member-owners and other consumers **use** electricity for decades to come. And the impacts from the regulation will vary significantly from state to state. EPA's plan will result in higher electricity costs, power plant closures and the resulting job losses, challenges to the reliability of the electric grid, and stranded assets for co-ops in many cases that will have to be paid for by co-op consumer-owners (ranging from family farms to small businesses to energy-intensive industries).



continued....

The cost of electricity directly impacts the quality of life in the communities served by electric cooperatives. While the EPA claims that their proposal will raise electricity rates modestly, but result in lower electricity bills for consumers, this assumption fails to pass the common-sense test. By removing coal from the equation and pursuing an all-but-one approach to electricity production, the EPA acknowledges that natural gas will bear an increased burden to produce a significantly increasing share of the American power supply. As the demand for natural gas surges, so too will the price. American families and businesses will bear the brunt of this price increase. Further, the EPA plan would cost consumers hundreds of billions of dollars as they are forced to adopt energy efficiency improvements, but those costs do not show up on the electric bill and are hidden costs in the EPA plan.

While the EPA plan suggests states have significant flexibility in determining how to meet the emission limits, it actually provides little flexibility to meet these aggressive goals and thus is an engraved invitation for additional government regulation of consumer-owned utilities in areas where they are currently regulated by their consumer-owners. States will be left with little choice but to enact additional mandates for renewable resources or energy efficiency programs to comply with the EPA-set emissions targets, even in areas where co-ops do not own any fossil-fuel based generation sources. At a minimum, states will be increasing dispatch of generation based on environmental factors rather than the most economic dispatch. Nationwide, coal-fired plants have installed billions of dollars in upgraded pollution controls in the past decade to meet other EPA requirements. The remaining useful life of many of these upgraded plants will extend beyond 2030, yet EPA's program essentially requires them to curtail operation, or to outright shutdown.

The EPA's proposal will also jeopardize reliability by reducing the overall amount of power generation available at times of peak use. During the coldest parts of the winter of 2013-14, some parts of the country were dangerously close to running out of power – and that is before the EPA plan causes many existing plants to close down. Additionally, some natural gas plants were unable to run for weeks or even months because there was no natural gas available to those plants to allow them to run. The removal of this safety net will lead to uncertainty for families and businesses who expect the lights to come every time they flip a switch. By taking coal out of the generation mix and putting nearly all our eggs into the natural gas and renewable basket, it's questionable whether the remaining plants will be able meet the demands of consumers during extreme heat or bitter cold.

• • • NRECA Position • • •

NRECA believes that the EPA proposal is fundamentally flawed because it goes beyond the legal authorities under the Clean Air Act and must be significantly changed. EPA should not have gone "outside the fence" when determining individual state emission targets. Such an approach requires actions by entities not directly subject to regulation under section 111 of the Clean Air Act.

continued....

NRECA is concerned about how the rule will be implemented by the states, and while “flexibility” is a welcome approach, it appears the proposal will result in mandates coming from state capitals in lieu of the mandate coming from the national capital.

NRECA is very concerned that the proposal will result in prematurely closing power plants owned by electric cooperatives – placing even greater financial burdens on the cooperatives and the consumers that own them. Many of those plants were built when our national policy was encouraging the use of coal as a domestic resource, and co-ops have invested billions since then upgrading those plants. Forcing them to prematurely shut down is an unreasonable, unjustifiable, and arbitrary outcome.

The more NRECA and electric cooperatives read and analyze the rule, we find ourselves with more questions than answers. We look forward to conveying those questions to EPA and continuing to engage in discussions with the Agency about this proposed regulation.

Table 2: State-by-State Proposed Reduction Targets

State	2012 Emissions Rate (lbs/MWh)	Interim Goal (2020-2029)	Interim Reduction	Interim % Reduction	Final Goal (2030 & after)	Final Reduction	Final % Reduction
Washington	756	264	-492	-65.1%	215	-541	-71.6%
Arizona	1453	735	-718	-49.4%	702	-751	-51.7%
South Carolina	1587	840	-747	-47.1%	772	-815	-51.4%
Oregon	717	407	-310	-43.2%	372	-345	-48.1%
New Hampshire	905	546	-359	-39.7%	486	-419	-46.3%
Georgia	1500	891	-609	-40.6%	834	-666	-44.4%
Arkansas	1634	968	-666	-40.8%	910	-724	-44.3%
New York	978	635	-343	-35.1%	549	-429	-43.9%
New Jersey	928	647	-281	-30.3%	531	-397	-42.8%
Minnesota	1470	911	-559	-38.0%	873	-597	-40.6%
North Carolina	1647	1077	-570	-34.6%	992	-655	-39.8%
Louisiana	1455	948	-507	-34.8%	883	-572	-39.3%
Tennessee	1903	1254	-649	-34.1%	1163	-740	-38.9%
Texas	1284	853	-431	-33.6%	791	-493	-38.4%
Florida	1199	794	-405	-33.8%	740	-459	-38.3%
Virginia	1302	884	-418	-32.1%	810	-492	-37.8%
Massachusetts	925	655	-270	-29.2%	576	-349	-37.7%
Mississippi	1093	732	-361	-33.0%	692	-401	-36.7%
Maryland	1870	1347	-523	-28.0%	1187	-683	-36.5%
Oklahoma	1387	931	-456	-32.9%	895	-492	-35.5%
Colorado	1714	1159	-555	-32.4%	1108	-606	-35.4%
South Dakota	1135	800	-335	-29.5%	741	-394	-34.7%
Nevada	988	697	-291	-29.5%	647	-341	-34.5%
Wisconsin	1827	1281	-546	-29.9%	1203	-624	-34.2%
New Mexico	1586	1107	-479	-30.2%	1048	-538	-33.9%
Illinois	1894	1366	-528	-27.9%	1271	-623	-32.9%
Idaho	339	244	-95	-28.0%	228	-111	-32.7%
Delaware	1234	913	-321	-26.0%	841	-393	-31.8%
Michigan	1690	1227	-463	-27.4%	1161	-529	-31.3%
Pennsylvania	1531	1179	-352	-23.0%	1052	-479	-31.3%
Connecticut	765	597	-168	-22.0%	540	-225	-29.4%
Ohio	1850	1452	-398	-21.5%	1338	-512	-27.7%
Utah	1813	1378	-435	-24.0%	1322	-491	-27.1%
Alabama	1444	1147	-297	-20.6%	1059	-385	-26.7%
Nebraska	2009	1596	-413	-20.6%	1479	-530	-26.4%
Alaska	1351	1097	-254	-18.8%	1003	-348	-25.8%
California	698	556	-142	-20.3%	537	-161	-23.1%
Kansas	1940	1578	-362	-18.7%	1499	-441	-22.7%
Missouri	1963	1621	-342	-17.4%	1544	-419	-21.3%
Montana	2246	1882	-364	-16.2%	1771	-475	-21.1%
Indiana	1924	1607	-317	-16.5%	1531	-393	-20.4%
West Virginia	2019	1748	-271	-13.4%	1620	-399	-19.8%
Wyoming	2115	1808	-307	-14.5%	1714	-401	-19.0%
Kentucky	2158	1844	-314	-14.6%	1763	-395	-18.3%
Iowa	1552	1341	-211	-13.6%	1301	-251	-16.2%
Hawaii	1540	1378	-162	-10.5%	1306	-234	-15.2%
Rhode Island	907	822	-85	-9.4%	782	-125	-13.8%
Maine	437	393	-44	-10.1%	378	-59	-13.5%
North Dakota	1994	1817	-177	-8.9%	1783	-211	-10.6%