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## The Dirty Climate Debate

### INTRODUCTION

Climate change has become the hottest environmental debate in decades. It could also go down as the dirtiest—and not just politically. As legislators, regulators, pundits, and stakeholders debate the question of whether or not to regulate greenhouse gas emissions, the regulatory uncertainty that they have created is leading to dirtier air quality in this country, which in turn is harming our health. According to calculations based on Bush-era EPA data, the climate debate is likely already responsible for hundreds (if not thousands) of premature deaths and billions of dollars in additional health care costs—all of which are unrelated to rising temperatures.

The regulatory uncertainty surrounding the climate debate, coupled with a recent downturn in emissions markets, is slowing the installation of pollution controls on coal-fired power plants, which are some of the largest emitters in this country. This is leading to dirtier air in our cities and towns and particularly in some of this nation's most protected areas like the Great Smoky Mountains, Shenandoah, and Everglades National Parks—just to name a few. Ironically, the uncertainty has also led electric utilities and environmental groups to flip positions on pollution controls. Prominent environmental groups like the Sierra Club are now *opposing* efforts by utilities to install environmental controls on their power plants, the same controls that these groups have fought voraciously to attain for over thirty years and that many utilities have avoided. These environmentalists are choosing to sacrifice known short-term health and environmental benefits for their long-term climate policy goals. It is hard to believe, but it is true. Congress must quickly put a stop to this nonsense.

For the benefit of their customers, electric utilities have to plan for the future, and the state commissions that regulate them have to make decisions based on those plans. A confluence of recent events has left everyone, including

environmental groups that serve as watchdogs over those decisions, in a difficult spot. Expected changes to two Bush-era EPA rules, driven by the D.C. Circuit's recent decision in *North Carolina v. EPA*,<sup>1</sup> have increased the pressure on electric utilities to install pollution control technology on their coal-fired power plants even though they are not yet required to do so. There is no dispute that installing these pollution controls will improve visibility in national parks and have significant health and environmental benefits. But coal-fired power plants are huge emitters of greenhouse gases, and these controls do not curb those emissions. The pollution controls are also tremendously expensive to install, and as such, it is only prudent to install them on the coal-fired power plants that will operate for a period of time long enough to justify their installation. But how do utilities determine whether pollution controls are justified for a particular plant?

About half of the electricity generated in this country comes from burning coal, and stringent climate change regulation, if adopted, will reduce the economic life-spans of existing coal-fired power plants. Without knowing the specifics of climate change regulation and how it will affect their plants' economic lives, it is difficult, if not impossible, for utilities and state commissions to decide whether and when these pollution controls should be installed. Some utilities are waiting until the climate debate ends to propose controls, while others are pushing ahead and running into opposition from environmental groups that are worried that these expensive capital projects will be used to justify extending the lives of these plants and thereby allow them to emit greenhouse gases for longer. In either event, the regulatory uncertainty is slowing the installation of pollution controls on coal-fired power plants in this country—thereby causing harm to our environment and our health.

This Essay brings to light the ongoing environmental harm caused by the climate debate and calls Congress to action. It will begin with a very brief discussion of the environmental controls and the benefits of those controls; it will then examine why the *North Carolina* decision, and its impact on the Clean Air Interstate and Clear Air Visibility Rules, have increased the pressure on utilities to install these controls. The Essay will then scrutinize the climate debate's role in hindering the installation of environmental controls and discuss why the Sierra Club and other environmental groups have started challenging utilities that want to install these pollution controls. It will conclude with proposed solutions.

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1. *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir.), *modified*, 550 F.3d 1176 (D.C. Cir. 2008).

## I. THE CONTROLS

For those unfamiliar with environmental controls, it might come as a surprise that there are no add-on control technologies that are able to remove greenhouse gases from a power plant's emissions. Generally speaking, the only way to lower a coal-fired power plant's greenhouse gas emissions is to make the plant more efficient, change the type of fuel it burns (for example, from coal to natural gas), capture the plant's greenhouse gases and sequester them underground, or retire it.<sup>2</sup>

There are, however, add-on pollution control technologies able to abate the particulate matter, sulfur dioxide (SO<sub>2</sub>), and emissions of nitrogen oxides (NO<sub>x</sub>) continuously spewing from these plants. These pollutants all have pernicious health effects that cost this country billions of dollars and result in tens of thousands of deaths each year.<sup>3</sup> Conversely, greenhouse gas emissions have no direct adverse health effects. The potential indirect effects associated with global temperature increases are the primary concern.

Nearly all power plants in the United States already have particulate matter controls, so the primary pollutants of concern are NO<sub>x</sub> and SO<sub>2</sub>. A scrubber can be retrofitted onto a coal-fired power plant to abate SO<sub>2</sub> emissions (often by more than ninety percent) and selective catalytic reduction (SCR) mechanisms can be added to control NO<sub>x</sub>. It can cost hundreds of millions of dollars to retrofit just one coal-fired power plant with scrubbers and SCRs. Installing these control technologies often reduces the efficiency of the plant, thereby potentially increasing the total greenhouse gases emitted into the atmosphere.

## II. THE PRESSURE IS MOUNTING TO INSTALL SO<sub>2</sub> AND NO<sub>x</sub> CONTROLS

In the late 2008 case of *North Carolina v. EPA*, the Court of Appeals for the D.C. Circuit remanded to the EPA a regulation under the Clean Air Act, known

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2. MASS. INST. OF TECH., *THE FUTURE OF COAL: OPTIONS FOR A CARBON-CONSTRAINED WORLD* 5, 17-42 (2007), available at [http://web.mit.edu/coal/The\\_Future\\_of\\_Coal.pdf](http://web.mit.edu/coal/The_Future_of_Coal.pdf).
  3. See, e.g., *EPA's Clean Air Interstate Rule (CAIR): Recent Court Decision and Its Implications Before the Subcomm. on Clean Air and Nuclear Safety of the S. Comm. on Env't and Public Works*, 110th Cong. (2008) (statement of Brian McLean, Dir., Office of Atmospheric Programs, EPA) ("By the year 2015, [the requirement to lower SO<sub>2</sub> and NO<sub>x</sub> emissions pursuant to] CAIR would also deliver \$85-\$100 billion in annual health benefits, preventing 17,000 premature deaths annually, millions of lost work and school days, and tens of thousands of non-fatal heart attacks and hospital admissions . . .").

as the Clean Air Interstate Rule (CAIR).<sup>4</sup> This decision—and particularly its potential effect on both CAIR and another EPA rule governing visibility in national parks—has increased the likelihood that NO<sub>x</sub> and SO<sub>2</sub> controls will be required at numerous coal-plants around the country in the near future and thereby increased the pressure on utilities to install controls. The decision also, however, shattered the SO<sub>2</sub> and NO<sub>x</sub> emission allowance markets causing prices to plummet and making it cheaper in the short-term to buy allowances than to install controls.<sup>5</sup> In other words, until Congress or the EPA acts in response to this decision, there is currently no regulatory obligation for most utilities to install these controls—but there will be soon.

### A. *The Clean Air Interstate Rule*

CAIR is an SO<sub>2</sub> and NO<sub>x</sub> allowance trading program that the Bush-era EPA adopted on May 12, 2005.<sup>6</sup> The program requires significant reductions in SO<sub>2</sub> and NO<sub>x</sub> emissions from large coal-fired power plants in twenty-eight Eastern

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4. *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir.) (vacating CAIR), *modified*, 550 F.3d 1176 (D.C. Cir. 2008) (switching course and remanding to EPA without vacating CAIR to allow EPA to remedy the flaws in the program).
  5. See *CAIR Litigation Effects on the SO<sub>2</sub> Trading Market*, ICAP ENERGY-ENVIRONMENTAL MARKETS BRIEF, March 2009, at 2-3, available at [http://www.icapenergy.com/us/Emissions/usercontent/EMB\\_Vol1\\_Issue2.pdf](http://www.icapenergy.com/us/Emissions/usercontent/EMB_Vol1_Issue2.pdf) (“Today SO<sub>2</sub> allowances are trading at almost record low prices of approximately \$65. These prices are well below the engineering cost estimates to install SO<sub>2</sub> controls (scrubbers) which many estimate to be in the \$750.00 to \$900.00 per ton SO<sub>2</sub> removal cost. Even the variable \$/ton cost of operating scrubbers is estimated to be in the \$140.00 to \$190.00 per ton range (depending up[on] the type[of] coal utilized) and hence the current SO<sub>2</sub> price is well below the variable scrubbing cost.”); DALLAS BURTRAW & SARAH JO SZABELAN, *U.S. EMISSION TRADING MARKETS FOR SO<sub>2</sub> AND NO<sub>x</sub>* 28-29 (2009), available at <http://www.rff.org/RFF/Documents/RFF-DP-09-40.pdf> (“When the Court of Appeals for the District of Columbia vacated CAIR on July 11, 2008, the SO<sub>2</sub> emissions allowance price fell from \$315 to \$115 in one day. The response in NO<sub>x</sub> markets was similar; prices for annual NO<sub>x</sub> allowances fell from nearly \$5,000 to just above \$1,000 per ton in a short time.”) (internal citation omitted).

SO<sub>2</sub> and NO<sub>x</sub> allowance prices are even lower today. See EVOLUTION MARKETS, NOX MARKETS—JANUARY-FEBRUARY 2009: MONTHLY MARKET UPDATE 1 (2010), available at [http://w.evomarkets.com/scripts/getmmu.php?uid=web&mmu\\_id=508](http://w.evomarkets.com/scripts/getmmu.php?uid=web&mmu_id=508); 2010 EPA SO<sub>2</sub> Allowance Auction Results, EVOLUTION MARKETS (Mar. 23, 2010), <http://new.evomarkets.com/desks/emissions/post/187/> (stating that 2010 allowances cleared at \$36.20 and seven year advanced allowances at \$1.69).

6. Rule To Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO<sub>x</sub> SIP Call, 70 Fed. Reg. 25,162 (May 12, 2005).

states.<sup>7</sup> CAIR sets a cap on the total amount of SO<sub>2</sub> and NO<sub>x</sub> that can be emitted from all major power plants in these states and allows those plants to trade emission allowances to comply.<sup>8</sup> This system incents the installation of pollution control retrofits at the plants where the controls make the most economic sense. The cleaned-up facilities then sell their extra allowances to the plants where pollution controls are less economical or bank them for use in future years. This system does not mandate controls for any particular plant, and so long as it is less costly to buy allowances on the market than to install pollution controls, there is no incentive to install controls.

The EPA relied on a provision in section 110 of the Clean Air Act as its authority to adopt the interstate allowance trading program in CAIR. Section 110 provides that state regulations implementing the EPA's program must contain provisions "prohibiting . . . any source . . . within the State from emitting any air pollutant in an amount which will . . . *contribute significantly to nonattainment in, or interfere with maintenance by, any other State.*"<sup>9</sup> In its original *North Carolina* decision overturning CAIR, the D.C. Circuit held that the EPA did not design the rule to specifically address the amount of emissions that each state was contributing to other states' nonattainment problems, as required under section 110, because the CAIR program was designed as a regional trading program.<sup>10</sup> In other words, the court's CAIR decision raises serious questions as to whether the EPA has the authority to maintain the CAIR interstate allowance trading program at all, which is why allowance prices nose-dived after the decision and have not recovered since. Unless Congress enacts a legislative remedy, the EPA's new CAIR replacement rule will have to de-emphasize interstate allowance trading and will likely require plant-specific controls, state- or region-wide emission reduction requirements, or some form of hybrid approach.<sup>11</sup> Either way the EPA's CAIR replacement rule will likely increase the pressure on utilities to install controls, though until it is adopted utilities can simply use their banked allowances or purchase cheap allowances from the market to comply.

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7. *Id.* at 25,165.

8. *Id.*

9. 42 U.S.C. § 7410(a)(2)(D)(i)(I) (2006) (emphasis added).

10. *North Carolina v. EPA*, 531 F.3d 896, 906-08 (D.C. Cir. 2008).

11. For a more detailed discussion of the *North Carolina* decision and its potential ramifications, see Elizabeth Kruse, *North Carolina v. Environmental Protection Agency*, 33 HARV. ENVTL. L. REV. 283, 290-93 (2009).

### B. The Visibility Rule

The *North Carolina* decision also impacted another recently issued Bush-era EPA rule, known as the Clean Air Visibility Rule. Most national parks and wilderness areas in this country are plagued by poor visibility resulting from manmade air pollution.<sup>12</sup> The country's Eastern parks and wilderness areas are the haziest. The average visual range in these areas is less than nineteen miles, which is approximately one-fifth the visual range that would exist under estimated natural conditions.<sup>13</sup> A variety of manmade air pollutants impair visibility, but the primary culprit is fine particulate matter and the compounds that contribute to its formation, such as NO<sub>x</sub> and SO<sub>2</sub>.<sup>14</sup> These pollutants often travel hundreds of miles from their source before they end up impeding visibility in our national parks and at monuments.<sup>15</sup>

In 1977, Congress passed amendments to the Clean Air Act aimed at clearing the air in national parks.<sup>16</sup> These provisions declare "as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility [in these areas that] results from manmade air pollution."<sup>17</sup> In 1980, the EPA promulgated the first set of visibility regulations, which covered only a small group of sources.<sup>18</sup> The EPA decided to defer action on far-reaching

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12. See, e.g., Regional Haze Regulations, 64 Fed. Reg. 35,714, 35,715 (July 1, 1999) ("Data from the existing visibility monitoring network show that visibility impairment caused by air pollution occurs virtually all the time at most national park and wilderness area monitoring stations.").
  13. *Id.* The natural visual range should be approximately 140 miles in the West and 90 miles in the East. See ENVTL. PROT. AGENCY, FACT SHEET: FINAL REGIONAL HAZE REGULATIONS FOR PROTECTION OF VISIBILITY IN NATIONAL PARKS AND WILDERNESS AREAS 3, available at <http://www.epa.gov/visibility/pdfs/facts.pdf>.
  14. See ENVTL. PROTECTION AGENCY, FACT SHEET: FINAL AMENDMENTS TO THE REGIONAL HAZE RULE AND GUIDELINES FOR BEST AVAILABLE RETROFIT TECHNOLOGY (BART) DETERMINATIONS, available at [http://epa.gov/visibility/pdfs/fs\\_2005\\_6\\_15.pdf](http://epa.gov/visibility/pdfs/fs_2005_6_15.pdf). NO<sub>x</sub> and SO<sub>2</sub> also have significant health effects as they lead to the formation of ground-level ozone, which is the smog that blankets some U.S. cities. Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO<sub>x</sub> SIP Call, 70 Fed. Reg. 25,162, 25,306 (May 12, 2005).
  15. Regional Haze Regulations, 64 Fed. Reg. at 35,714.
  16. Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 128, 91 Stat. 685, 742-45 (codified as amended at 42 U.S.C. § 7491 (2006)). These protected areas are known as "mandatory class I federal areas" and include international parks, national wilderness areas and national memorial parks that exceed five thousand acres, and national parks that exceed six thousand acres. 42 U.S.C. § 7472(a) (2006).
  17. 42 U.S.C. § 7491(a) (2006).
  18. Visibility Protection for Federal Class I Areas, 45 Fed. Reg. 80,084 (Dec. 2, 1980).

regulations “until monitoring, modeling, and scientific knowledge about the relationship between the pollutants and their visibility effects improved.”<sup>19</sup>

After congressional amendments to the Clean Air Act in 1990, miscellaneous EPA rulemakings and studies, and a few federal court decisions, the EPA finally adopted a more far-reaching regulatory program in 2005.<sup>20</sup> These regulations, known collectively as the Clean Air Visibility Rule, provide that any “major stationary source” built between August 7, 1962 and August 7, 1977 that emits any air pollutant that may “reasonably be anticipated to cause or contribute to any impairment of visibility” in one or more of 156 protected areas must install the “best available retrofit technology” (BART) by 2013.<sup>21</sup>

The law targets the largest emitting facilities built between 1962 and 1977 because plants built before 1977 were grandfathered out of many Clean Air Act requirements and are therefore mostly uncontrolled.<sup>22</sup> A wide variety of major sources are subject to the rules, including coal-fired power plants, Portland Cement plants, iron and steel mills, and chemical processing plants.<sup>23</sup>

### *C. The Coal-Fired Power Plant Exemption: “The CAIR Equals BART” Rule*

Of the major sources covered by the Visibility Rule, coal-fired power plants have some of the most deleterious impacts on scenic areas. Requiring the best available retrofit technology for a coal-fired power plant often requires expensive controls such as scrubbers.<sup>24</sup> Perhaps for this reason, against the wishes of many environmental groups, the Bush-era EPA allowed states in the Eastern half of the nation to exempt coal-fired power plants from the BART

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19. See Regional Haze Regulations, 64 Fed. Reg. at 35,714.

20. Regional Haze Regulations and Guidelines for Best Available Retrofit Technology (BART) Determinations, 70 Fed. Reg. 39,104 (July 6, 2005). For examples of court decisions examining the Regional Haze Regulations, see *Center for Energy and Economic Development v. EPA*, 398 F.3d 653 (D.C. Cir. 2005); and *American Corn Growers Association v. EPA*, 291 F.3d 1 (D.C. Cir. 2002).

21. Regional Haze Program Requirements, 40 C.F.R. § 51.308 (2009); see also 40 C.F.R. § 51.301 (2009). For a list of all mandatory Class I federal areas, see *List of 156 Mandatory Class I Federal Areas*, ENVTL. PROT. AGENCY, <http://www.epa.gov/visibility/class1.html> (last visited Mar. 9, 2010).

22. 42 U.S.C. § 7491(b)(2)(A) (2006); see also 42 U.S.C. § 7475 (2006) (requiring permitting and control-technology-forcing regulations only on new plants built after August 7, 1977 and significantly modified existing plants).

23. 42 U.S.C. § 7491(g)(7) (2006).

24. 40 C.F.R. pt. 51, app. Y(IV)(E)(4) (2009) (requiring a 0.15 lbs/MMBtu BART SO<sub>2</sub> limit for units greater than 200 MW, which would generally necessitate a scrubber).

requirement as those plants were subject to CAIR.<sup>25</sup> According to the EPA, “CAIR would not result in a degradation of visibility from current conditions at any Class I Area nationwide. Within the CAIR-affected States and New England, . . . the CAIR would produce greater visibility benefits . . . [than] BART.”<sup>26</sup> The EPA’s substitution of CAIR for BART is commonly called the “CAIR equals BART” rule.<sup>27</sup>

Environmental groups (including the Sierra Club) opposed the “CAIR equals BART” rule when it was first proposed because CAIR is a cap-and-trade program and does not mandate the installation of specific controls by source.<sup>28</sup> The problem, according to these groups, is that the plants with the greatest incentive to install controls under CAIR are not necessarily the plants that most impact visibility in national parks.<sup>29</sup>

To date, a number of states have adopted the “CAIR equals BART” rule, thereby exempting the coal-fired power plants within their borders from the BART requirement.<sup>30</sup> But the *North Carolina* decision overturning CAIR has put the BART exemption for Eastern coal-fired power plants into question.<sup>31</sup> Though the exemption is technically still in place today, many in the industry believe it will not survive when President Obama’s EPA issues a CAIR replacement rule or Congress enacts legislation authorizing CAIR or something like it. The pressure is therefore mounting for utilities to install BART visibility controls to ensure future compliance, but again, because emission allowance prices have plummeted and the CAIR equals BART rule is

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25. 40 C.F.R. § 51.308 (2009).

26. Rule To Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NO<sub>x</sub> SIP Call, 70 Fed. Reg. 25,162, 25,300 (May 12, 2005).

27. The EPA’s rule allowing states to adopt “CAIR equals BART” was challenged by environmental groups in the D.C. Circuit and upheld. *See Util. Air Regulatory Grp. v. EPA*, 471 F.3d 1333 (D.C. Cir. 2006).

28. *See* CLEAN AIR TASK FORCE ET AL., COMMENTS ON EPA’S “REGIONAL HAZE REGULATIONS AND GUIDELINES FOR BEST AVAILABLE RETROFIT TECHNOLOGY (BART) DETERMINATIONS” 7-9 (2004) (describing the complaints of numerous environmental groups, including the Sierra Club, that “[t]he Agency’s proposed substitution of CAIR for BART is illegal and unsound”).

29. *See id.* at 8 (“EPA and the states cannot use a cap-and-trade program . . . as a substitute for or exemption from . . . BART . . . unless, among other things, . . . [it] results in emission reductions that are truly ‘better than BART’ with respect to *each and every* individual Class I area impacted by the exempted BART sources . . .”).

30. *See, e.g.*, 62 FLA. ADMIN. CODE ANN. r. 62-296.340(5); 326 IND. ADMIN. CODE 26-1-5; 30 TEX. ADMIN. CODE § 116.1510(d); WIS. ADMIN. CODE NR § 433.04(7).

31. *See North Carolina v. EPA*, 550 F.3d 1176 (D.C. Cir. 2008).

still in place in many states, there is no regulatory obligation for many utilities to install controls today.

### III. THE DIRTY CLIMATE DEBATE

So how does this relate to the climate change debate? Utilities and the state utility commissions that regulate them have to plan for the future, and if it were not for the uncertainty surrounding climate change regulation, more utilities would be pushing forward with pollution control projects now to ensure compliance with future CAIR and BART requirements. Instead, they wait.

Moreover, for the few utilities that have decided to forge ahead with projects, either because their plant is still subject to the BART requirement or because the utility thinks that it can justify the controls even under a stringent climate regime, the climate debate is also slowing the approval process because it has turned the environmental movement on its head. Since the Clean Air Act was signed into law, utilities and environmental groups have been at loggerheads over pollution controls: utilities have fought to avoid them and environmental groups have tried to get them imposed. These battles have clogged up EPA rulemakings and the federal courts for decades. In fact, one such case between a number of environmental groups (including the Sierra Club) and Duke Energy Corporation culminated in a U.S. Supreme Court decision in April 2007.<sup>32</sup>

Now the tides have turned. Many utilities in regulated states have significant incentives to install pollution controls on their plants (particularly BART controls), but they are either afraid to do so because of the regulatory uncertainty, or they have proposed controls and the Sierra Club and other, local environmental groups, like Clean Wisconsin, are fighting to stop them.

#### *A. The Utilities: The Prudence of SO<sub>2</sub>/NO<sub>x</sub> Controls*

There is a common misconception that utilities lose money if they have to invest in expensive pollution controls, when in fact the opposite is true: there is a financial incentive for utilities in many states to spend capital, and there are not a lot of capital projects currently available. Utilities subject to traditional regulation obtain their revenues from customers by charging rates set by state utility commissions. These rates are determined based primarily on two groups

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32. *Env'tl. Def. v. Duke Energy Corp.*, 549 U.S. 561 (2007).

of costs: operating costs and capital costs.<sup>33</sup> Operating costs include, among other things, administrative and general costs (for example, employee salaries and rent), fuel costs, emissions allowance costs, depreciation expenses, and taxes. These operating costs are generally passed through directly to ratepayers in rates. For capital costs, utilities are allowed to include a return on the un-depreciated value of their capital assets (for example, power plants and transmission lines).<sup>34</sup> In other words, utilities under traditional utility regulation make money based on the capital they invest in their fleets, and therefore they have an incentive to invest in pollution controls; however, those investments must be prudent and typically must be reviewed and pre-approved by state utility commissions.<sup>35</sup>

To determine whether a pollution control project is economically prudent and otherwise in the public interest, the utilities and the commissions conduct computer modeling to try to estimate the costs associated with a control project and alternatives to it under various likely future scenarios.<sup>36</sup> In this fashion, the life cycle cost of retrofitting a particular generating unit with pollution controls can be compared to unit retirement or delaying controls under a variety of potential future scenarios.

Though these models depend on an extensive set of inputs, the most influential in this context are fuel costs (i.e., natural gas and coal prices), potential greenhouse gas costs per ton, and SO<sub>2</sub>/NO<sub>x</sub> allowance prices.<sup>37</sup> The implementation of climate change regulation could radically impact all of these modeling inputs, and without knowing the specifics of a future greenhouse gas regulatory regime it is difficult for utilities and state commissions to model the regime's impacts.<sup>38</sup>

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33. JONATHAN A. LESSER & LEONARDO R. GIACCHINO, FUNDAMENTALS OF ENERGY REGULATION 39-40, 50-58 (2007).

34. *Id.* at 40.

35. See, e.g., JOSEPH P. TOMAIN & RICHARD D. CUDAHY, ENERGY LAW IN A NUTSHELL 136-37 (2004) ("The traditional rate formula encourages capital investment because it provides a rate of return on the rate base. In other words, the more a utility invests, the more money it earns."); W. KIP VISCUSI ET AL., ECONOMICS OF REGULATION AND ANTITRUST 401 (4th ed. 2005) ("The key idea is that because allowed profit varies with the rate base (capital), the firm will tend to substitute too much capital for other inputs.").

36. See, e.g., Wis. Elec. Power Co., No. 6630-CE-299, 2008 WL 3822434, at \*3 (Pub. Serv. Comm'n of Wis. July 10, 2008).

37. See, e.g., *id.* at \*10-13 (Azar, Comm'r, concurring).

38. This difficulty is less pronounced in the Northeastern states that have adopted a multi-state greenhouse gas cap-and-trade program that is currently operating, known as the Regional

Because new natural gas and coal power plant construction has slowed down, electric utilities are looking for capital-intensive projects in which to invest, and environmental controls fit the bill. This is especially the case with coal-fired plants that are currently exempt from BART but are not likely to be exempt forever. Yet, utilities are averse to investing hundreds of millions of dollars in environmental upgrades without knowing how climate change regulation is going to affect the lives of their plants. It would be imprudent, for example, to make significant investments in a plant that will be shut down in ten years due to climate change regulation, though it may make sense to invest in that plant if it will continue to operate for thirty years or more. Until utilities know how much climate change regulation will cost them and how it will affect their fleets, many are waiting on the sidelines with cash in hand as the regulatory pressure to install SO<sub>2</sub> and NO<sub>x</sub> controls mounts.

*B. The Environmentalists: Short-Term Health Impacts Versus Long-Term Climate Change*

Adding to the problem, the Sierra Club, one of the oldest and most esteemed environmental groups in the country, is now battling to stop utilities from installing SO<sub>2</sub> and NO<sub>x</sub> controls on their coal-fired power plants. The Sierra Club, in conjunction with local environmental groups, is participating in state regulatory proceedings in a number of states seeking to delay the installation of pollution controls until climate change regulation is more certain.<sup>39</sup>

In Arkansas, for example, five utilities are jointly proposing to install environmental controls costing approximately \$780 million to clean up NO<sub>x</sub> and SO<sub>2</sub> emissions from a 1,657 MW coal-fired power plant, and the Sierra

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Greenhouse Gas Initiative; however, the states participating in this program are generally the states with the fewest coal plants of all of the Eastern states.

39. See, e.g., Petition to Intervene, Entergy Ark., Inc., No. 09-024-U (Ark. Pub. Serv. Comm'n Aug. 10, 2009) (Sierra Club intervening in opposition to pollution control project); Request for Intervention by Sierra Club, Joint Application of Wis. Power & Light Co. & Wis. Elec. Power Co. for Certificate of Auth. for NO<sub>x</sub> Reduction Project, No. 05-CE-137 (Pub. Serv. Comm'n of Wis. Jan. 2, 2009); Citizen Utility Board's and Clean Wisconsin's Request to Intervene and Notice of Appearance, Joint Application of Wis. Power & Light Co. & Wis. Elec. Power Co. for Certificate of Auth. for NO<sub>x</sub> Reduction Project, No. 05-CE-137 (Pub. Serv. Comm'n of Wis. Dec. 18, 2008); Clean Wisconsin's Request to Intervene, Oak Creek Power Plant Installation for Control of Sulfur Dioxide and Nitrogen Oxide Emission, No. 6630-CE-299 (Pub. Serv. Comm'n of Wis. June 29, 2007).

Club recently intervened to oppose the project.<sup>40</sup> This plant, called the White Bluff Steam Electric Station, currently emits roughly thirty-eight thousand tons of SO<sub>2</sub> and sixteen thousand tons of NO<sub>x</sub> per year.<sup>41</sup> If these pollution controls are installed, the SO<sub>2</sub> emissions will be slashed by 95% and the NO<sub>x</sub> emissions will be cut by 50%.<sup>42</sup> Using estimates from the Bush-era EPA's CAIR health study, installation of these controls at a facility of this size would save 250 to 350 people from premature death, avoid 300 to 400 adults from having non-fatal heart attacks, keep thousands of children from developing upper or lower respiratory symptoms, avoid tens of thousands of work loss days, and provide general health benefits valued at over a billion dollars.<sup>43</sup> And

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40. See *Petition to Intervene*, *supra* note 39 (Sierra Club intervening in opposition to pollution control project); see also Max Brantley, *Sierra Club Opposes White Bluff Work*, ARK. TIMES BLOG (Nov. 17, 2009, 2:59 PM) (quoting Glen Hooks, Regional Director of the Sierra Club Beyond Coal Campaign, as stating that “[w]e should not hit Arkansas ratepayers with a Billion dollar rate increase so that Entergy can continue polluting our air by burning dirty coal”), [http://www.arktimes.com/blogs/arkansasblog/2009/11/sierra\\_club\\_opposes\\_white\\_bluf.aspx](http://www.arktimes.com/blogs/arkansasblog/2009/11/sierra_club_opposes_white_bluf.aspx).

Arkansas is not a “CAIR equals BART” state, and as such, when the utilities originally proposed the project, they were required to install BART controls at White Bluff by October 15, 2013 to comply with the state’s visibility program. The EPA recently provided comments to the state noting that it has some concerns with Arkansas’s visibility program and, in particular, the state’s BART determination for White Bluff. Because of the ambiguity created by these EPA actions, on March 26, 2010 the Arkansas Pollution Control and Ecology Commission agreed to extend the October 15, 2013 BART compliance deadline by a few years. The utilities’ proposal to install environmental controls was still pending before the Arkansas Public Service Commission at the time of this Essay’s writing; however, they have stated in their filings that they will withdraw their proposal if the state’s decision to extend the October 15, 2013 deadline is not appealed. See *Response to Order No. 17 at 1-2*, Entergy Ark., Inc., No. 09-024-U (Ark. Pub. Serv. Comm’n Apr. 5, 2010).

41. See *Clean Air Markets—Data and Maps*, ENVTL. PROT. AGENCY, <http://camddataandmaps.epa.gov/gdm/index.cfm> (last updated Apr. 27, 2010) (search for 2008 unit level emissions for the Acid Rain Program in Arkansas and sum emissions from both White Bluff locations).

42. *Backgrounder: The White Bluff Environmental Controls Project*, ENTERGY ARK., INC., [http://www.entergy-arkansas.com/content/news/docs/White\\_Bluff\\_Enviro\\_controls\\_proj.pdf](http://www.entergy-arkansas.com/content/news/docs/White_Bluff_Enviro_controls_proj.pdf) (last visited Mar. 10, 2010).

43. These rough calculations were made based on data obtained from U.S. ENVTL. PROT. AGENCY, REGULATORY IMPACT ANALYSIS FOR THE FINAL CLEAN AIR INTERSTATE RULE (2005). The EPA’s Regulatory Impact Analysis provides the total estimated health benefits associated with installing SO<sub>2</sub> and NO<sub>x</sub> controls on ninety-eight GWs of existing coal-fired generation capacity by 2015. *Id.* at 1-4 to -5, 7-5. To calculate the estimates for White Bluff, I simply calculated the health benefits per GW and multiplied by 1.66, which is White Bluff’s capacity.

all of this would occur, according to EPA statistics, not within the life of the controls, but every year.

Why are environmentalists fighting against these controls? They are more concerned about climate change than they are about the short-term health and visibility benefits associated with these controls. Coal-fired power plants are some of the largest emitters of greenhouse gases in the world, and environmental groups do not want utilities to extend the lives of these plants by installing hundreds of millions of dollars in SO<sub>2</sub> and NO<sub>x</sub> controls. These groups would seemingly rather the coal plants run uncontrolled for the next five or ten years and then be shut down than operate with significantly lower SO<sub>2</sub> and NO<sub>x</sub> emissions for another thirty years or more. The environmental groups are trading short-term pollution for their long-term policy goals, and they are doing so, at least in part, because of the uncertainty surrounding climate change regulation.<sup>44</sup>

### *C. The Climate Debate Is Dirtying Our Air and Hurting Our Health*

As this Essay has outlined, the climate debate is slowing the installation of pollution controls on coal-fired power plants in two ways: (1) it is causing some utilities to wait to propose pollution controls; and (2) it is slowing the process once pollution controls are proposed by making the modeling more difficult and by leading to environmental group opposition.<sup>45</sup> Calculating the exact health and environmental impacts of these phenomena would be extremely complicated and is beyond the scope of this Essay. However, based on data from the CAIR health study, it is easy to conclude that the health and environmental impacts of not installing controls are considerable. Even assuming that only a few projects have already been postponed nationwide for

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44. The Sierra Club has argued that its challenges to pollution controls do not harm human health because CAIR imposes a nationwide cap on emissions, and therefore if controls are not put on the plants it is challenging, the controls will be installed elsewhere. The primary problems with this argument are that: (1) the *North Carolina* decision has left the CAIR SO<sub>2</sub> and NO<sub>x</sub> markets in shambles, causing allowance prices to plummet and raising doubts about whether EPA can even enforce the CAIR caps; (2) the argument assumes the location of the pollution is irrelevant (when in fact it often is not); and (3) the argument does not account for the fact that allowances can be, and have been, banked for future years. This means that utilities can either use their already banked allowances or purchase cheap allowances from the market to comply with CAIR. There is no incentive to bank current allowances because it is unclear whether the CAIR replacement rule will even include allowance trading as a compliance option.

45. Certainly the *North Carolina* decision is partly to blame for the first effect; however, its effects are exacerbated by the climate debate.

a year or two and that the currently proposed projects are moving through the regulatory process more slowly than they otherwise would (by even a few months), the EPA's data suggest that these delays will lead to hundreds and more likely thousands of premature deaths and billions of dollars in additional health care costs (even taking into account the costs of controls). As long as the regulatory uncertainty persists, these impacts will continue to grow.

#### IV. THE SOLUTION

The problem is regulatory uncertainty, and the solution is decisive action. Congress must legislatively adopt CAIR, or the EPA must reissue the rule in a new form as quickly as possible. In so doing, whoever acts should affirmatively decide whether states can continue to rely on CAIR for BART compliance. This will provide utilities and state utility commissions with notice as to which facilities will have to install SO<sub>2</sub> and NO<sub>x</sub> controls and by what date.

Further, utility commissions should encourage utilities to explore and propose reasonable SO<sub>2</sub> and NO<sub>x</sub> control projects even amidst this regulatory uncertainty. When applying for a project with a state utility commission, utilities are often concerned that the commission will deny the application and prevent the utility from recouping the application-related costs from its ratepayers, thereby putting those costs on the utility's shareholders. A utility should not be discouraged from at least proposing to reduce emissions from its fleet due to uncertainty about whether it will be allowed to recover the potentially significant costs in developing the proposal.

Finally and most importantly, Congress needs to quit dithering on the climate change issue. Congress should either adopt legislation and address the issue or, at least, decide whether the EPA can. The debate has gone on long enough. Even if the CAIR and BART regulatory uncertainty is cleared up in a timely manner, utilities and state public utility commissions will not know the costs associated with future climate change regulation until such regulations are adopted. Moreover, environmental group opposition is not going to subside until the climate debate ends. State public utility commissions will have to make educated guesses when projects are proposed. These guesses could lead to significant stranded investments, if, for example, SO<sub>2</sub> and NO<sub>x</sub> controls are approved and then stringent climate change regulations are adopted, causing the plant to retire earlier than planned. Alternatively, they could lead to unnecessary delays in retrofitting SO<sub>2</sub> and NO<sub>x</sub> controls on power plants if projects are not proposed or approved and climate change regulation never materializes.

Congress must also act before the EPA does and either delegate regulatory authority over greenhouse gas regulation to the EPA or revoke it. Without this sort of clarity, havoc could ensue. In April of 2007, the Supreme Court gave the EPA the authority to regulate greenhouse gases under the Clean Air Act.<sup>46</sup> President Obama's EPA has since begun to consider regulations for stationary sources like coal-fired power plants, though it has not yet proposed a rule to control greenhouse gas emissions from those sources.<sup>47</sup> If the EPA were to adopt regulations, utilities and state utility commissions would rely on those regulations when deciding whether utility projects are prudent and in the public interest. This could prove problematic if Congress later revokes the EPA's authority to regulate greenhouse gases under the Clean Air Act or significantly changes the greenhouse gas regulatory scheme.

## CONCLUSION

The Sierra Club used to fight to protect our health and the environment, but it is now sacrificing today's air in hopes of climate change regulation tomorrow. Utilities, on the other hand, have battled environmental groups over pollution controls on their plants for decades; now many actually want to invest in those same controls, yet they cannot or will not until the climate debate ends.

This has to stop. Utilities need regulatory certainty so that they can decide whether to clean up their coal plants or retire them. There is no reason to continue to punish our environment simply because no one can decide what to do on the climate change issue.

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46. See *Massachusetts v. EPA*, 549 U.S. 497, 532-33 (2007) (finding that greenhouse gases qualify as "air pollutants" under the Clean Air Act and that they must be regulated by the EPA if it determines that their climate impacts endanger human health or welfare).

47. Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 66,496 (Dec. 15, 2009); Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 74 Fed. Reg. 55,292, 55,294 (proposed Oct. 27, 2009) ("EPA expects soon to promulgate regulations under the [Clean Air Act] to control GHG emissions [from major sources] . . .").

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