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Ozone rule expected to go easy on coal as EPA modeling shows only 5 units may need changes

By [Annalee Grant](#) and [Molly Christian](#)

Coal-fired power plants will mostly get away unscathed when the U.S. EPA's 70 parts/billion ozone standard rolls out so long as compliance continues as predicted by the agency's modeling, which leans heavily on the other industries responsible for ozone pollution.

Under the ozone standard [adopted](#) by the agency Oct. 1, the compliance options examined by the EPA in the [Regulatory Impact Analysis](#), or RIA, released alongside the standard show that only five power plant units will need to make changes to help non-attaining counties lower ozone pollution using a 2025 baseline. Those five units could, the agency said, comply by installing new selective catalytic reduction, or SCR, equipment or by more fully utilizing already-installed SCR systems. While the EPA detailed the numbers revealed through modeling, it did not provide a list of the specific plants that will need to make changes. The baseline excludes California because that state has its own unique challenges impacting its ozone attainment and therefore was modeled separately.

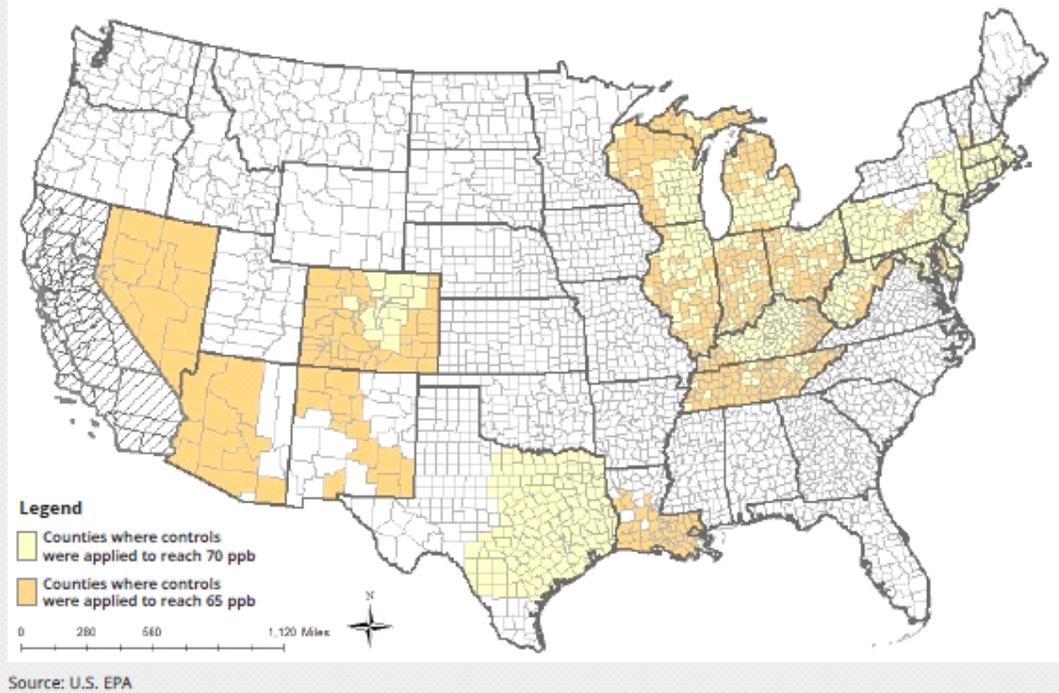
Coal-fired power plants are among the many types of sources that contribute to ozone pollution because nitrogen oxide is released as part of the coal combustion process. In response to other EPA regulations, most coal-fired power plants around the country have already installed SCR, selective non-catalytic reduction (SNCR) or other technologies that "scrub" NOx from their emissions. With that equipment, a significant amount of the pollutant can be removed from the air before it has a chance to react with volatile organic compounds, or VOCs, to form ozone, which is commonly referred to as smog.

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards for carbon monoxide, nitrogen oxides, sulfur dioxide, lead, particulates and ground-level ozone. The agency must review the acceptable level of each pollutant every five years and set new standards if necessary, but the ozone standard had not been updated since 2008.

In settling at a standard of 70 ppb, the EPA ran modeling that singled out plants that either do not have SCR or are not operating that equipment as much as they could be, as well as any plants with SNCR that could upgrade those systems to a more effective technology. The agency considered a 70 ppb standard as well as a more stringent 65 ppb standard. The EPA identified 318 coal-fired power plants nationwide with a total capacity of 122.4 GW that met the criteria, of which 30 do not have SCR installed. Those 30 plants are all within areas that would likely need to make reductions under a more stringent 65 ppb standard, as are an additional seven power plant units that have controls but are not using them all the time.

FTI Consulting's Ken Ditzel, whose clients include utilities and merchant generators, called the 70 ppb standard the "best of two bad outcomes" for the electric power industry, because the emissions reductions required from the industry are relatively small — the power sector is modeled to need to reduce its NOx emissions by 3% from the baseline 2025 value under the final ozone standard of 70 ppb. The EPA revised the NOx emissions reductions needed from a proposed 650,000 tons to 287,000 tons in the final version. The agency also predicts with a 2025 baseline, just 4% of total coal-fired power plant unit capacity nationwide could need to make changes to emissions technology under a 70 ppb standard.

Counties where NOX emissions reductions were applied to simulate attainment with 70 ppb and 65 ppb ozone standards in the 2025 analysis



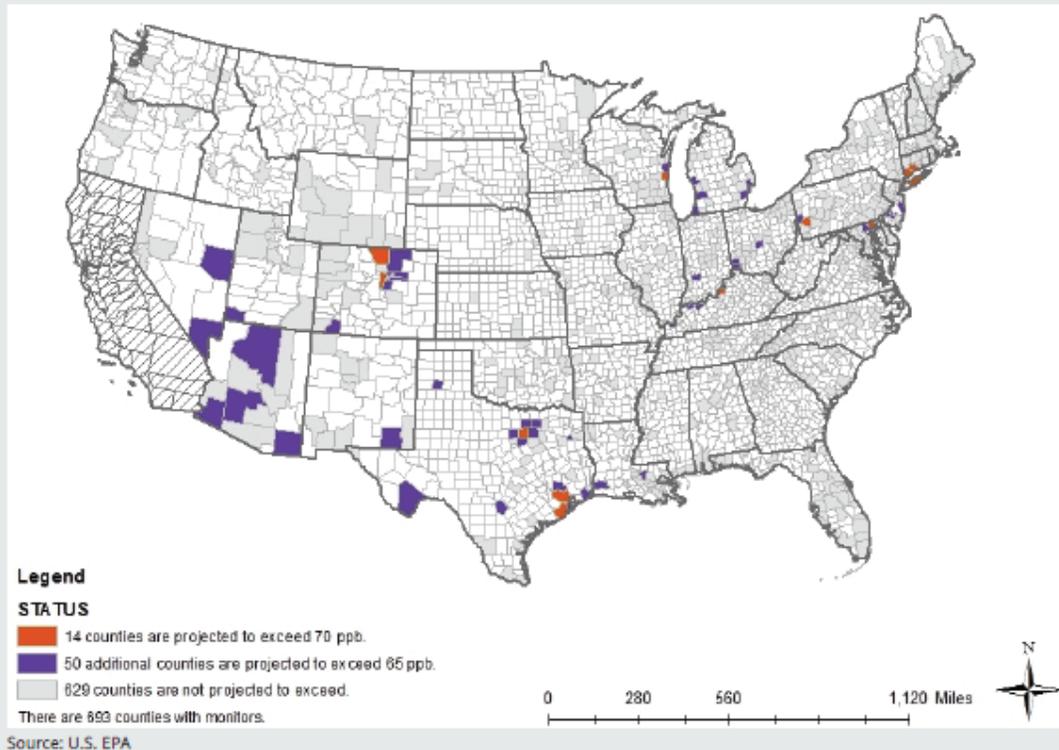
Ditzel said he considers the 70 ppb standard a "win" for the industry because the 65 ppb standard considered and modeled by the EPA would have required "SCRs on everything." Instead, the manufacturing industry and oil and gas operations will most likely bear the brunt of the rule as issued. The National Association of Manufacturers was one of the loudest voices lobbying against tightening the ozone standard leading up to its release. The RIA says 38% of projected emissions reductions would need to come from non-power plant sources such as the manufacturing industry, and 42% would need to come from "non-point sources," which includes the oil and gas sector.

But Ditzel questions the EPA's modeling, and wonders if it was robust enough to provide a full picture. Notably, the modeling showed a decrease of about 50% in the required emissions reductions for Texas and the Northeast between the proposed ozone standard and the final version. The EPA chalked the decline up to more responsive data and more focused emissions reduction strategies in those regions, plus the incorporation of more modeling data.

Even if the ozone standard alone does not impact coal demand in a major way, Ditzel said the newest rule, considered together with the rest of the EPA's full suite of power plant regulations (which includes the Clean Power Plan and the Mercury and Air Toxics Standards), is "going to unravel the industry."

The wide-ranging impact of the ozone standard is still unclear because states are ultimately responsible for building their own compliance plans, according to the EPA. But the RIA reveals some locations that could possibly have to make changes. In releasing the standard, EPA Administrator Gina McCarthy said only 14 counties are likely to be

Counties exceeding 70 ppb ozone standard in 2025 baseline scenario



considered to be in non-attainment when the EPA finalizes attainment designations in 2017. The modeling conducted in the RIA, however, uses a buffer around each of those counties in which opportunities to reduce emissions were examined. The non-attainment possibilities include counties in the Colorado, Great Lakes, Northeast, Ohio River Valley and East Texas regions, considering the 2025 baseline.

But because ozone pollution does not necessarily stay within the borders of the county in which it originates, up to 663 counties are within the buffer zones used by the agency to explore potential emissions reductions opportunities.

The EPA said in a statement that the buffer zones are drawn around counties in which emissions monitors have detected exceedances of the 70 ppb standard. The buffer zones assist the agency in identifying potential NOx emissions reductions opportunities in areas outside of the violating counties that could reduce ozone pollution elsewhere.

"The regulatory impact analysis provides example control strategies that states might choose to implement to meet a new ozone standard. States ultimately choose how to get any additional pollution reductions they may need to meet an air quality standard," EPA spokeswoman Enesta Jones said.

States will need to develop a state implementation plan, which could include changes to power plant operations or equipment among other compliance options, once attainment has been designated. Ditzel said that step is key because some states could take a "harsher angle on coal plants," instead of pushing the burden onto the transportation or other industries. If NOx and VOC reductions predicted under the 2025 baseline do not pan out, Ditzel is concerned that the reductions will have "to come out of someone else's hide."

Ditzel expects the Clean Power Plan, which regulates the emission of carbon from existing power plants, to "override" some other emissions rules, like ozone, by driving coal retirements resulting in NOx emissions by proxy.