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News Alert

EPA Proposes New Rules Strictly Limiting Greenhouse Gas Emissions from the Nation's Fossil Fuel Power Plants

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Update: *The comment period for this rulemaking has been extended, and the new deadline to submit comments is August 8, 2023. Beveridge & Diamond anticipates that a substantial number of comments will be submitted during this time.*

On May 23, 2023, after months of anticipation, the U.S. Environmental Protection Agency (EPA) published its proposal for sweeping greenhouse gas (GHG) emissions standards (GHG Rules) in the Federal Register that will, if adopted, strictly limit GHG emissions from the nation's electricity generation fleet over the next two decades. The GHG Rules include GHG limits on new, modified, and reconstructed, as well as existing plants. The proposed rules, if finalized, would impose stringent new source performance standards (NSPS) on power plants fueled by natural gas, and impose strict limits on GHG emissions from existing fossil-fired generators.

Specifically, EPA proposes to take five regulatory actions using its authority under Section 111 of the Clean Air Act, 42 USC § 7411:

1. Update the NSPS for fossil fuel-fired stationary combustion turbines;
2. Update the NSPS for GHG emissions from fossil fuel-fired steam generating units that undertake a large modification;
3. Create emissions guidelines for fossil fuel-fired steam-generating EGUs;
4. Create emission guidelines for GHG emissions from certain stationary combustion turbines; and
5. Repeal the Affordable Clean Energy (ACE) rule.

When regulating a source category under Section 111, the statute requires EPA to determine performance standards and emission limits by applying the "best system of emissions reduction (BSER) that has been "adequately demonstrated." This evaluation includes an assessment of relevant costs as well as health and environmental impacts of implementing the control technology. Once EPA makes the BSER determination with respect to new plants, it must also address emissions from existing sources by establishing emissions guidelines that serve as the baseline for state implementation plans (SIPs), which are the primary vehicle under the Clean Air Act for addressing emissions from existing sources.

Rejecting its prior conclusions in both the Obama Administration's Clean Power Plan, adopted in 2015, and the Affordable Clean Energy Rule (ACE Rule), adopted by the Trump-era EPA in 2019, the new GHG Rules rely heavily on the conclusion that Carbon Capture and Storage (CCS) technology has now advanced to

the point that it has been "adequately demonstrated." In addition, EPA concludes that generators fired with natural gas can co-fire with hydrogen produced through low-GHG processes. Hence, the proposed rules would require coal generators that remain in service after 2040 to install CCS. For new gas-fired generators, baseload units would be required to install either CCS or replace natural gas with "green" hydrogen, with specific thresholds for hydrogen fueling phased in over time.

Key Takeaways

The proposed rules include several discrete proposals, each of which is intended as a stand-alone action. These include:

- **New Source Performance Standards:** New and reconstructed gas-fired generators would be required to meet phased standards as follows:
  - For low-load "peaking" units, with a capacity factor of less than 20%, EPA proposes a BSER consisting of the use of fuels with low carbon intensity and high-efficiency generation, which results in specific limits on carbon emissions based on pounds of GHG emissions per megawatt-hour of electricity produced.
  - For "intermediate-load" units, with a capacity factor above 20% but below the capacity factor determined for baseload units, the BSER would be a combination of highly efficient generation plus the use of either CCS or co-firing with low-GHG hydrogen.
  - For baseload units, BSER would be comprised of highly-efficient generation combined with either CCS or hydrogen co-firing. If the baseload generator chooses the CCS path, it would be required to install CCS capturing 90% of GHG emissions by 2035. If it chooses the co-firing option, it must co-fire with 30% hydrogen by 2032, ramping up to 96 percent hydrogen by 2038.
  - The capacity factor limit for baseload units would be between 33% and 40% for simple-cycle units and between 45% and 55% for combined-cycle units, depending on the design efficiency of specific units.
  - For coal-fired units, EPA proposes retaining the NSPS it originally adopted for such units in the 2015 Clean Power Plan since EPA is not aware of any plans to construct new or reconstructed coal-fired generators.
- **GHG Limits on Existing Coal-Fired Generation:** For existing coal-fired generators, EPA proposes three different subcategories based on the anticipated date a particular unit will be retired.
  - For peaking units, with a capacity factor of 20% or less, the performance standard would be limited to the use of low-emitting fuels with an emissions rate of 160 pounds of CO2 per MMBtu or less.
  - For intermediate units, with a capacity factor above 20% but below the capacity factor for baseload units, EPA would require a combination of highly-efficient generation plus a requirement that the units be co-fired by low-GHG hydrogen, with at least 30% of their fuel supplied by hydrogen by 2032.
  - For baseload gas-fired generators, EPA proposes that they incorporate highly-efficient generation technology combined with either CCS, which must capture 90% of the unit's GHG emissions by 2035, or co-firing with low-GHG hydrogen, with 30% co-firing by 2032 and 96% co-firing by 2038.

- These standards of performance would be implemented by the states. EPA specifically concludes that states may use cap-and-trade systems or other alternative approaches so long as the state demonstrates that its implementation plan would achieve GHG emissions reductions that are at least equivalent to those that would be achieved by the specific measures set forth above for existing generation units.

- **Repeal of the ACE Rule**: EPA proposes to repeal the ACE Rule, including several critical findings contained in the ACE Rule. For example, EPA now concludes that advances in CCS technology make it "adequately demonstrated," so that the opposite conclusion in the ACE Rule is no longer valid. EPA also reverses the ACE Rule's legal conclusion that cap-and-trade systems are impermissible for state implementation plans.

- **Comments:** Comments on the GHG Rules will be due on August 8, 2023. In the proposed rules, EPA has specifically solicited comments on dozens of specific questions, so interested parties have an opportunity to impact the course of this rulemaking proceeding through the comment process.

Background and Analysis

The GHG Rules are the latest salvo in a decades-long political and legal tug-of-war over whether and how EPA should respond to climate change. The legal underpinnings of the GHG Rules can be traced back at least as far as the U.S. Supreme Court's decision in *Massachusetts v. EPA*, 549 U.S. 497 (2007), which held that GHGs are "pollutants" under the Clean Air Act and that EPA is required to make a finding whether GHGs endanger the public health and, if so, to regulate GHGs. EPA in 2009 concluded that GHGs endanger public health. Since then, EPA has struggled to find an effective approach to GHG regulation that accords with the policy goals of particular presidential administrations, fits within Clean Air Act's statutory authorities, and survives the inevitable litigation.

Most recently, in *West Virginia v. EPA*, the Supreme Court struck down the EPA's conclusion in the Clean Power Plan that an "outside the fence" approach, including a cap-and-trade system, that would result in a shift of electricity production from coal-fired plants to other sources with lower GHG emissions exceeded EPA's power under Section 111(d) to establish the "best system of emissions reductions" that has been "adequately demonstrated." In the Court's view, shifting generation from coal to other sources was a "major question" of great economic significance requiring a clear statutory authorization from Congress. In the Court's view, the language of Section 111(d) did not support EPA's conclusion that it could use a cap-and-trade or other system extending beyond the confines of a particular generator to address GHG pollutants.

The GHG Rules reflect the Biden Administration's aggressive goals for addressing climate change, which include a carbon-neutral electricity sector by 2035. To accommodate those goals while also responding to the Supreme Court's mandate in *West Virginia,* the GHG Rules rely on two key factual conclusions, that both CCS and low-GHG hydrogen have advanced to the point that they have been "adequately demonstrated." EPA cites several examples of CCS systems it views as successful, but the track record of CCS technology is, at best, mixed. Similarly, while hydrogen is widely produced, hydrogen marketed today generally is not produced by low-GHG processes. On the other hand, these technologies at least arguably fit within the Clean Air Act's strictures as interpreted by the Supreme Court since they are "inside the fence line" measures that are similar to scrubbers and other technological pollution controls that have historically been the mainstay of EPA's approach to pollution control for the power sector.

EPA's reliance on CCS and low-GHG hydrogen to justify the GHG Rules also reflect the Biden Administration's larger economic and climate agenda. EPA's conclusion that both technologies are economically feasible depends heavily on the enactment of the Inflation Reduction Act and Infrastructure

Investment and Jobs Act, both of which provide tax credits and substantial federal financial support for both CCS and low-GHG hydrogen production. Without this legislation, EPA's case for the economic viability of these technologies would be much weaker. Further, as a practical matter, the large investments needed to build out the infrastructure necessary to make these technologies available on a wide enough scale to meet EPA's goals likely could not occur without major economic support from the federal government.

Finally, it is worth noting that, in concluding that states may rely on a cap-and-trade system when proposing their state implementation plans, EPA rejected the contrary conclusion contained in the ACE Rule. In addition, the conclusion is at least in some tension with the Supreme Court's decision in *West Virginia,* which found that a cap-and-trade approach was not authorized as part of Congress's direction in Section 111(d) to identify the "best system of emissions reductions." Hence, EPA is not only contradicting its own prior conclusion but is arguably attempting to do indirectly what the Supreme Court concluded it could not do directly.

Conclusion

The GHG Rules are EPA's latest and easily most ambitious regulatory initiative aimed at reducing GHG emissions from the nation's electric power industry. Once adopted in final form, the rules are certain to produce wide-ranging litigation. Interested parties should carefully review the rules and provide comments to EPA, which will both help fine-tune the proposal so that it is more workable and lay the groundwork for litigation.

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