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Time to Modernize Aging Power Plants and Environmental Laws

Under the U.S. Clean Air Act—passed in 1970 and amended in 1977 and 1990 with overwhelming bipartisan support—electric power companies have developed and deployed innovative pollution control technologies to reduce emissions that contribute to a variety of health and environmental concerns. Throughout its implementation, the Clean Air Act has revealed important lessons about what works and what doesn't. As the power sector transitions to a more modern generation fleet, it's time to build on these lessons and refine the act to reflect evolving environmental, technological, and economic considerations.



Clean Air Act: A Highly Successful and Imperfect Legacy

While the legislative and regulatory history of the Clean Air Act has been hard fought and highly controversial, there is strong evidence that the act has delivered significant health and economic benefits.¹ The electric power sector, in particular, has made important progress reducing its emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x) by nearly 70% over the past 20 years, largely through market-based programs.²

Despite these successes, we at the Bipartisan Policy Center believe the recent debate over upcoming U.S. Environmental Protection Agency (EPA) regulations illustrates the need for changes, although not necessarily for the reasons that some EPA critics have suggested. The bevy of new regulations facing industry today is largely a result of delays and litigation on rulemakings dictated years ago under the act. Across Democratic and Republican Administrations, EPA has repeatedly failed to fulfill clear statutory deadlines (e.g., control of mercury emissions is more than a decade overdue) and our progress in attaining ambient health standards has been far slower than Congress envisioned.³ Depending upon one's frame of reference, EPA's history of implementation has either been too aggressive—too lethargic—or both.

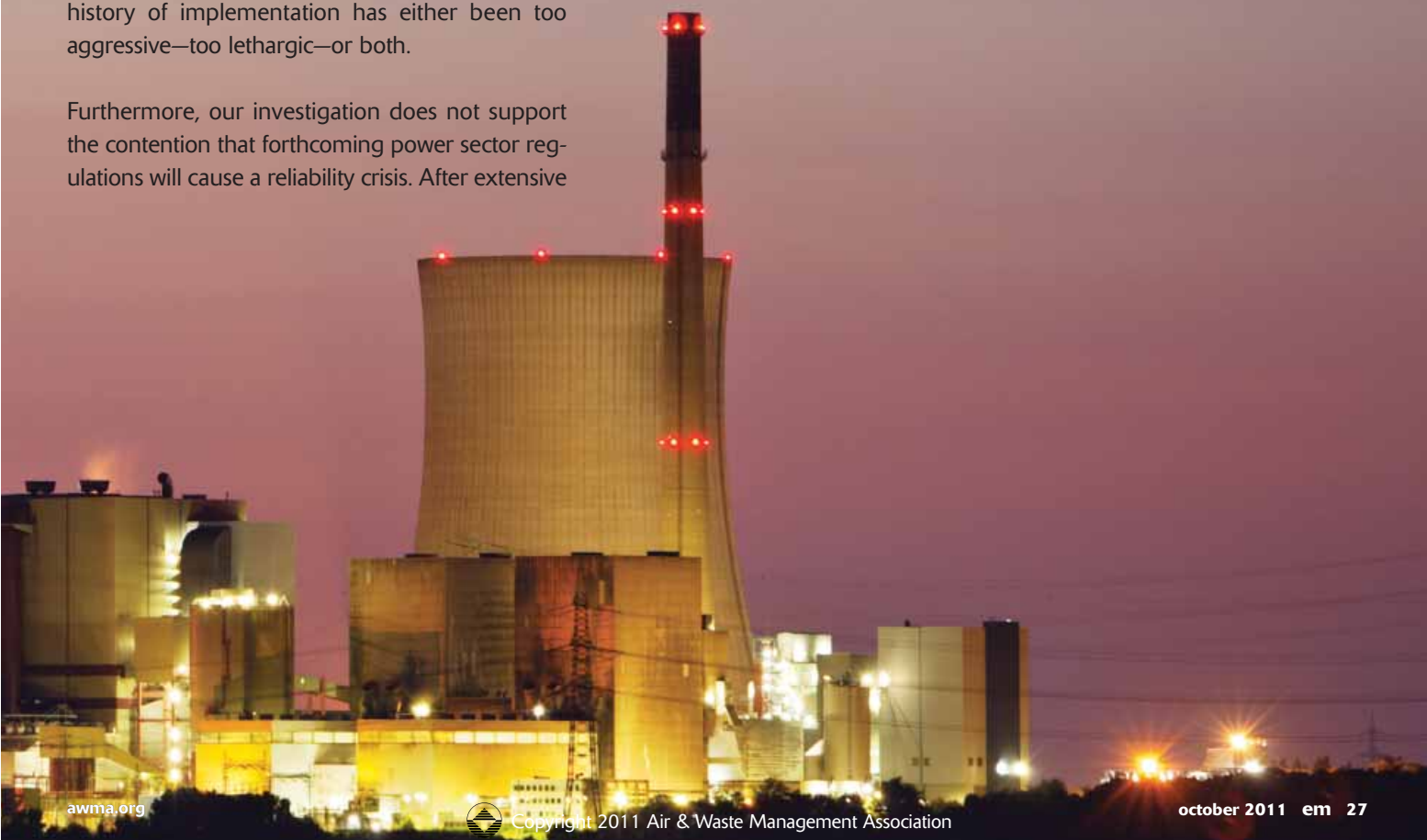
Furthermore, our investigation does not support the contention that forthcoming power sector regulations will cause a reliability crisis. After extensive

analysis and a series of Bipartisan Policy Center workshops on Environmental Regulation and Electric System Reliability,⁴ we found that, while challenging for some companies, there are tools and mechanisms available to manage the new regulations without widespread national impacts on the reliability of the electric system.

Nevertheless, the compliance costs will be substantial. EPA projects the Utility Air Toxics rule alone will cost \$10.9 billion annually.⁵ A coalition of America's major medical and public health groups recently found that EPA has understated the benefits of the mercury and air toxics rule.⁶ We don't question the need to further reduce power plant emissions, but see lower cost opportunities to achieve those benefits through a revision of the Clean Air Act.

The next round of regulations exposes several short-comings of the Clean Air Act that would benefit from a revamping of the law. These include:

- **Piecemeal Regulations:** The act has a myriad of provisions to address various environmental problems and pollutants on different timeframes. The overlap of these provisions creates complex





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interactions—between pollution control technologies, fuel choices, compliance strategies, and incentives—that may not lead to optimal outcomes. For example, approaches on urban pollution and visibility necessitate case-by-case reviews, as well as regional programs to address pollution transported across state borders. National programs for acid rain and toxics affect many of the same pollutants and sources. While the phased-in, prioritized approach was a useful way to proceed in 1990, it now creates redundancy, as the rest of the fleet is brought up to modern standards.

- **Questions about State vs. Federal Roles:** The convergence of new regulations with a new fiscal reality calls for a fresh look at the division of labor between state and federal authorities. The layered approach and reliance on resource-intensive case-by-case reviews offers opportunities for streamlining.
- **Lack of Flexibility:** With a few exceptions, such as the Acid Rain and NO_x Budget trading programs, most Clean Air Act authorities offer limited spatial or temporal flexibility to address conditions at individual plants. In some cases, EPA has attempted to layer on flexibility through averaging provisions and limited credit trading, but often these provisions have been subject to administrative restrictions or legal challenges. Recent lawsuits over the Clean Air Interstate Rule (CAIR) show that flexibilities proven successful in the landmark SO₂ trading program may be trumped by the more conventional provisions of the Clean Air Act. More recently, EPA allowed limited facility-level averaging in the utility air toxics proposal, but broader averaging (e.g., at the company level) is not authorized by the relevant section of the statute.
- **Perverse Incentives:** The act was designed originally to grandfather aging power plants and industrial facilities, with the caveat that major life-extending investments would trigger pollution controls. However, in some cases, the act's New Source Review provisions have had unintended consequences—creating a perverse incentive for inefficient, aging facilities to linger on past their expected useful lives and avoid the pollution controls employed at modern facilities. Although evolving market conditions and environmental regulations may lead some of these facilities to retire, a smoother and less disruptive pattern of retirements might have been achieved if the regulatory incentives had been set differently.⁵
- **Cumulative Health Impacts:** Despite much recent focus on the stringency of Clean Air Act requirements, many areas of the country continue to experience harmful air quality due to a concentration of local sources. These “hot spots” occur despite the fact that all sources are complying with their legal emission limits. In addition to public health impacts, complex equity issues arise due to the correlation between disproportionate risks, low-income communities, and communities of color. The current statute is ill-equipped to address these concerns.
- **Continued Uncertainty about Greenhouse Gas Control:** EPA is poised to propose national greenhouse gas performance standards for power plants to supplement existing greenhouse gas requirements for pre-construction permitting. Greenhouse gas authority under the Clean Air Act continues to provoke heated debate about the economic implications of regulatory action and potential Congressional preemption. While climate change played a relatively minor role in the 1990 Clean Air Act debate, history reveals the difficulty of changing the act without significant bipartisan support. Thus, companies may be faced with these regulations for years to come, bolstering the need to confront the various structural and institutional flaws discussed above. Moreover, major power plant investments require long-term planning horizons and many investors have been unwilling to overlook the possibility of more significant carbon constraints arising during their payback period. This unresolved issue continues to impact investment decisions and increase the potential for poor choices and, ultimately, higher costs.
- **Litigation Threat:** Finally, an unspoken subtext to the recent debate over the air toxics rule is the inevitable litigation that will result. The seemingly endless cycle of proposals, litigation, remands, and re-proposals that has been a hallmark of many of the act's provisions is in nobody's best interest. It postpones air quality benefits, creates investment uncertainty and delays, often drives up costs and punishes companies that make good faith efforts to comply.



Conclusion

The Clean Air Act is a muscular statute. While most embrace the basic purpose of the law, its implementation will always create controversy. In today's highly-polarized political environment, opponents and advocates of the law have been painted into a somewhat caricatured stalemate. On one hand, Clean Air Act critics are reluctant to acknowledge the law's tremendous achievements and at times appear to support outright repeal of key provisions that have cost-effectively improved air quality and public health. On the other hand, proponents of the act would have us believe that this decades old statute is sacrosanct, opposing even a public conversation of how it can be improved. Neither position is tenable. We believe that it is time to begin a deliberate, rigorous, and constructive discussion about how to reform the Clean Air Act.

Although a full discussion is beyond the scope of this article, a few general approaches to reauthorization are worth mentioning.

One option would be a modest set of technical fixes to alleviate some of the rigid requirements that EPA must accommodate in crafting regulations. For example, such a bill could include provisions to exempt existing sources from triggering New Source Review for pollution control retrofits and could provide explicit interstate trading authority for programs that address pollution transport across state lines.

A second would aim for a multipollutant approach to power sector regulation that unleashes the lowest cost path to achieving multiple emissions goals. Well-crafted multipollutant legislation could head off legal challenges, provide greater certainty about environmental outcomes, include incentives to make reductions sooner, and harmonize requirements for various clean air goals.

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An even more ambitious approach would take a holistic view of clean air goals, looking beyond the power sector. Building off of a detailed assessment of lessons learned, such an approach would aim to streamline redundant programs across the board and adapt the law to incorporate up-to-date technological and scientific data.

We recognize the political difficulties of a legislative overhaul of the Clean Air Act. Nevertheless, it is time to start the discussions and explore whether there are achievable solutions that guarantee greater public health benefits at lower cost. **em**

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