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Hearing on S. 131, the "Clear Skies Act of 2005"
U.S. Senate Committee on Environment & Public Works

February 2, 2005



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SUMMARY:
THIS BILL HARMS THE PUBLIC,
HELPS BIG POLLUTERS, AND
WORSENS GLOBAL WARMING

The Bush Administration calls this bill the "Clear Skies Act." The only thing clear about it is the fact that it breaks the Clean Air Act's promise to deliver clean air without more delay; minimize emissions of poisons like mercury; protect states from out-of-state polluters; and make old plants meet modern cleanup standards when they are refurbished.

In his testimony before this Committee in April 2003, my colleague David Hawkins said that the Bush Administration owed Congress and the American people straight answers to three questions:

- Why should the public accept the enormous toll of preventable death and illness that will occur under the "Clear Skies" bill?

- Why should Americans suffer tens of billions of dollars each year in health costs that could be avoided at a fraction of that cost?

- Why don't the American people have a right to expect much deeper and quicker reductions in power plant pollution than the "Clear Skies" bill will provide?

Those questions remain unanswered.

This bill turns its back on the public and embraces polluters. It is no surprise that the bill does this, because it is the brainchild of the polluters. How do we know this bill was produced by the polluters? Their lobbyist told us so. In April 2001, the power industry's top air pollution lobbyist in Washington addressed a coal industry group. Unbeknownst to him, his talk was being transcribed, and later would be posted at www.aeci.org/wcta/spring2001/shea.htm.[1]

The power lobbyist told his coal industry audience that EPA had been planning to use the agency's existing authority under the Clean Air Act to require large and prompt reductions in air pollution from coal-burning power plants. Never fear, the lobbyist assured his colleagues, he and his friends in the White House had a plan: the Administration would introduce legislation creating a weaker, slower program – one that would allow coal plants to emit more pollution for much longer than EPA had been planning to require under the Clean Air Act. The lobbyist promised that the weaker, slower cleanup requirements in the new legislation would be something "that we can all live with and that someone else can't undo." The so-called "Clear Skies" bill is the legislation that the power lobbyist proudly described in April 2001.

In my testimony today, I will emphasize three major policy failures in the Administration's bill:

- The bill lets power companies and other polluters continue inflicting enormous harm on the public.

- The bill weakens – and in many cases eliminates altogether – major air quality safeguards in the Clean Air Act.

[1] The transcript is attached to this testimony.

- The bill worsens global warming by encouraging the power sector to make significant capital investments in plant modifications that exacerbate, rather than control, CO_2 emissions.

Senators who preceded you on this Committee cared about the harm caused by continuing delays in cleaning the air. They accordingly wrote laws requiring the prompt achievement of health standards. Now, in an effort to accommodate the power industry, the Bush Administration has introduced a bill that delays achievement of those health standards. If you vote for this bill, you are telling the American people that you don't care about that. Prior Senators enacted laws requiring highly polluting old plants to meet modern cleanup requirements. The Administration's bill eliminates that protection. If you don't care about that either, then vote for this bill. Current law protects states from being polluted by upwind emitters. The Administration's bill weakens that protection too. Vote for this bill if you don't care. Your predecessors wrote current law to require prompt minimization of poisons like mercury, using the advanced technology created by American ingenuity. The Administration's bill brings an end to that approach. If you don't care, vote for this bill.

I. THE BILL HARMS THE PUBLIC AND HELPS BIG POLLUTERS.

Air pollution from power plants imposes a staggering toll of death, disease, and environmental contamination on the American people.

Power plant emissions of sulfur dioxide (SO_2) and nitrogen oxides (NO_x) create dangerous concentrations of fine particles and ozone (soot and smog) that 159 million people in this country are forced to breathe.[2] Each year, soot and smog from power plant emissions cause more than 24,000 premature deaths, 38,200 non-fatal heart attacks, hundreds of thousands of asthma attacks, and millions of days of lost work.[3]

Power plants also emit mercury, which acts as a potent brain poison (neurotoxin) even in very small amounts. The 430 coal-fired power plants in the United States together constitute the country's largest source of mercury air pollution.[4] Those plants emit approximately 48 tons of mercury into the air each year.[5] That pollution falls from the air and washes into lakes, rivers, and coastal waters, where it concentrates in fish. As a result, forty-eight states have had to issue warnings concerning mercury contamination of local fish. A more ominous result is that one in twelve women of childbearing age has mercury levels above EPA's safe health threshold.[6] Nationally, this translates into nearly 4.9 million women of childbearing age.[7] In January 2004, an EPA scientist highlighted published research indicating that mercury levels in the developing fetus may be higher than those in the mother, and estimated that approximately 630,000 babies are born each year in this country with the risk of brain injury from mercury poisoning.[8]

The Administration's bill allows power plant owners to continue to exact an unacceptable and unjustifiable toll of preventable death and illness. Measured against any of the various alternatives – including faithful enforcement of the current Clean Air Act and implementation of a proposal developed by EPA in 2001 – the Administration's bill will, from its enactment through 2020, be responsible for more than 100,000 additional early deaths, more than two million additional asthma attacks, and more than fifteen million additional lost work days.[9]

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[2] American Lung Association, "State of the Air: 2004," available at http://lungaction.org/reports/stateoftheair2004.html.

[3] Clear the Air, "Dirty Air, Dirty Power: Mortality and Health Damage Due to Air Pollution From Power Plants" (June 2004), available at http://www.cleartheair.org/dirtypower/docs/dirtyAir.pdf.

[4] National Wildlife Federation, "Mercury Deposition: Clean the Rain" (Jan. 7, 2005), available at http://www.nwf.org/nwfwebadmin/binaryVault/CTR%20latest%20developments.PDF.

[5] *Id.*

[6] Centers for Disease Control, "Second National Report on Human Exposure to Environmental Chemicals" (Jan. 2003); Susan E. Schober, *et. al*, "Blood Mercury Levels in U.S. Children and Women of Childbearing Age, 1999-2000," *Journal of the American Medical Association*, 289: 1667-74 (2003).

[7] Derived by the Clean Air Task Force from 2000 census data and fertility data from the National Center for Health Statistics.

[8] "EPA Doubles Estimates of Children With Mercury in Blood," *InsideEPA* (Jan. 30, 2004).

[9] Clean Air Task Force, "2003-2020 Health Damages Estimates for Clear Skies Initiative and Straw Proposal" (May 2, 2003).

A. The Bill Is Far Dirtier Than Simply Implementing the Clean Air Act.

1. The Administration Has Effectively Conceded That Implementing the Clean Air Act Would Achieve Steeper, Faster Pollution Cuts than This Bill.

In two pending rulemakings, the so-called "Clean Air Interstate Rule" ("CAIR") and a rule restricting hazardous air emissions from electric utilities, EPA concedes that it can achieve reductions on the same order as those promised in the bill – and on the same schedule – without any new legislation.[10] Moreover, the pollution cuts prescribed in those proposed regulations are far more modest than what the current Clean Air Act actually requires. For instance, the final CAIR will need to mandate far deeper (though still cost-effective) cuts in SO_2 and NO_x.[11] For its part, the final hazardous air pollutant rule will need to mandate the installation of maximum achievable control technology ("MACT") for mercury on all electric utility units.[12] With that addition, the final mercury rule would, between now and 2025, remove nearly 400 more tons of toxic mercury from the air than will the Administration's bill.[13]

Even assuming, for the sake of argument, that the Clean Air Act does not require EPA's two proposed rules to be strengthened, implementation of the Act still promises cleaner air faster than the Administration's bill, because – as described in section I.F. of this testimony – the bill eliminates a host of vital air quality safeguards found in the current Act.

In a vain attempt to make its bill appear less dirty, the Administration has compared full enforcement of its bill with zero enforcement of the Clean Air Act. This zero-enforcement baseline, which EPA Assistant Administrator Holmstead has candidly called the "Rip Van Winkle scenario,"[14] considers only the power plant pollution limits already on the books – principally the SO_2 reductions required by the 1990 Acid Rain Program and the NO_x reductions ordered under the 1997 "NO_x SIP Call." In other words, the Rip Van Winkle scenario assumes that EPA and the states went to sleep in 1997, and that they will never wake up.

But the existing Clean Air Act requires far more than perpetual slumber. EPA and the states must bring America's cities and counties into compliance with the national ambient air quality standards for soot and smog before the end of this decade.[15] EPA concedes that meeting those health standards will require steeper and faster reductions in power plant SO_2 and NO_x emissions than assumed in the Rip Van Winkle scenario.[16]

2. The Administration's Complaints about Clean Air Act Litigation Delays Are Unavailing.

Industry lobbyists claim that implementing the Clean Air Act would entail litigation delays, but the truth is that the critical legal questions surrounding the authority that EPA will exercise in the existing Act to regulate power plants have been answered already. For example, although industry managed to impose substantial litigation delays on EPA's "NO_x SIP Call"[17] and section 126 rulemakings,[18] EPA can now rely

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[10] 69 Fed. Reg. 4566 (Jan. 30, 2004); 69 Fed. Reg. 12398 (Mar. 16, 2004).
[11] Clean Air Task Force, *et al.*, Comments on Proposed Interstate Air Quality Rule (Mar. 30, 2004).
[12] NRDC, *et al.*, Comments on Proposed NESHAP or NSPS for Electric Utilities (Apr. 30, 2004).
[13] *Id.*
[14] Mr. Holmstead so characterized the Administration's baseline assumptions in a presentation to the National Association of Regulatory Utility Commissioners in Washington on February 24, 2003.
[15] 69 Fed. Reg. 23858 (Apr. 30, 2004); 70 FR 944 (Jan. 5, 2005).
[16] 69 Fed. Reg. 23951 (Apr. 30, 2004); EPA Press Release, "EPA Announces Final Designations for the First Fine Particle Standard" (Dec. 17, 2004).
[17] 63 Fed. Reg. 57356 (Oct. 27, 1998); *Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000).

on the D.C. Circuit's affirmation of those rulemakings[19] in implementing its new CAIR, which relies on the same statutory authority.

It is absurd to think that starting afresh with a new, untested legal framework would reduce future litigation delays. Indeed, as the Clean Air Task Force's Conrad Schneider noted in his testimony before this Committee's Air Quality Subcommittee last week, the Administration's bill calls for about two dozen new EPA and Department of Energy determinations, each of which will engender controversy, and each of which will be subject to judicial review.[20] Most obviously, the bill's interstate petition program prevents EPA from regulating upwind states' power plant pollution unless the agency first makes the impossible determination that emissions reductions from those sources would be more cost-effective than reductions from all other upwind sources of SO_2 and NO_x, including industrial sources, small businesses, on-road vehicles, and off-road vehicles.[21] This fact-intensive determination is litigation bait that will enable industry to keep the agency and petitioning downwind states in court for years.

Additionally, contrary to the claims of some industry lobbyists, these litigation opportunities will not be consolidated into one early lawsuit that resolves all legal questions and grants certainty for the remainder of the law's implementation. Rather, the agency determinations will be made at staggered intervals over the two-decade course of the bill's implementation. The bill does purport to limit challenges to "the calculation of the allocation for any unit or facility, and the determination of any values used in such calculation,"[22] but even the terms of that provision are sufficiently vague to result in judicial involvement. Why should this treasure trove of new legal questions lessen affected groups' litigiousness? The far more likely scenario is an endless round of court cases challenging aspects of the Administration's bill and its implementing regulations. The wrangling and uncertainty would stretch well into the second decade of implementation.

In short, the litigation history of EPA's earlier interstate air pollution rulemakings provides no support for the Administration's bill. That history – and particularly industry's central role in each of the legal dramas – is instructive for a different reason, though: As discussed in section I.F.3, below, the Administration's bill appears carefully crafted to overturn the court rulings that upheld those health-protective rulemakings. Having lost in the D.C. Circuit, industry has persuaded the Administration to overturn EPA's Clean Air Act authority to require "highly cost effective" emissions reductions from upwind pollution sources – authority the agency needs if it is to remedy attainment problems and address adverse health conditions in downwind states. To accomplish this purpose, section 3(a)(3) of the Administration's bill completely overhauls section 126's interstate pollution remedies for downwind states, adding an insurmountable legal test and further restricting state remedies and EPA authorities by prohibiting additional emissions reductions from power plants and other industrial units covered by the bill until 2015.[23]

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[18] 64 Fed. Reg. 28250 (May 25, 1999); 65 Fed. Reg. 2674 (Jan. 18, 2000); *Appalachian Power Co. v. EPA*, 249 F.3d 1032 (D.C. Cir. 2001).

[19] *Michigan*, 213 F.3d at 674-81 (upholding EPA approach requiring NO_x emissions reductions by an amount achievable with "highly cost-effective controls"); *Appalachian Power Co.*, 249 F.3d at 1048-51 (upholding methodology by which EPA reached its findings of "significant contribution" to nonattainment of the "1-hour" ozone rule under section 126, based upon application of "highly cost-effective" controls).

[20] On this point, it bears noting that even the Acid Rain Trading Program, which fixed SO_2 caps and compliance deadlines, nevertheless faced three lawsuits – all from industry. *American Mun. Power-Ohio v. EPA*, 98 F.3d 1372 (D.C. Cir. 1996); *Indianapolis Power & Light v. EPA*, 58 F.3d 643 (D.C. Cir. 1995); *Madison Gas & Elec v. EPA*, 25 F.3d 526 (7th Cir. 1994).

[21] S. 131 Sec. 3(a)(6) (adding Clean Air Act § 126(d)(2)(B)(i), (ii)).

[22] S. 131 § 403(a)(2).

[23] S. 131 Sec. 3(a)(3) (adding Clean Air Act § 110(q)).

B. The Bill Is Far Dirtier than Competing Legislative Proposals.

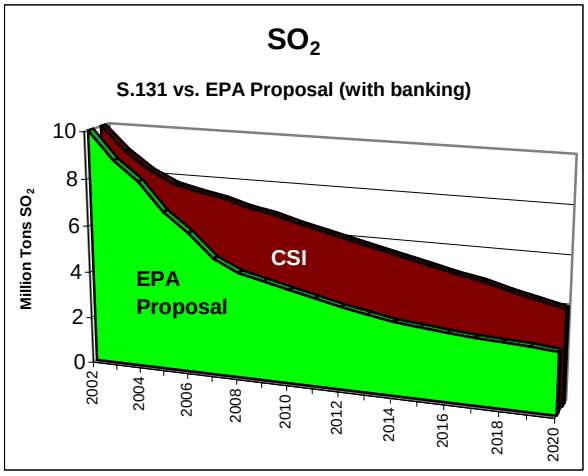
EPA developed the original "Clear Skies" proposal in August 2001.[24] After intense lobbying by the power sector, the White House rejected the EPA targets and timetables. In place of EPA's proposal, the Administration advanced a plan that permits industry to continue to pollute longer, and at higher levels. The following chart summarizes the larger pollution loads allowed by the Administration's bill:

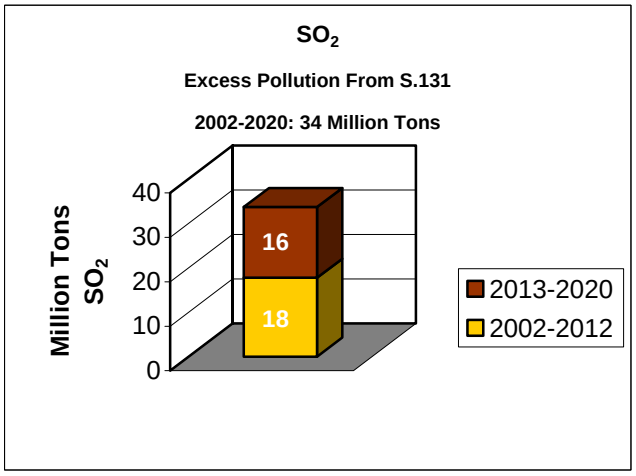
"Clear Skies" Bill v. EPA 2001 Proposal

	Sulfur Dioxide (SO_2)	**Nitrogen Oxides (NO_x)**	**Mercury (Hg)**
EPA Proposal	2 million tons in 2010	1.9 million tons in 2008 1.25 million tons in 2012	24 tons in 2008 7.5 tons in 2012, with 70% facility-specific reduction
Clear Skies Act	4.5 million tons in 2010 3 million tons in 2018	2.1 million tons in 2008 1.7 million tons in 2018	34 tons in 2010 15 tons in 2018

(Figure 1)

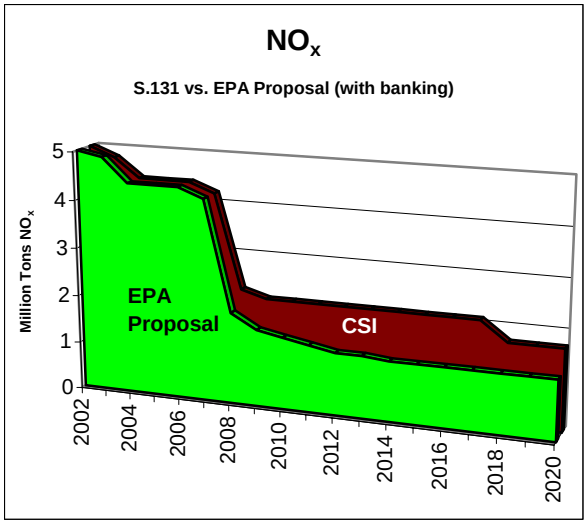
The differences in the amount of pollution allowed by these two plans, year-by-year and cumulatively out to 2020, are huge. For example, the Administration's bill results in 18 million excess tons of SO_2 through 2012, and 34 million through 2020. For NO_x, the bill results in 3 million excess tons through 2012 and 8 million through 2020: [25]

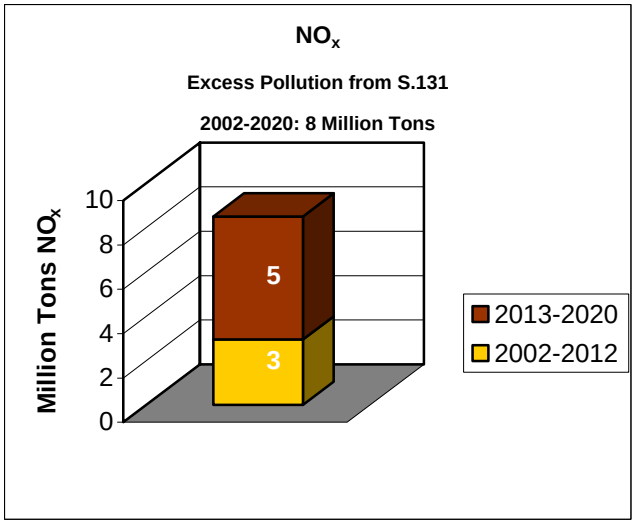




[24] EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" (Aug. 3, 2001), *available at* www.catf.us/publications/other/EPA_Straw_Proposal.pdf.

[25] These figures are based on EPA analyses using the Integrated Planning Model ("IPM"), the standard modeling tool used by all stakeholders in the power plant debate. The figures show the pattern of emissions expected under the two plans, including the impact of "banking," which results in some reductions below the caps in early years in order to offset emissions at levels above the caps in later years.

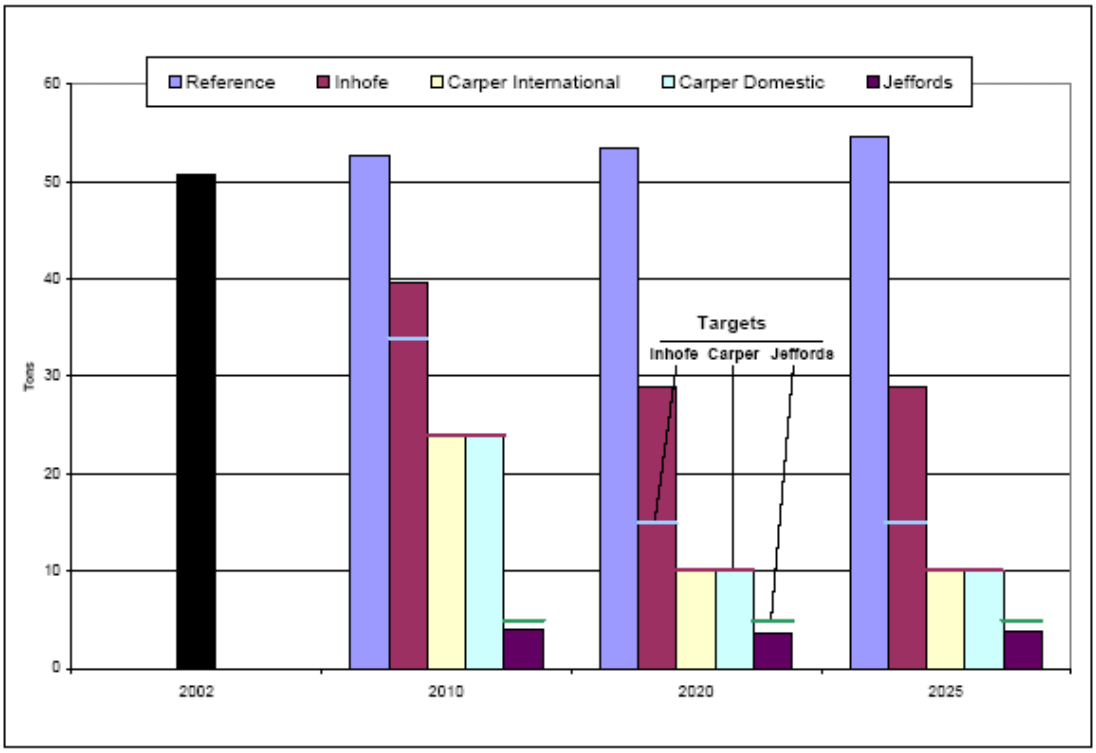




(Figures 2 through 5)

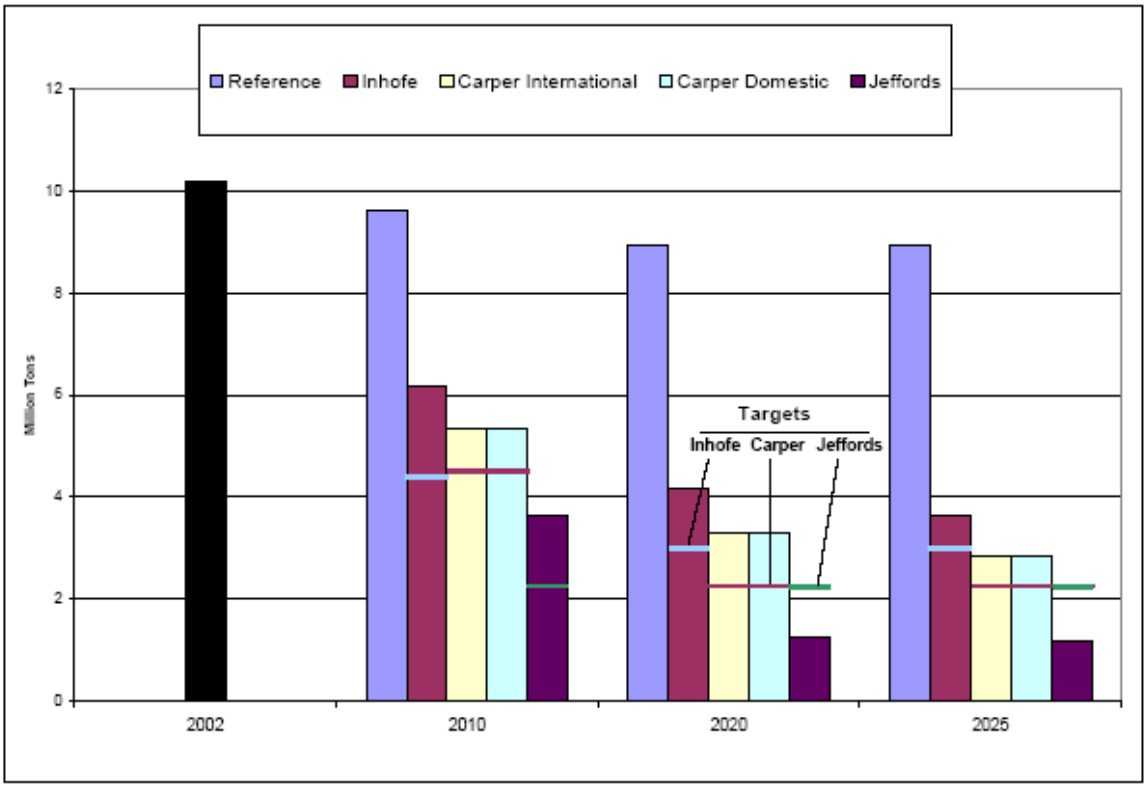
In the following charts prepared by the Energy Information Administration, the Administration's bill appears similarly weak in comparison to the proposed Clean Power and Clean Air Planning Acts:

Figure ES2. Electricity Sector Mercury Emissions in Alternative Cases



Source: National Energy Modeling System, inbase.d040904a, incs3pws.d040904a, inca4p.d040904a, inca4plo.d040904a, and injf4p.d041604a.

Figure ES1. Electricity Sector SO_2 Emissions in Alternative Cases



Source: National Energy Modeling System, inbase.d040904a, incs3pws.d040904a, inca4p.d040904a, inca4plo.d040904a, and injf4p.d041604a.

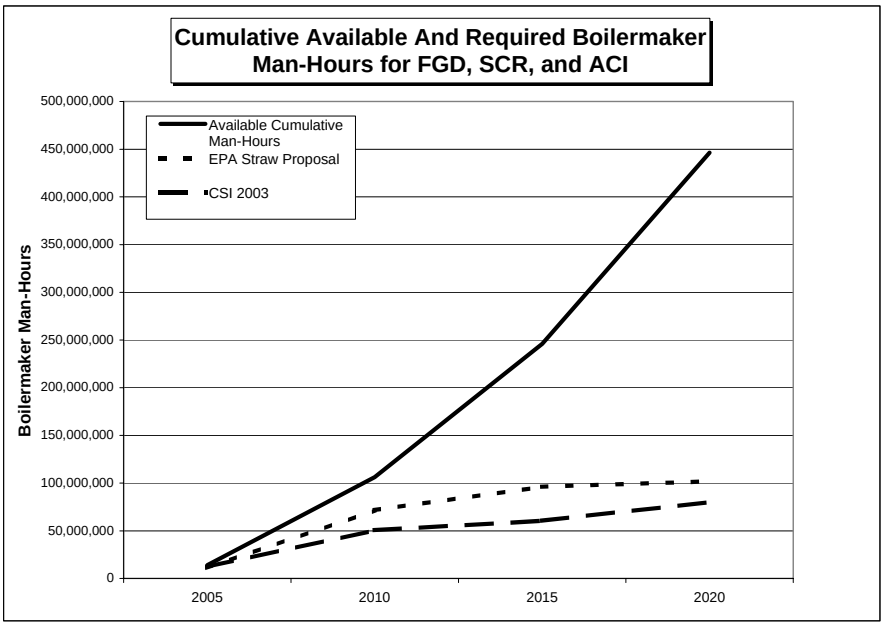
(Figures 6 and 7)[26]

In the nine months since these comparisons were made, the NO_x cap in the Administration's bill has been further inflated by 100,000 tons-per-year in each of the two implementation phases.[27]

The Administration does not contend that technology is unavailable to meet the more stringent SO_2 and NO_x caps associated with EPA's original proposal. It is undisputed that the necessary technology is proven and commercially available. Instead, the Administration contends that a bottleneck of labor, chiefly skilled boilermakers, will prevent meeting the deadlines of tighter legislation.

The Administration's claim does not withstand scrutiny. In reality, the available labor supply is more than sufficient to meet the deadlines outlined in the original EPA proposal:

[26] Figures 6 and 7 are reproduced from page ix of Energy Information Administration, "Analysis of S. 1844, the Clear Skies Act of 2003; S. 843, the Clean Air Planning Act of 2003; and S. 366, the Clean Power Act of 2003" (May 2004), available at http://tonto.eia.doe.gov/FTPROOT/service/sroiaf(2004)05.pdf.
[27] S. 131 § 453.



(Figure 8)[28]

C. The Bill Harms Public Health.

The additional pollution from power plants under the Administration's bill leaves scores of cities and counties out of attainment of the national ambient air quality standards for soot and smog – the Clean Air Act's bedrock measures of public health protection.

- EPA's analysis shows that the Administration's bill leaves 115 counties – home to 79 million Americans – in violation of these public health standards in 2010.[29] Even in 2020, two years after the bill's delayed second-phase deadline, 66 counties with 61 million residents remain in violation.[30]

- The stronger power plant emission restrictions in the EPA proposal bring 85 percent of eastern counties with unhealthy soot levels into timely compliance with the fine particle standard, and 90 percent of eastern counties with unhealthy smog levels into timely compliance with the ozone standard.[31] Greater power plant pollution reductions also reduce population exposure in the remaining counties, and make it substantially easier for those areas to attain the health standards with reasonable controls on other sources.

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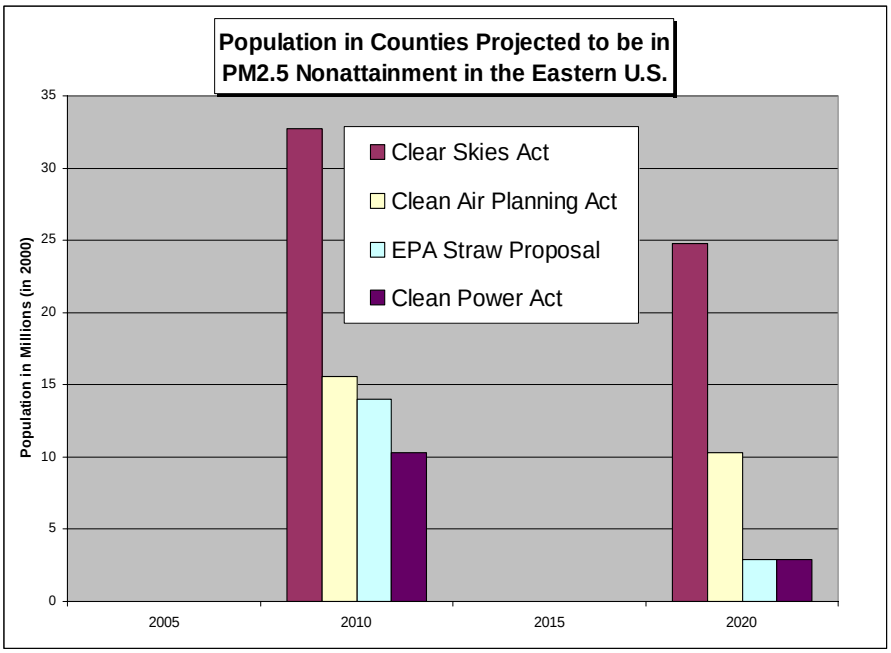
[28] Figure 8 is reproduced from Page 14 of the written testimony delivered on January 26, 2005 to this Committee's Subcommittee on Clean Air, Climate Change, and Nuclear Safety by Conrad G. Schneider on behalf of the Clean Air Task Force, Clear the Air, National Environmental Trust, and U.S. Public Interest Research Group ("the Schneider Testimony"). Please also see Appendix 1 of that testimony. *See also* Clean Air Task Force, *et al.*, Comments on Proposed Interstate Air Quality Rule (Mar. 30, 2004), at 26-32.

[29] EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" (Aug. 3, 2001), *available at* http://www.catf.us/publications/other/EPA_Straw_Proposal.pdf.

[30] *Id.*

[31] *Id.*

Owing to its loose caps and delayed implementation deadlines, the Administration's bill offers the least help – among all the legislative proposals – to states and regions seeking attainment:



(Figure 9)[32]

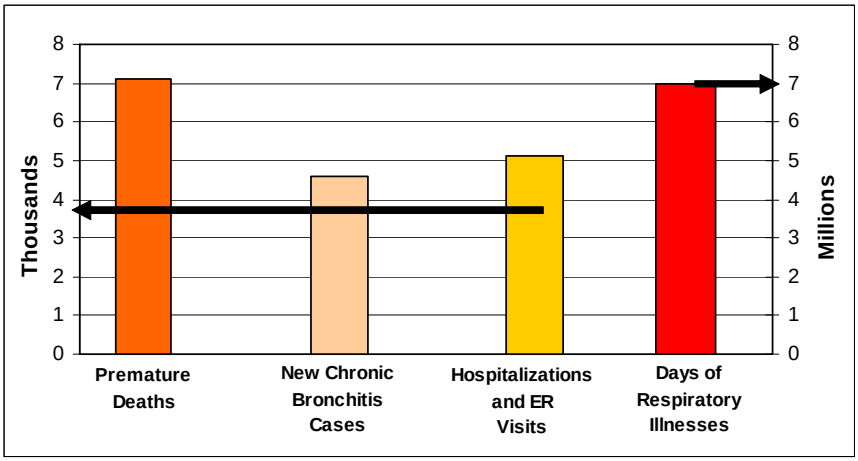
Ohio, Georgia, and Illinois are among the states that face a noticeably bleaker attainment situation due to the bill's laxer, slower power plant emission curbs.

Under the Administration's bill, large numbers of Americans will continue to die prematurely or to suffer illness caused by excessive power plant pollution. Figure 10 shows EPA's estimates of the additional premature death toll and illness in the year 2020 under this bill, as compared to the 2001 EPA proposal:[33]

- 7100 additional premature deaths;
- 4600 additional chronic bronchitis cases;
- 5100 additional hospital stays and ER visits; and
- 7 million additional days of respiratory illness.

[32] Figure 9 is reproduced from Page 16 of the Schneider Testimony.
[33] EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" App. A at 3 (Aug. 3, 2001), *available at* http://www.catf.us/publications/other/EPA_Straw_Proposal.pdf; EPA, "CSI Technical Support Package" 29 (Sept. 2002), *available at* www.epa.gov/clearskies.

Greater Health Damages Under "Clear Skies" (additional cases in 2020 compared to EPA proposal)

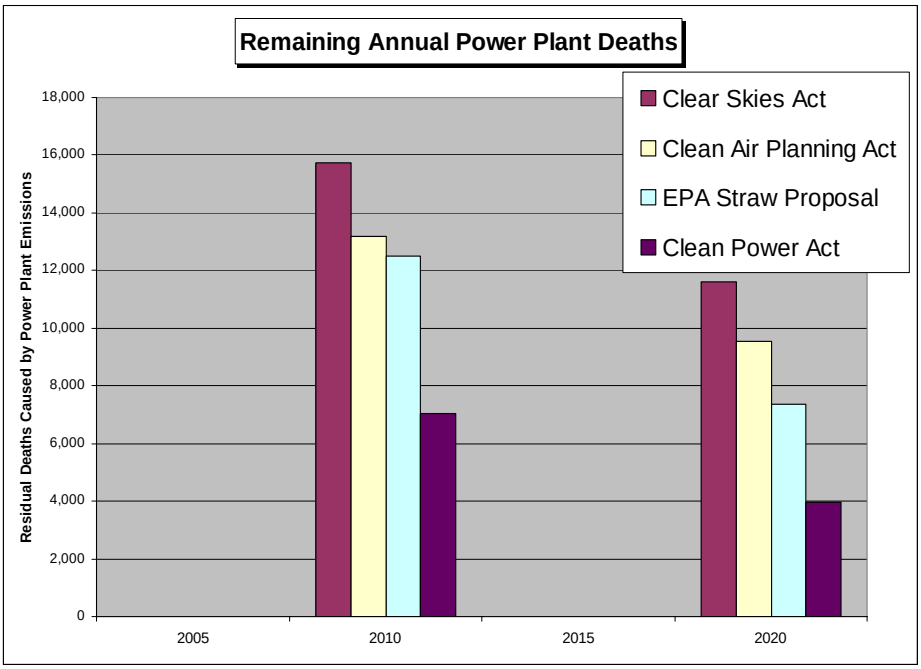


(Figure 10)

The number of cumulative additional premature deaths and illnesses that the Administration's bill allows is even more staggering. Using EPA methods, the Clean Air Task Force calculates that between 2008 and 2020, the bill allows, as compared to the EPA proposal, more than 100,000 additional premature deaths and millions of additional asthma attacks and other illnesses.[34]

Each of the current, alternative legislative proposals also results in significantly fewer deaths per year in 2020 as compared to the Administration's bill – roughly 2,000 fewer in the case of the Clean Air Planning Act and nearly 8,000 fewer in the case of the Clean Power Act:

[34] Clean Air Task Force, "2003-2020 Health Damages Estimates for Clear Skies Initiative and Straw Proposal" (May 2, 2003).

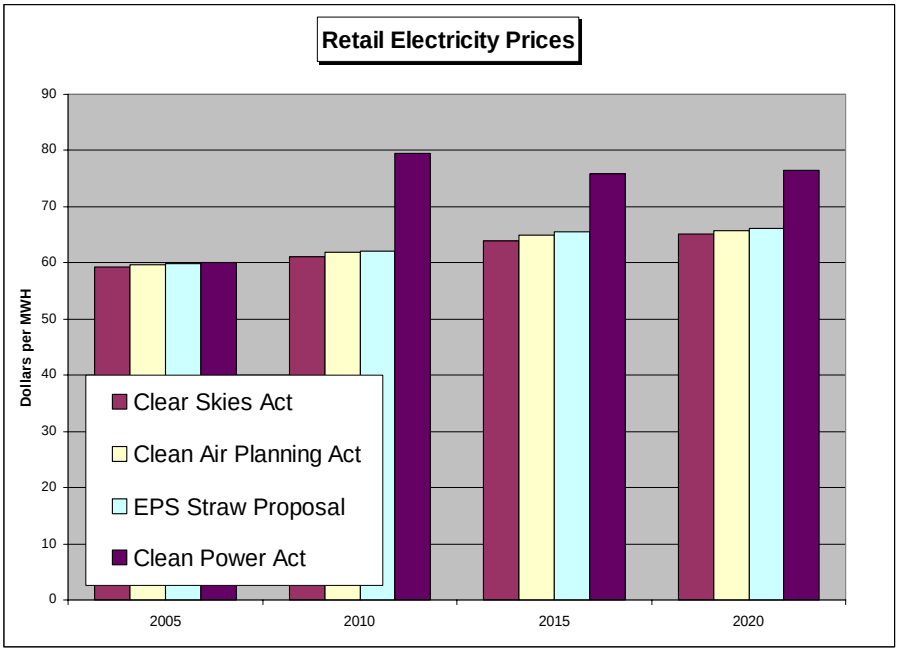


(Figure 11)[35]

D. The Bill Is Far More Costly than Competing Legislative Proposals.

The Clean Air Task Force has commissioned a comparison of these proposals using EPA's own traditional power system cost modeling, emission dispersion modeling, and cost-benefit methods – and employing consultants routinely retained by EPA to do this work. In all cases, the model assumptions were calibrated to run "apples to apples" comparisons with EPA's 2003 modeling of the Administration's bill. The analysis shows that the alternative, tighter caps and timetables result in very little additional retail cost of electricity. This result is especially notable since the Clean Air Planning Act and Clean Power Act also include carbon caps that the Administration's bill and the original EPA proposal do not:

[35] Figure 11 is reproduced from Page 7 of the Schneider Testimony.

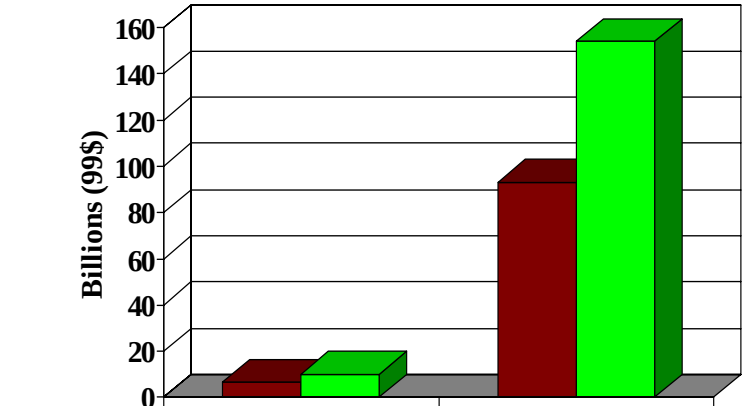


(Figure 12)[36]

Without conceding our fundamental concerns with expressing human deaths and adverse health effects in monetary terms, we note that as of 2020, the public health costs of the Administration's bill exceed those of the EPA proposal by $61 billion per year.[37] Moreover, the EPA proposal's public health savings come at the relatively small annual price of $3.5 billion in implementation expenses.[38] In other words, the Administration is promoting a bill that – as of 2020 – costs the public $15 for every $1 saved by industry:

[36] Figure 12 is reproduced from Page 9 of the Schneider Testimony.
[37] U.S. EPA, "Comprehensive Approach to Clean Power: Straw Proposal and Supporting Analysis for Interagency Discussion" (Aug. 3, 2001), *available at* http://www.catf.us/publications/other/EPA_Straw_Proposal.pdf.
[38] *Id.*

"Clear Skies" Would Save Industry $3.5 Billion in 2020 but Inflict $61 Billion in Public Health Costs



	Compliance Costs (billions 99$)	Health Costs Avoided (billions 99$)
S.131	$6.5	$93
EPA (8/01)	$10	$154

(Figure 13)

E. The Bill Will Not Reduce Power-Plant Pollution 70 Percent by 2018.

In his 2003 State of the Union speech, President Bush claimed that his air pollution plan "mandates a 70-percent cut in air pollution from power plants over the next 15 years," that is by 2018.[39] That claim was false then, and it is false today.[40] Analysis by EPA and the Department of Energy demonstrates that the Administration's legislation will not achieve the 2018 "caps" in the bill, actual pollution reductions of 70 percent, until some time after 2025 – due to the bill's emissions banking and "safety valve" features. And the only reason that EPA and DOE identified the year 2025 was that this represented the limit of their predictive model; even under their assumptions, the ultimate achievement dates could fall well after 2025.

[39] *Available at* http://www.whitehouse.gov/news/releases/2003/01/20030128-19.html.

[40] Indeed, the falseness of the claim was evident even to members of President Bush's audience. Representatives Allen, Capps, Markey, and Pallone wrote the President a letter in July 2003, "urg[ing] him to correct [his] statement … [or to] direct EPA to modify the Clear Skies proposal to be in accordance with" his pollution abatement predictions. Letter from Representatives Allen, Capps, Markey, and Pallone, to President Bush 1 (July 31, 2003) ("EPA modeling makes clear that the goal to reduce emissions by 70 percent will not be achieved over the next 15 years (by 2018) as you stated. A September 2002 EPA analysis indicates that in 2020 your proposal would achieve slightly less than a 65 percent reduction in emissions. EPA predicted that even 18 years after enactment, emissions reductions would still fall approximately 945,000 tons of pollution short of a 70 percent reduction."). Characterizing the differences between the President's overly rosy prediction about "Clear Skies" and the bill's likely real world effects as "startling[]," the Representatives reminded the President that "Congress and the public need to be able to rely on the veracity of [his] statements in order to evaluate the competing policies and proposals." *Id.* at 2. "Based on EPA modeling," they continued, the prediction "in the State of the Union appears to fail this test." *Id.*

For instance, the Energy Information Administration has stated explicitly that "[i]n [] Clear Skies [], mercury emissions are not projected to reach the 2010 or 2018 cap levels because of the mercury safety valve. . . . [I]n 2025 they are 29 tons" (*i.e.*, nowhere near the 15 tons that the bill promises to achieve seven years earlier than 2025).[41]

It is important to note too that EPA and DOE conducted their analyses using an earlier version of the bill (S.485) – before industrial units were allowed to "opt in" to the bill's trading system and regulatory relief,[42] and before the bill granted "early reduction" credits to utilities and non-utilities alike.[43] Those two additions undermine President Bush's claim above even further:

- To the extent that non-utility units opt-in to the bill, power plants will not be required to reduce their emissions overall by 70 percent – the greater the degree of non-utility participation in the trading system, the weaker the level of reduction required by power plants.

- Because opt-in unit participation is voluntary; because opt-ins generate additional allowances in the trading system based upon inflated pollution baselines and reductions they would have undertaken anyway; and because additional allowances are created through early reduction credits – the overall effect of these features is to ensure that the bill's 70 percent reduction caps will not be met. Stated differently, these quiet abuses and inherent frauds in the trading system design have the effect of raising the caps so that the bill requires less than 70 percent reductions.

- Just as EPA and DOE found that the utility industry's use of emissions banking and the safety valve will push ultimate achievement of the 70 percent cap until some time after 2025, the generation of additional, fraudulent allowances through opt-ins and early reduction credits pushes attainment of the caps out even further into the future.

If you read the Administration's more recent descriptions of its bill very carefully, you will observe a retreat from the claim that the bill will reduce power plant pollution 70 percent by 2018. Instead, Administration officials make one of several differently worded claims – depending upon whether it is in their present interest to be opaque.

In one version of this dodge, EPA simply fails to specify the date by which the 70 percent reductions will be achieved: "The President's Clear Skies Act would cut power plant emissions of these pollutants by 70 percent, eliminating 35 million more tons of these pollutants in the next decade than the current Clean Air Act."[44] This statement is from EPA's "Legislative Information" Web page concerning the bill, and nowhere on this page does it stipulate by when these reductions supposedly will occur. Testimony by former EPA Administrator Christine Todd Whitman before this Committee on April 8, 2003 followed this same "speak no evil" approach when her entire testimony meticulously avoided answering this most basic of questions.[45]

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[41] Energy Information Administration, "Analysis of S. 485, the Clear Skies Act of 2003, and S. 843, the Clean Air Planning Act of 2003" (Sept. 2003), *available at* http://www.eia.doe.gov/oiaf/servicerpt/ccs/pdf/sroiaf(2003)03.pdf.
[42] S. 131 § 407.
[43] *Id.* § 407(f)(4).
[44] *Available at* http://www.epa.gov/air/clearskies/legis.html.
[45] *Available at* http://www.epa.gov/air/clearskies/testimony.html. While not answering the question, former Administrator Whitman's testimony nonetheless confirmed the untruthfulness of the claim that the Clear Skies bill would achieve actual emissions reductions of 70 percent by 2018: "Because sources can reduce emissions early,

In a legalistic variation on the refusal to specify the date by which 70 percent reduction are accomplished, EPA fact sheets simply note that SO_2, NO_x and mercury emissions are "capped" at their required levels "starting in 2018."[46] But EPA and DOE both have told us that the 2018 "caps" will not be met in 2018, and won't even be met by 2025. Nowhere does this EPA fact sheet tell the public when the 70 percent pollution reductions actually will be achieved – for the simple reason that EPA does not know. Again, the carefully worded statements in EPA's fact sheets avoid the claim that the Administration's plan will reduce power plant pollution 70 percent by 2018. Considering that the vast majority of Americans do not understand how pollution caps work in conjunction with emissions banking, it is highly misleading for the Administration's propaganda in favor of Clear Skies to fail to explain that the 70 percent cap will not reduce pollution by this amount until well after 2018, with two Administration agencies recognizing this will not occur until some time after 2025.

It is thus doubly disconcerting that some proponents of the Administration's bill are still claiming that it will reduce power plant pollution 70 percent by 2018. It will not. The American people and members of Congress deserve a more accurate description of what this bill will and will not accomplish.

F. The Bill Weakens the Clean Air Act.

The Administration's bill takes with one hand while it also takes with the other. In addition to allowing more pollution than public health can tolerate, the Administration's bill weakens or outright appeals all of the specific programs and requirements in the current Clean Air Act that are effectively reducing power plant pollution today and that will reduce it further tomorrow.

The deletions, exemptions and weakening provisions in the Administration's bill do great damage to fundamental precepts of the Clean Air Act that have helped deliver cleaner air for over thirty years.

- Current law requires cleanup of polluted areas as quickly as practicable, but the Administration's bill grants automatic delays to 2015, and effective delays until 2023.

- Current law requires EPA to adopt rules to minimize toxic pollution from power plants, but the Administration's bill repeals most of those requirements and replaces them with a weak performance requirement for mercury that is delayed ten years from the current law's schedule.

- Current law requires new sources locating in polluted areas to meet state-of-the-art pollution standards and avoid making existing health problems worse, but the Administration's bill exempts all sources (even those not covered by any cap) from those requirements until 2015, allowing more than a decade's worth of new pollution sources to make air quality worse.

- Current law gives states victimized by interstate pollution effective rights to remedy that pollution, but the Administration's bill makes those remedies ineffective against power plants and prohibits any reductions from power plants under these provisions until 2012.

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earn allowances for those actions, and use those allowances later, actual emission levels will be higher than the cap in the first years of [the first and second program] phases." *Id.*, sec. II, note to Table I.

[46] *Available at* http://www.epa.gov/air/clearskies/CSA2003shortsummary2_27_03_final.pdf (for example, "annual sulfur dioxide emissions for affected units are capped at 4.5 million tons starting in 2010 and 3.0 million tons starting in 2018").

- Current law requires new and modified power plants to limit pollution increases to avoid turning clean air areas into polluted areas, but the Administration's bill repeals this safeguard except for a narrow 30-mile circle around certain National Parks and wilderness areas.

- Current law requires new and modified power plants to meet up to date emission performance standards to protect areas with clean air, but the Administration's bill repeals this safeguard for nearly all existing plants and replaces it with a more polluting performance standard for new plants.

The Administration defends all of these dismantling provisions as eliminating programs that are not required since its plan establishes new national caps for certain power plant pollutants. But the current Administration ignores what the George H.W. Bush Administration recognized—that national caps cannot protect local air quality and must not override the tools that are in the law to protect communities from pollution increases that harm local air quality. Neither that Bush Administration nor Congress sought to repeal the tools that protect local air quality when enacting the acid rain cap program in 1990. Repeal of those tools is no more justified now.

1. The Bill Delays Existing Deadlines for Meeting Public Health Standards.

The Clean Air Act currently requires attainment as expeditiously as practicable but not later than 5 years after designation (subject to another 5-year extension, again conditioned on passing the "expeditious as practicable test").[47] Because designations for the new 8- hour ozone and PM2.5 standards were made in 2004 and 2005, respectively, the Clean Air Act currently allows citizens to compel their states to adopt measures that will ensure attainment no later than 2009 (for ozone) or 2010 (for PM2.5). The current law also allows downwind states to use CAA §126 to petition for more timely pollution abatement and attainment planning in upwind states.

The Administration's bill postpones the attainment deadline for the country's unhealthy air areas by six years or more. As long as states could show that their polluted areas would attain the smog and soot standards by 2015, those areas would be labeled "transitional" rather than "nonattainment" and be granted automatic extensions of the deadlines to meet health standards.[48] Since the requirement to attain the standards "as expeditiously as practicable" applies only to nonattainment areas,[49] states would be under no obligation to bring air quality into line with the health-based standards any earlier than 2015.

What is more, under the Administration's bill, there is no meaningful remedy for continued nonattainment. If an area is still violating an air quality standard in 2015, EPA makes a determination more than a year later (in 2017), and the responsible state submits a new state implementation plan up to three years after that – in 2020.[50] The state then has at least until 2022 to achieve the air quality standard by implementing its plan.[51] In other words, the Administration's bill forces as many as 159 million Americans to breathe harmful amounts of air pollution for six to eleven years longer than current law allows.[52]

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[47] 42 U.S.C. § 7502(a)(2)
[48] S. 131 Sec. 3(a)(2)(A)(iii) (adding Clean Air Act § 107(d)(1)(A)(iv)).
[49] 42 U.S.C. § 7502(a)(2).
[50] S. 131 Sec. 3(a)(3) (adding § 110(r)(3)).
[51] *Id.*; *see also* 42 U.S.C. § 7410(a), (b).
[52] Current law permits limited postponement of the 2009 deadline only where the EPA makes an appropriateness determination "considering the severity of nonattainment and the availability and feasibility of pollution control

By labeling hundreds of polluted counties "transitional" rather than "nonattainment," the Administration's bill also allows every major industrial source built or modified in those areas to make health problems worse by evading the lowest achievable emissions rate ("LAER") and offset requirements of current law. Under current law, anyone wishing to build or modify a major source of air pollution in a "nonattainment" area must ensure that the source employs state-of-the-art methods to minimize its pollution (LAER) and must offset any added emissions so as not to degrade the already poor air quality in the area.[53] This requirement applies not just to power plants, but to all other major air pollution sources (oil refineries, chemical plants, manufacturing facilities, etc.) as well.[54]

Under the Administration's bill, these health safeguards no longer apply in areas relabeled "transitional." In other words, the Administration's bill makes it easier for the owners of oil refineries, chemical facilities, and power plants to churn out additional pollution in hundreds of counties where the air is already unhealthy to breathe. It is important to emphasize that while the Administration's bill caps only power plant emissions, the bill creates this loophole for all major industrial sources. Amazingly, the Administration has not offered a word of justification for this remarkable assault on the Act's public health safeguards.

The bill would also weaken the prevention of significant deterioration (PSD) program requirements that keep clean air areas from being degraded – by repealing the program as it relates to power plants and opt-in units. Instead of having to show protection of PSD increments (in the law since 1977), a new or modified plant would only have to show noninterference with the health standards. As a result, a new or modified power plant could increase emissions that degrade air quality all the way up to the level of the health standards.

2. The Bill Weakens Existing Safeguards against Hazardous Air Pollution.

The Administration's bill allows unrestricted emissions trading of mercury, something never before allowed under the Clean Air Act for any hazardous air pollutant. The current Clean Air Act requires mercury reductions at each power plant, based on the emissions reductions achievable through advanced technologies applied to individual emissions units. By allowing mercury trading, the bill allows some power plants not to reduce their emissions at all. Instead, they can buy mercury emission allowances from other power plants and do nothing to stop contamination of local lakes and streams. Some plants can even increase their mercury emissions.

Indeed, EPA's own analyses of the Administration's bill acknowledge mercury pollution increases above today's levels from "specific sources in some states," due to the trading features of the bill and the bill's repeal of the 2008 MACT standard.[55] This dirtier outcome would not be allowed if the plant-specific MACT standard remained in effect. EPA's data also show that parts of New England, the Great Lakes, Gulf Coast region and other areas receive only very small reductions in mercury deposition under the bill.[56]

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measures." 42 U.S.C. § 7502(a)(2)(B). *See also id.* § 7502(a)(2)(C), (D). The Administration's bill does not condition the availability of the 2015 postponement on any such determination.

[53] 42 U.S.C. §§ 7502(c)(5), 7503(a)(2), (c).

[54] *Id.* § 7502(c)(5).

[55] *See* EPA, "Technical Support Package for Clear Skies," Section B: Human Health and Environmental Benefits, at 44.

[56] *Id.*

What is more, the Administration's bill exempts from the mercury cap all coal-fired electric generating units that emit 50 pounds-per-year or less of mercury.[57] Fifty-two percent of the nation's coal-fired electric generating units qualify for that exemption.[58] That is, the bill exempts 52 percent of the country's coal-fired units from the mercury cap. These units emit 5.2 tons annually, which is equivalent to about one sixth of the total 2010-2017 mercury cap in the Administration's bill and one third of the 2018 cap. It is also approximately 10 percent of current power-plant mercury emissions in this country. The exemption applies even to units that are part of a multi-unit power plant that collectively emits more than 50 pounds-per-year of mercury. For example, the bill exempts all five of the units at a massive generating station in Wabash, Indiana, even though the plant collectively emits 134 pounds-per-year of mercury.

Not only does the bill exempt 52 percent of all mercury-emitting power-plant units, it fails to require compensatory reductions from the 48 percent that remain in the trading program, thus hitting public health twice. That is, the touted 70 percent reductions are entirely fictional; 48 percent of plants must reduce their emissions 70 percent, while the remainder need not make any reductions at all. With respect to the polluters exempted from the mercury cap, the bill fails even to require that they monitor their mercury emissions.

Even for the units that are not exempt from the caps, the bill requires no mercury controls until 2010 (a two-year delay over the current law) and substitutes much weaker mercury caps in place of the plant-by-plant "maximum achievable control technology" ("MACT") requirement.[59] For 2010 through 2017, the bill's 34-ton cap represents merely the mercury reductions incidental to the bill's phase-one caps for SO_2 and NO_x.[60] Mercury cuts beyond these incidental reductions are not achieved until 2018. In other words, the Administration's 3-pollutant bill is effectively a 2-pollutant bill until 2018.

Also repealed with mercury MACT is the current law's requirement that EPA establish MACT standards for all hazardous air pollutants emitted by power plants, not just mercury. For hazardous pollutants other than mercury, the bill leaves only the authority to set "residual risk" standards through a complex risk-based process, but the earliest that those regulations are permitted to take effect is 2018 – a full 10 years after the MACT compliance deadline of the current Clean Air Act. Moreover, the bill repeals the Clean Air Act's "residual risk" protections entirely for mercury without regard to any health risks that remain under the bill's weaker mercury caps.[61]

Because unrestricted trading of mercury emissions could lead to toxic hotspots where mercury contamination increases, the Clean Air Act – as well as other legislative proposals (notably the Clean Power and Clean Smokestacks Acts) – prohibit mercury trading. Hotspot risks under the Administration's bill are made worse by the fact that the bill does not require continuous emissions monitoring systems ("CEMS") for mercury.[62] EPA itself has identified continuous monitoring and reporting as design features essential to the environmental integrity of the acid rain trading program.[63] Mercury emissions trading is allowed even without continuous monitoring so long as the Administrator

[57] S. 131 § 471(2)(C).
[58] 582 of the 1121 coal-fired units that were active in 1999 in this country (that is, 52 percent) emitted less than 50 pounds-per-year of mercury.
[59] S. 131 § 473.
[60] *Id.*; "Electric Utilities Seeking Changes in Administration Clear Skies Measure," BNA Daily Environment Rep. (Jan. 28, 2003).
[61] S. 131 Sec. 3(a)(5)(A) (amending Clean Air Act § 112(c)(1)).
[62] S. 131 § 405(a)(2)(B).
[63] Testimony of Jeffrey Holmstead, Assistant Administrator, Office of Air & Radiation, U.S. EPA, Before the Subcommittee on Public Health of the Committee on Health, Education, Labor and Pensions, United States Senate, at 4-5, September 3, 2002.

determines that CEMS for mercury with "reasonable vendor guarantees" are not commercially available.[64] The responsible approach would be to make any mercury trading (if some carefully limited program were shown to prevent hotspots) contingent on the development of reliable continuous monitoring systems for the pollutant.

Finally, with regard to all non-mercury air toxics, including human carcinogens, the Administration's bill exempts as many as 69,000 industrial units (boilers and process heaters, plywood and composite wood product manufacturing units, reciprocating internal combustion engines, and stationary combustion turbines) from the Clean Air Act's mandate of deep emissions reductions by 2008.[65] The result is to override the removal of as many as 74,000 tons-per-year of toxic and even carcinogenic chemicals from the air we breathe.[66]

3. The Bill Weakens Existing Safeguards for States.

The Administration claims that its bill preserves states' authority to enact additional control requirements as necessary to meet air quality standards or control requirements. Further, responding to concern that the bill repeals the new source review program and other important clean air protections, the Administration protests that states remain free to adopt similar provisions that are more stringent than those imposed federally. In support of these assertions, the Administration cites the bill's three savings provisions,[67] which purport to leave states free "to adopt or enforce any regulation, requirement, limitation, or standard … that is more stringent than a regulation, requirement, limitation, or standard in effect under [any] provision of th[e bill]."[68]

But there is a little-discussed fly in this ointment. A glossed-over provision of the bill, subsection 406(f), provides that "no State or political subdivision thereof shall restrict or interfere with the transfer, sale, or purchase of allowances under this title."[69] The reach of this language is unclear, but at the very least it can be read to preempt the most likely state actions, including: (1) adoption of more stringent state-specific emissions caps (any such caps would, in effect, prevent state sources from transferring or selling allowances to out-of-state sources); (2) readoption of a new source review-like program (any source-specific restrictions would necessarily limit affected sources' ability to transfer or sell their allowances); and (3) narrow regulation of or negotiation with specific, offending plants (again, such regulations or agreements would interfere with the plants' use of their allowances). In short, the bill's purported savings clauses may "save" very little, leaving states powerless to undo the bill's damage to the quality of their air and the health of their citizens.

Further, the bill drastically limits states' ability to protect their citizens from upwind polluters. Pollution from power plants in upwind states is responsible for violations of the soot and smog standards in many downwind states. The delay of attainment deadlines through the "transitional area" scheme described above would assure that many such downwind states receive more pollution transported from upwind areas over the next 17 years.

The Administration's bill exacerbates this problem by eliminating, as a practical matter, downwind states' ability to control pollution transported from upwind sources. Section 126 of the existing Clean Air

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[64] S. 131 § 405(a)(2)(B)(i).
[65] *Id.* § 407(j)(1)(A).
[66] *See* http://www.epa.gov/ttn/atw/rice/ricefactsheetfnl.pdf; /boiler/bolersfactsheetfnl.pdf; /plypart/plywoodfactfinal.pdf; turbine/turbine_fs.pdf.
[67] S. 131 §§ 463(c), 481(j), 483(e).
[68] *Id.* § 481(j).
[69] *Id.* § 406(f).

Act permits downwind states to petition EPA to address upwind states' power plant emissions, and grants the agency the authority to regulate those emissions. The D.C. Circuit has twice reviewed EPA rulemakings under this provision, upholding the agency's determination to require reduction of upwind emissions that "contribute significantly" to downwind pollution.[70] In doing so, the court affirmed EPA's rejection of far more onerous and unmanageable approaches pushed by industry and opposing upwind states.[71]

The bill effectively reverses those court decisions, establishing a new, insurmountable test the agency must pass before it may assist affected downwind states. Specifically, EPA must first find that emissions reductions from upwind power plants would be at least as cost-effective as reductions from <u>each other</u> principal source of NO_x and SO_2, including "industrial boilers, on-road mobile sources, … off-road mobile sources,[72] and any other category of sources that the Administrator may identify."[73] Needless to say, the time and expense of developing a methodology to make such a determination, implementing that methodology, and then defending the final cost-effectiveness determination in court would be prohibitive: No rule regulating upwind states' power plant emissions would ever issue.

Moreover, even if EPA and the downwind states could pass this new extreme test, the bill prohibits requiring emission reductions from power plants before 2015, no matter how compelling the evidence that the plants are causing serious health problems in downwind communities. This stands in stark contrast to the expedited relief structure of the current Clean Air Act. As EPA has noted:

> Section 126 provides a tool for downwind states, the entities with most at stake, to force EPA to confront the issue directly. It also sets up an abbreviated, and hence potentially faster, process to achieve emission reductions. . . . . In contrast [to the SIP process] Congress required very expeditious EPA action on a [section 126] petition and from 3 months up to three years for sources to comply.[74]

"Congress provided section 126 to downwind States as a critical remedy to address pollution problems affecting their citizens that are <u>otherwise beyond their control</u>, and EPA has no authority to refuse to act under this section."[75] Ignoring the need for such a remedy, the Administration's bill instead saddles downwind, polluted states with insurmountable barriers to relief.

4. The Bill Eliminates Existing Safeguards against Pollution Hotspots.

Under the Administration's bill, a power plant can pollute at any level so long as it buys sufficient pollution allowances from other plants.[76] The fact that power plant pollution may decline nationwide, however, provides no protection to the communities affected by a plant whose emissions stay level, or even increase, because of its owner's reliance on emissions trading. The "new source review" (NSR) provisions in the Clean Air Act provide important protection against the emergence of "pollution havens" or "hotspots" in response to an emissions trading system. NSR requires any person planning to build a

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[70] *See Michigan v. EPA*, 213 F.3d 663 (D.C. Cir. 2000) (upholding NOx SIP Call approach); *Appalachian Power Co. v. EPA*, 249 F.3d 1032 (D.C. Cir. 2001) (upholding same approach in section 126 rulemaking).
[71] *See Michigan* at 213 F.3d at 675-680; *Appalachian Power* 249 F.3d at 1044-1051.
[72] These particular provisions place states in an impossible situation, since the Clean Air Act elsewhere *preempts* states from controlling emissions from on-road vehicles and engines, CAA § 209(a), and nonroad vehicles and engines, CAA § 209(e). States may control these mobile sources of emissions only by adopting California standards. 42 U.S.C. §§ 7507 & 7543(e)(2).
[73] S. 131 Sec. 3(a)(6) (adding § 126(d)(2)(B)(i), (ii)).
[74] 65 Fed. Reg. 2674, 2681 (Jan 18, 2000).
[75] *Id.* (emphasis added).
[76] S. 131 § 403.

new major pollution source, or to change an existing one in a way that will cause an emissions increase, to demonstrate that the source will use the most effective pollution control methods available and that its emissions increase will not degrade air quality locally, in downwind communities,[77] or in National Parks.[78]

The Administration's bill eliminates federal new source review provisions for power plants and any non-power-plant facilities opting into the emissions trading scheme.[79] If the bill is enacted, companies will be free to cause even massive pollution increases by building new plants or expanding old ones without adopting up-to-date pollution controls or determining whether air quality will worsen locally or downwind.

5. The Bill Replaces Requirements for Up-To-Date Technology with Obsolete Standards.

In place of repealed requirements for case-by-case determination of up-to-date pollution control performance, the Administration's bill substitutes a requirement that EPA establish certain emissions standards that apply to new power plants.[80] The bill sets these standards at much more polluting levels, however, than the emissions levels of plants being built today. In other words, these standards are already obsolete and behind the curve of current requirements. For example:

- For boilers and integrated gasification combined cycle ("IGCC") plants, the bill sets an SO_2 emissions limit of 2.0 lb/MWh.[81] Three recently issued permits for coal-fired boilers set SO_2 emissions limits of 1.0, 1.2, and 1.0 lb/MWh, respectively.[82]

- For boilers and IGCC plants, the bill sets a NO_x emissions limit of 1.0 lb/MWh.[83] Three recently issued permits for coal-fired boilers each set NO_x emissions limits of 0.7 lb/MWh.[84]

- For boilers and IGCC plants, the bill sets a PM emissions limit of 0.2 lb/MWh.[85] Three recently issued permits for coal-fired boilers set PM emissions limits of 0.12, 0.15, and 0.15 lb/MWh, respectively.[86]

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[77] 42 U.S.C. §§ 7475, 7501-7503. Current law requires a company to demonstrate that the planned construction or other change will not cause or contribute to pollution in excess of certain maximum allowable increases and maximum allowable concentrations that are separated from the NAAQS by a safety margin. 42 U.S.C. § 7475(a)(3)(A). The administration's bill simply requires a demonstration that the planned activity will not cause or contribute to a violations of – or inability to achieve – the NAAQS itself. S. 131 § 483(c)(1), (2).

[78] Current law requires a company to demonstrate that the planned construction or other change will not degrade visibility or other air quality related values at any national park. 42 U.S.C. § 7475(a)(5), (d). If the administration's bill were enacted, such a demonstration would not be required unless the plant in question were located within fifty kilometers of a park. S. 131 § 483(b). This despite the fact that emissions from major pollution sources have been shown to have a negative impact on parks as far as 700 kilometers away. *See* Gebhart, K., "Preliminary Particulate Sulfur Source Attributions for BRAVO by Trajectory Mass Balance Regressions" (presentation for BRAVO conference call on November 21, 2002) (analysis on file with the Clean Air Task Force).

[79] *See* S. 131 § 407(K) ("An affected unit shall not be considered a major emitting facility or major stationary source, or a part of a major emitting facility or major stationary source for purposes of compliance with the requirements of parts C and part D of title I, for the 20-year period beginning on the date of enactment of the Clear Skies Act of 2005.").

[80] *Id.* § 481(b)(1), (c)(1), (d).

[81] *Id.* § 481(c)(1)((A).

[82] Wygen 2 plant in Wyoming; Roundup plant in Montana; IPP plant in Utah.

[83] S. 131 § 481(c)(1)(B).

[84] Wygen 2 plant in Wyoming; Roundup plant in Montana; IPP plant in Utah.

The bill does not place obligate EPA to update these already-obsolete emissions standards until eight years after the agency incorporates them into its regulations.[87] Even then, the bill gives the agency discretion to avoid reviewing and updating the standards.[88]

This is a sharp contrast with current law, under which the case-by-case review of LAER and (in areas other than nonattainment areas) "best available control technology" (BACT) assures that emission performance for new and modified plants keeps pace with improvements in pollution control capabilities. Because of BACT and LAER, the state-of-the-art in industrial pollution control has repeatedly graduated to successively higher levels of environmental performance as sources were built or modified over the last two decades.

For example, a review of EPA's database for BACT and LAER determinations reveals that over just the past ten years, the state-of-the-art in NO_x emissions controls for utility boilers and furnaces has advanced from no controls ("good combustion practices") to low NO_x burners to selective catalytic reduction ("SCR") to selective non-catalytic reduction ("SNCR") and circulating fluidized bed ("CFB").[89] Recent determinations by permitting authorities show that further improvements are in the wings.[90]

As EPA and the courts have recognized, Congress intended the Clean Air Act to perform this "technology-forcing" function.[91] The Administration's bill erases that function, leaving in its place static emissions standards that do not even represent the state-of-the-art in pollution control today.

EPA Assistant Administrator Holmstead has acknowledged in testimony delivered before this Committee that the new source review requirements have not adversely impacted construction or investment associated with new power plants. He testified that:

> With regard to the energy sector, EPA found that the NSR program has not significantly impeded investment in new power plants or refineries. For the utility industry, this is evidenced by significant recent and future planned investment in new power plants. [92]

This Committee should recall that in 1990, the first President Bush did not seek to repeal these safeguards when he sought a cap and trade program for SO_2 from power plants, and Congress did not enact such a repeal. Those programs have worked in tandem for the past thirteen years. The Act's safeguards for local air quality have not interfered with the acid rain cap and trade program and have not

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[85] S. 131 § 481(c)(1)(C).
[86] Wygen 2 plant in Wyoming; Roundup plant in Montana; IPP plant in Utah.
[87] S. 131 § 481(e)(1).
[88] *Id.* § 481(e)(2).
[89] *See* http://cfpub1.epa.gov/rblc/cfm/basicsearch.cfm.
[90] *See, e.g,.* Letter from Richard L. Goodyear, Permit Programs Manager, State of New Mexico Air Quality Bureau, to Larry Messinger, Mustang Energy Company (December 23, 2002), at 1-2 ("The analysis must include a discussion of the technical feasibility and availability of IGCC and CFB for the proposed site in McKinley County . . . .").
[91] *See* "Background Statement on the Environmental Protection Agency's Top-Down Policy" (June 13, 1989) (citing S. Rep. No. 95-252, 95th Cong., 1st Sess. 31 (1977)), *reprinted in*, 3 A Legislative History of the Clean Air Act Amendments of 1977 at 1405; 123 Cong. Rec. A9171 (remarks of Senator Edmund G. Muskie), *reprinted in* 3 Legislative History at 729. *See also WEPCO v. EPA*, 893 F.2d 901, 909 (7th Cir. 1990).
[92] Testimony delivered by Assistant Administrator Jeffrey Holmstead to the United States Senate Committee on Environment and Public Works on July 16, 2002.

prevented the very large economic savings provided by the cap and trade mechanism. Experience proves that both programs can work together and this Congress should not ignore that fact.

6. The Bill Eliminates Existing Protections for National Parks.

The Administration's bill exempts owners of new and modified power plants from the obligation to meet up-to-date pollution performance standards (BACT) and examine the impacts of any added pollution on National Parks or wildernesses – called "Class I areas" – (except those within 30 miles of the plant). The bill also eliminates the role of the federal land manager (typically the National Parks Service Superintendent for a National Park) in assuring that the air quality of these treasured lands is protected.

Under current law, if a new or expanded pollution source could affect a Class I area, the federal land manager has an opportunity to review the draft permit and an accompanying air quality analysis to assure that factors relevant to protecting national parks and wilderness areas are taken into consideration, and that harmful effects are mitigated. The federal land manager's review is eliminated under the Administration's bill for all plants farter than 30 miles from each park or wilderness.

The Administration's bill also repeals the current Clean Air Act program to lift the haze shrouding the Nation's parks by obligating the states to require the best available retrofit technology ("BART") on all major sources of air pollution built between 1962 and 1977 that contribute to the haze.[93] The bill exempts all opt-in units and all power plants – the primary contributor to park haze – from the BART requirement.[94] In so doing, the bill lets off the hook those intransigent companies that have not yet installed the best available retrofit technology on their plants.

If the Administration elected to enforce the requirement, instead of lifting it, the installation of BART on just the largest power plants would reduce annual SO_2 emissions by 4.5 million tons, and annual NO_x emissions by 1.9 million tons.[95] Those reductions alone would be equivalent to what the Administration's bill will purportedly achieve in its entire 8-10 year first phase.

In addition, EPA has before it a remand from the courts to issue a new rule to protect clean air in the Nation's parks; if EPA does its job properly, we can substantially reduce power plant pollution in the West as well as the East.

7. The Bill Gives the Energy Department Veto Power over Public Health Protections.

For the first time in the 35-year history of the Clean Air Act, the Administration proposes to grant the Department of Energy unilateral authority to relieve power plants from air pollution control obligations and the public health protections that these controls accomplish. The Administration's bill relegates the EPA to a subordinate, meaningless "consultation" role. In the name of ensuring "reliability" of an electric company or system – a vague and undefined term – Section 409 allows DOE to grant <u>any</u> industrial polluter (in the power sector or otherwise) a one-year extension from the requirements of the SO_2, NO_x or mercury trading programs.[96]

Worse, the dirtiest power plants – those that will be installing pollution control technology on 25 percent or more of their coal-fired capacity – are granted <u>automatic</u> one-year extensions from the SO_2,

[93] 42 U.S.C. § 7491(b)(2)(A).
[94] S. 131 §§ 407(K), 483(a).
[95] MSB Associates, analysis using EPA list of BART eligible sources exceeding 750 MW (analysis on file with the Clean Air Task Force).
[96] S. 131 § 409(a)(4).

NO_x and mercury deadlines, regardless of whether they meet the criteria that allow DOE to grant such an extension.[97] It appears that very many companies would qualify for this relief.

For any company that does not meet the 25% test, DOE is authorized to grant the petition on other grounds, including a claim that prices for needed equipment are not "fair."[98]

Moreover, the bill effectively allows even these one-year extensions to be lengthened to two years, if DOE fails to act with 180 days on a "reasonably complete petition" – also an undefined term.[99] Considering the avalanche of self-serving petitions that companies can be predicted to submit, and the notorious record of bureaucratic inaction at DOE (especially when it serves the interests of the power sector), we believe petitioning companies will see their obligations to install pollution controls routinely delayed by two years.

There is no limitation in the bill on the number of entities, or amount of nationwide emissions, for which DOE could grant this regulatory relief, potentially throwing the bill's compliance deadlines and allowance system into disarray. Outrageously, the bill provides no criteria that even allow – much less require – DOE to deny such petitions on grounds related to harm to air quality, public health, ecosystems, or national parks. The only concerns of the bill are polluting industry's concerns.

Finally, the bill allows any industrial polluter to file multiple petitions with DOE during any year that an affected unit cannot meet its allowances obligations for SO_2, NO_x or mercury for that year, to borrow pollution allowances from the following year.[100] The result of this scheme is to allow any source to pollute more in any given year than the trading program would otherwise allow, exacerbating local air quality for that year, and even allowing the compliance caps in the bill to be disregarded. The bill does not require the increased allowances to be offset with decreased allowances elsewhere, in order to ensure that the overall caps will be met. And again, the bill provides no criteria that would allow DOE to deny such petitions on grounds related to harm to air quality, public health, ecosystems, or national parks.

None of the foregoing provisions, allowing DOE interference with the SO_2, NO_x or mercury trading programs, and harm to public health and air quality, is remotely allowed by today's acid rain trading program. As discussed elsewhere in my testimony, section 409's DOE veto authority is just one of many unjustifiable features of the Administration's bill that flout the structure and success of the acid rain trading program.

G. The Bill Departs from the Acid Rain Trading Program Model and Seriously Undermines That Model's Credibility and Accountability.

S. 131's proponents claim that the bill adopts the successful model of the acid rain trading program in Title IV of the Clean Air Act. This is incorrect. As I will explain, S. 131 departs from the basic role played by the acid rain program in the 1990 Amendments. Moreover, the bill does damage even to that role by eliminating or undermining the integrity and key accountability measures of the acid rain trading program, while introducing loopholes and destabilizing elements that Title IV does not contain. Indeed, S. 131 strips away safeguards and accountability measures that are integral to the effectiveness, enforceability and reliability of a national cap-and-trade program. The overall result is that the proponents of the bill cannot claim the successes of the acid rain program as a justification for their bill. To the contrary, the history and success of the acid rain trading program necessitate opposition to S. 131.

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[97] *Id.* § 409(a)(3)(E).
[98] *Id.* § 409(a)(3)(A).
[99] *Id.* § 409(a)(2)(A).
[100] *Id.* § 409(b).

1. The Bill Strips Necessary, Local Air Quality Protections that Work in Concert with a National Cap-and-Trade Program.

As discussed above, S. 131 repeals or weakens an array of statutory safeguards protecting local and downwind communities from harmful smog and soot pollution, as well as toxic air pollution. When Congress adopted the Clean Air Act amendments in 1990, it either added, retained, or strengthened each of these safeguards. The safeguards have helped to protect communities against local pollution increases that have occurred even as the acid rain program's national SO_2 cap has been met and its NO_x provisions have been implemented.

Local pollution increases are documented in a new report entitled "Pollution on the Rise: Local Trends in Power Plant Pollution,"[101] which analyzes EPA data on power plants emissions of SO_2 and NO_x from 1995 to 2003 – the period during which the acid rain trading program was operational. The report found that:

- "More than half (54 percent) of the nation's dirtiest power plants increased their annual soot-forming SO_2 emissions from 1995 to 2003, even while annual SO_2 emissions from power plants decreased by 10 percent nationwide"; and

- "Thirty-eight (38) percent of the nation's dirtiest power plants increased their annual smog-forming NO_x emissions from 1995 to 2003, even while annual NO_x emissions from power plants declined by 29 percent nationwide."[102]

The increases in SO_2 at individual plants occurred under the acid rain program – and would occur at many plants under S. 131 – because a national cap-and-trade program allows any given power plant to pollute at any level so long as it buys sufficient pollution allowance credits from other plants.[103] The current Clean Air Act guards against these local pollution increases – which exacerbate already unhealthy air in nonattainment areas, and degrade air quality in attainment areas – with the federal new source review program. As noted earlier, NSR requires any person planning to build a new major pollution source, or to change an existing one in a way that will cause an emissions increase, to demonstrate that the source will use the most effective pollution control methods available and that its emissions increase will not degrade air quality locally, in downwind communities,[104] or in National Parks. The acid rain trading program wisely retained this safeguard; S. 131 eliminates it, failing to protect the public against local pollution increases.

2. The Bill Weakens Accountability Mechanisms that Preserve the Integrity of a Cap-and-Trade Program, and Allows for Accounting Fraud that Undermines the Caps.

The bill abandons critical features of the acid rain trading program that have been integral to the integrity, accountability, and therefore success of that program.

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[101] U.S. Public Interest Research Group, ""Pollution on the Rise: Local Trends in Power Plant Pollution" (Jan. 2005), http://uspirg.org/uspirgnewsroom.asp?id2=15501&id3=USPIRGnewsroom&.

[102] One important caveat to this is that there was no cap on NO_x emissions under the acid rain title.

[103] S. 131 § 403.

[104] 42 U.S.C. §§ 7475, 7501-7503. Current law requires a company to demonstrate that the planned construction or other change will not cause or contribute to pollution in excess of certain maximum allowable increases and maximum allowable concentrations that are separated from the NAAQS by a safety margin. *Id.* § 7475(a)(3)(A). The Administration's bill simply requires a demonstration that the planned activity will not cause or contribute to a violations of – or inability to achieve – the NAAQS itself. S. 131 § 483(c)(1), (2).

a. Inadequate monitoring renders the trading programs for SO_2, NO_x and mercury unverifiable and untrustworthy.

Whereas the acid rain trading program today requires continuous monitoring of emissions and emissions reductions to ensure a reliable, verifiable allowance market, S. 131 abandons this requirement in favor of lenient monitoring incapable of accurately tracking emissions.

The acid rain program requires each unit to monitor its emissions of SO_2, NO_x and CO_2, requiring a continuous emissions monitoring system (CEMS) in most instances. EPA explains that:

> The emissions monitoring and reporting systems are critical to the program. They instill confidence in allowance transactions by certifying the existence and quantity of the commodity being traded and assure that NOx averaging plans are working. Monitoring also ensures, through accurate accounting, that the SO2 and NOx emissions reduction goals are met.[105]

The bill appears to retain CEMS and alternative emissions monitoring systems for SO_2 and NO_x emissions from affected units that are electric generating units currently subject to Title IV. For all affected units covered by the new mercury trading program, and all opt-in units, however, S. 131 allows monitoring that is not continuous, and that does not provide information with the same precision and reliability as that provided by CEMS. For example:

- For opt-in units, CEMS are not required "for compliance monitoring by units of less than 250 mmBtu heat input or equivalent product output capacity";[106]

- For opt-in units, CEMS "for compliance monitoring by units of between 250 mmBtu and 750 mmBtu heat input or equivalent product output capacity" may be waived by the EPA Administrator based on a mere determination that "a CEMS requirement is not necessary to generate reliable data for compliance determinations";[107]

- If EPA fails to promulgate timely allocations regulations by 2008 or thereafter, affected units may use "reasonable industry accepted methods" for monitoring NO_x emissions rather than CEMS;[108]

- For mercury emissions, the bill allows monitoring that is only "reasonably of the same precision [and] reliability" as that provided by CEMS, a watering-down of Title IV requirement for alternative monitoring;[109] and
- Opt-in units that are "boilers or process heaters, industrial furnaces, kilns or other stationary sources," belong to one of the four source categories that qualify for the bill's regulatory relief from air toxics (NESHAP) regulation, and have mercury emissions covered by the trading program need only have "monitoring and compliance requirements that would be applicable to such units under the NESHAP."[110] The glaring problem with this approach is that monitoring under NESHAPs is not remotely capable of monitoring emissions continuously, or with the same precision and reliability as continuous monitoring – for the simple reason that NESHAPs do not allow trading of hazardous air pollutant allowances.

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[105] http://www.epa.gov/airmarkets/arp/overview.html
[106] S. 131 § 407(d)(5)(C)(i).
[107] *Id.* § 407(d)(5)(C)(ii).
[108] *Id.* § 454(a)(5)(B).
[109] *Id.* § 405(a)(2)(B)(iv).
[110] *Id.* § 407(j)(1)(B).

b. The opt-in and "early reduction" provisions for other sources damage the integrity of the trading program and effectively authorize emissions above the caps.

An overarching point to understand before examining each of the deficiencies below is the enormous breadth of "units" allowed to "opt in" to the bill's pollution trading programs for SO_2, NO_x and mercury, as well as the bill's regulatory relief from existing protections like NSR and BART. This understanding is critical because the fundamental flaws of the opt-in provisions are compounded tenfold by the enormous number of units that can participate.

The bill's definition of a "unit" that may qualify for "opt in" status is so broad that it includes any source that emits SO_2, NO_x or mercury and that opts in to the bill under section 407's "Election for Additional Units."[111] This opens the election to a wide range of equipment in all sorts of industries, subject only to the requirement that the unit vent its emissions only through a stack or duct. Thus, polluting equipment at oil refineries, chemical plants, pharmaceutical plants, steel foundries, auto assembly plants, cement kilns, and other manufacturing facilities are be eligible to elect. Owners or operators of these units can then qualify for the weakened control requirements and regulatory relief contained in the bill, as explained below.

Voluntary participation and self-selection ensure gaming and worsen emissions performance. S. 131 allows pollution sources other than electric utilities to opt in to the bill's trading provisions, and regulatory relief, on a voluntary basis. This self-selection process ensures participation by sources whose expected operations will create an apparent emissions reduction when compared to an artificially high "baseline." This results in a defect commonly referred to as the creation of "anyway tons" – sources are allowed to generate allowances for emissions reductions that would have occurred without the program. Indeed, as drafted, the bill allows credits to be generated even when the reductions are legally required.[112] The opt-in sources can then sell those allowances to other affected units in the trading programs, relieving those power plant units of the need to undertake emissions reductions. Such opt-in sources would not be over-controlling to generate additional emissions reductions for the allowance market; rather, they would flood the allowance system with business-as-usual reductions or – worse, bogus reductions as explained below.

Voluntary participation and self-selection by industrial sources also ensures that facilities whose emissions are expected to remain high simply will not opt in. They will remain dirtier than if they were required to participate in a mandatory industry sector trading program like the acid rain program. Rather than the cost-effective emissions reductions the Administration advertises, therefore, the bill's cap-and-trade regime actually achieves emissions <u>increases</u> that exact a significant public health toll.

Inflated pollution baselines for opt-in units produce bogus allowances that do not reflect actual emissions reductions. Sources opting in to the allowance markets for NO_x, SO_2 or mercury – and the regulatory relief afforded by the bill – must first establish their "baseline" emissions. These baselines are then used to determine the allocation of allowances to opt-in units for their participation in the trading programs. To oversimplify, a unit's baseline emissions are essentially a function of the unit's heat input or product output, on one hand, and the unit's emissions rate for the respective pollutant, on the other.

Section 407(d) of the bill provides opt-in units with a menu of options from which to select the method of establishing their baseline emissions. These baseline options are designed to allow

[111] *Id.* § 402(32).
[112] *Id.* § 407(f)(1)(B)(ii).

manipulation to create high emission entitlements – that is, opt-in units' baseline emissions may be manipulated and inflated well above their normal actual emissions, to enable plant owners and operators to receive higher numbers of emissions allowances (rights to emit). In turn these bogus allowances permit higher amounts of emissions in the overall trading scheme. Because this flood of higher, artificial allowances from opt-in units may be traded to power plants and other affected units, the effect is to create additional authorizations to emit above the caps. Stated differently, the infusion of bogus allowances from opt-in units effectively raises the caps above the levels claimed by the administration.

These baseline manipulations occur in a variety of ways under the bill.[113] For example, units can run hard for three years and generate a baseline much higher than any prior operations. Also, the allocations[114] permit use of emission rates in effect during the heat input period chosen by the source. This allows sources to take advantage of currently lax emission limits to run hard, increase actual emissions, and create huge baselines. Thus, units now operating at low capacity or with emission rates below allowables can easily increase emissions by a factor of two or more. This not only increases actual emissions, but also generates bogus extra allowances for those sources – allowances that can then be transferred when the sources slow or shut down, relieving other affected units of their emissions reduction obligations, and thereby raising the caps above touted levels.

The bill allows unlimited "shutdown" credits, creating bogus allowances that do not reflect actual emissions reductions. The bill's limitation on shutdown credits is substantially weaker than the corresponding provision in the current acid rain program.[115] Section 410 of the current Clean Air Act allows shutdown credits only for units that shut down as a result of the "replacement of thermal energy from the unit designated under this section, with thermal energy generated by any other unit or units subject to the requirements of this title."[116] This thermal energy limitation was designed to allow an industrial process heat source to be replaced by a (more efficient) cogeneration unit. By eliminating the thermal energy constraint, the new bill allows unlimited shutdown credits to be created and transferred from any opt-in source to any other unit subject to the requirements of "this subpart."

These shutdown credit provisions, when combined with the inflated baseline provisions, allow for older sources to run hard for 3 years, opt in, then later shut down and create an enormous stream of added allowable emissions that can be transferred to any other unit in the cap programs. The term "replacement" thus becomes meaningless as a constraint.

The bill allows mercury "early reduction" credits to be generated by opt-in units without limit, and even above the cap levels – effectively increasing the mercury caps. The bill's objectionable early reductions provisions for mercury emissions bear special examination. Section 475 allows the generation of early reduction credits for mercury emissions:

- Above cap levels, effectively raising the phase I and phase II mercury caps;
- Without any limitation on total mercury early reduction credits, rendering indeterminate the actual reductions achieved from the power sector or under the bill;
- Already required by state laws or regulations, obviating the benefits of those state mercury reductions, allowing windfall sales of mercury allowances from reductions already required by

[113] S. 131 § 407(d)(3).
[114] *Id.* § 407(f).
[115] *Id.* § 407(l), at 65.
[116] 42 U.S.C. § 7651i(f).

state law, and permitting other affected units to maintain high mercury levels or even increase those levels from allowance purchases;

- From incidental mercury reductions occurring anyway as a result of SO_2 or NO_x reductions, allowing discredited "anyway tons" to undermine the integrity of allowances and, again, raise the mercury cap levels.

As with the bill's other provisions allowing opt-in participation in the allowances scheme, the voluntary and self-selecting nature of the system makes it hard if not impossible to quantify how much actual reduction in mercury emissions the bill accomplishes. Certainly the reductions will not reach the phase I and phase II amounts claimed, due to the array of flaws described above.

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The effect of all this is that S. 131 re-introduces a host of loopholes, accounting gimmicks, free-rider problems and accountability defects that rightfully caused trading approaches to be held in low regard until the acid rain program corrected these deficiencies in the 1990 Clean Air Act amendments. This bill strips the acid rain trading program model of the very integrity that has justified public confidence in the program.

Among the competing legislative proposals before this Committee, the bill that can most legitimately claim the mantle of the successful acid rain trading program is the Clean Power Act, S.150 – not the Clear Skies Act. The bipartisan Clean Power Act co-sponsored by Senators Jeffords, Lieberman and Collins adopts a national cap-and-trade program for SO_2 and NO_x, while prohibiting trading of the dangerous hazardous air pollutant, mercury – just as the 1990 Clean Air Act Amendments did. The Clean Power Act preserves the safeguards against local, regional and upwind pollution damage, in the form of the NSR, regional haze, and section 126 interstate pollution programs – just as the acid rain program did. Moreover, the Clean Power Act maintains the accountability mechanisms and integrity of the acid rain trading program for its SO_2 and NO_x trading programs. In stark contrast, the Clear Skies Act fails on all these scores.

II. THE BILL ALLOWS UNLIMITED GROWTH IN CARBON DIOXIDE FROM POWER PLANTS, WORSENING GLOBAL WARMING

Electric power plants are the largest source of global warming pollution in the United States, responsible for 40 percent of U.S. carbon dioxide (CO_2) emissions. Yet the administration bill does not contain any provision to reduce these emissions, or even limit their growth. This is not just an omission; it is a choice that will take us down the wrong path increasing costs for consumers and locking us in to risky emissions growth. In the two years since introduction of the original administration bill, it has become increasingly obvious that the failure to address CO_2 emissions is out of sync with scientific and economic reality.

A. Global Warming Is Real and Urgent.

In the two years since the last hearings on the administration's bill, scientific evidence has only strengthened on the reality of global warming and urgency of beginning to curb the carbon dioxide pollution that is causing it.

The administration's own 2002 Climate Action Report concluded that unless global warming emissions are reduced, average temperatures could rise another 3 to 9 degrees Fahrenheit in the United States by the end of the century[117] – with far-reaching effects:

- Higher temperatures will worsen air pollution.[118]
- Sea levels will rise, flooding coastal areas.[119]
- Heat waves will be more frequent and intense.[120]
- More droughts and wildfires will occur in some regions, more heavy rains and flooding in others.[121]
- Species will disappear from historic ranges as habitats are lost.[122]

The administration's report, Our Changing Planet 2004-2005, released in August 2004, highlighted additional research findings:

- Using improved climate models, scientists have confirmed that observed global temperatures during the 20th Century can be explained only when the effect of heat-trapping gases is included along with natural factors. A similar analysis for North America reached the same conclusion, showing that natural factors alone could not explain the warming observed since 1950.
- The Arctic is warming much faster than the world as a whole. From 1981 to 2001 the Arctic region warmed by 1.1 degree Fahrenheit. In the high latitude region of North

[117] U.S. Department of State, *U.S. Climate Action Report – 2002* 84 (2002), *available at* http://yosemite.epa.gov/oar/globalwarming.nsf/UniqueKeyLookup/SHSU5BWHU6/$File/uscar.pdf.
[118] *Id.* at 107.
[119] *Id.* at 103.
[120] *Id.* at 84, 107.
[121] *Id.* at 86, 89, 96-97, 100-101.
[122] *Id.* at 90-92, 97-98.

America the warming was even greater -- a staggering 3.6 degrees Fahrenheit in just twenty years.

- Much of the excess heat trapped by carbon dioxide and other global warming pollutants is stored in the ocean, delaying the increase in surface temperatures that will eventually be seen. Consistent with available observations, climate models show that the rate of ocean heat storage has more than tripled since 1950.

- Recent work provides compelling evidence that the severe drought that has affected the Western United States since 1998 is part of a persistent climate pattern that was strongly influenced by the tropical oceans. Unusually cold sea surface temperatures in the eastern tropical Pacific occurred together with unprecedented warmth in the western Pacific and Indian Oceans. Climate model simulations demonstrate that this pattern of sea surface temperatures is ideally suited to produce an atmospheric circulation pattern conducive to producing drought in the western United States.

- Analyses based on a large number of studies of plants and animals across a wide range of natural systems worldwide have found that many species have shifted their geographic ranges or changed temperature-sensitive behaviors -- such as migration, flowering, or egg-laying -- in ways consistent with reacting to global warming. The balance of evidence from these studies suggests that impacts of global warming are discernible in animal and plant populations.

The robust scientific consensus was re-stated again last year in the Arctic Climate Impact Assessment[123] – an international scientific report accepted by the U.S. government. According to the most conservative estimates in the Arctic Climate Impact Assessment, about half the summer sea ice in the Arctic is projected to melt by the end of this century, along with a significant portion of the Greenland Ice Sheet, as the region warms an additional 7 to 13 degrees Fahrenheit by 2100. Rising sea levels have already been observed and are predicted to accelerate as warming continues. Additional findings include:

- In Alaska, Western Canada, and Eastern Russia average winter temperatures have increased as much as 4 to 7 degrees F in the past 50 years, and are projected to rise 7-14 degrees F over the next 100 years.

- Polar sea ice during the summer is projected to decline by 50 percent by the end of this century with some models showing near-complete disappearance of summer sea ice. This is very likely to have devastating consequences for polar bears, ice-living seals, and local people for whom these animals are a primary food source. At the same time, reduced sea ice extent is likely to increase marine access to some of the region's resources.

- Warming over Greenland will lead to substantial melting of the Greenland Ice Sheet, contributing to global sea-level rise at an increasing rate. Greenland's ice sheets contain enough water to eventually raise sea level by about 23 feet.

- In the United States, low-lying coastal states like Florida and Louisiana are particularly susceptible to rising sea levels.

[123] Statement by Dr. Robert W. Corell, Chair, Arctic Climate Impact Assessment, before the Committee on Commerce, Science, and Transportation, United States Senate (November 16, 2004).

- If the Arctic Ocean becomes ice-free in summer, it is likely that polar bears and some seal species would be driven to extinction.

- Arctic climate changes present serious challenges to the health and food security of some indigenous peoples, challenging the survival of some cultures.

- Over the next 100 years, global warming is expected to accelerate, contributing to major physical, ecological, social, and economic changes. The Assessment documented that many of these changes have already begun.

In December 2004, the scientific journal Nature reported groundbreaking findings linking global warming pollution and the European heat wave of 2003 that killed more than 15,000 people. Emissions of carbon dioxide and other global warming pollutants have already at least doubled the risk of extreme heat waves like the one experienced in 2003, according to a team of scientists led by Peter Stott at the British Met Office.[124] They also find that as greenhouse gas emissions continue to rise, 2003 temperatures will become the norm by the 2040s, with half of the summers being even hotter than last year's. A companion paper describes this work as "a breakthrough" – "the first successful attempt to detect man-made influence on a specific extreme climatic event."[125]

These findings dramatize the liability risks for companies that emit large amounts of CO_2 and other greenhouse gases, according to a third paper by Myles Allen (a physicist) and Richard Lord (an attorney).[126] Global warming pollution, they say, has "loaded the weather dice" – raising the chances of repeating the weather conditions of summer 2003 by a factor of two to four, with higher risks to follow as emissions continue to rise. To be sure, one cannot say that a particular heat wave definitely would not have happened absent the increased pollution, just as one cannot be 100 percent sure that a particular case of lung cancer was due to smoking. But one can say that global warming is increasing the number of extreme heat waves just as smoking increases the number of lung cancer cases. As a result, they conclude, "it will become increasingly hard to argue that any resulting damage was unforeseeable." They predict a rise in litigation to limit emissions and determine who pays for the damage caused by global warming.

Last month Senator Olympia Snowe, with her co-chair British Member of Parliament Steven Byers, issued an international report underlining the urgency of action. They said:

> The vast majority of international scientists and peer-reviewed reports affirm that climate change is a serious and growing threat, leaving no country, however, wealthy, immune from the extreme weather events and rising sea levels that scientists predict will occur, unless action is taken.[127]

Their report concluded: "To avoid foreclosing climate stabilization options and to prevent dangerous climate change, vigorous action to reduce global emissions must start now."[128]

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[124] Stott, *et al.*, "Human Contribution to the European Heatwave of 2003," *Nature* (432:610), Dec. 2, 2004.
[125] Schär and Jendritsky, "Hot News from Summer 2003," *Nature* (432:559), Dec. 2, 2004.
[126] Allen and Lord, "The Blame Game: Who Will Pay for the Damaging Consequences of Climate Change?" *Nature* (432:551), Dec. 2, 2004
[127] *Meeting the Climate Challenge: Recommendations of the International Climate Change Taskforce*, foreward, http://www.americanprogress.org/atf/cf/{E9245FE4-9A2B-43C7-A521-5D6FF2E06E03}/CLIMATECHALLENGE.PDF
[128] *Id.* at 2.

Also this January, the National Commission on Energy Policy – with members from a range backgrounds, including the electric power industry – endorsed a program of mandatory limits on greenhouse gas emissions coupled with incentives for new technologies including coal gasification plants that capture and permanently store carbon underground.[129] Their formula drew support from the United Mineworkers and Senator Robert Byrd.

While there are pockets of denial left in the business and political worlds, more and more industry leaders and elected officials are recognizing that scientific consensus makes action on global warming both inevitable and increasingly urgent. These voices include leaders in the electric power industry itself. For example:

- American Electric Power, the nation's largest power company: "Enough is known about the science and environmental impacts of climate change for us to take actions to address its consequences."[130] Linn Draper, AEP's former CEO: "Eventually, you're going to have to have a hard cap of some kind."[131] AEP senior vice-president Dale Heydelauf: carbon constraints are "inevitable."[132]

- John Rowe, CEO of Exelon Corp.: "We accept that the science on global warming is overwhelming." And: "There should be mandatory carbon constraints."[133]

- Jim Rodgers, CEO of Cinergy Corp.: "One day we will live in a carbon-constrained world."[134]

- Wayne Brunetti, CEO of Xcel Energy: "Give us a date, tell us how much we need to cut, give us the flexibility to meet the goals, and we'll get it done."[135]

In the two years since this bill was last considered, there also has been major change in political opinion. Here in this body, a bi-partisan group of 43 Senators voted in 2003 for the Climate Stewardship Act, a cap-and-trade program for global warming pollution covering all the major industrial sectors, including electric power.

Most dramatically, more than a dozen states – led by governors of both parties – are pursuing initiatives to directly limit global warming pollution from power plants and vehicles, to increase energy efficiency, and to require an increasing percentage of power generation from clean, renewable energy sources.

B. Delay Increases Both the Danger and the Cost.

Delay in addressing the 40 percent of U.S. CO_2 emissions that comes from U.S. power plants increases the danger we face, and at the same time, increases the cost of addressing that danger later.

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[129] National Commission on Energy Policy, *Ending the Energy Stalemate* (2004), http://64.70.252.93/O82F4682.pdf
[130] American Electric Power, *Position Paper on Global Climate Change* 1 http://www.aep.com/environmental/climate/docs/Climate_Change_Position_Paper.pdf
[131] *A Pre-emptive Strike on Global Warming*, (New York Times, May 15, 2001).
[132] *AEP and Cinergy To Outline Ways to Cut Emissions*, Wall Street Journal (Feb. 19, 2004), p. A8.
[133] *Global Warming*, Businessweek, Aug. 16, 2004.
[134] "Cinergy: Awakening a Sustainability Giant," GreenBiz, http://www.greenbiz.com/news/reviews_third.cfm?NewsID=27409
[135] *Global Warming*, Businessweek, Aug. 16, 2004.

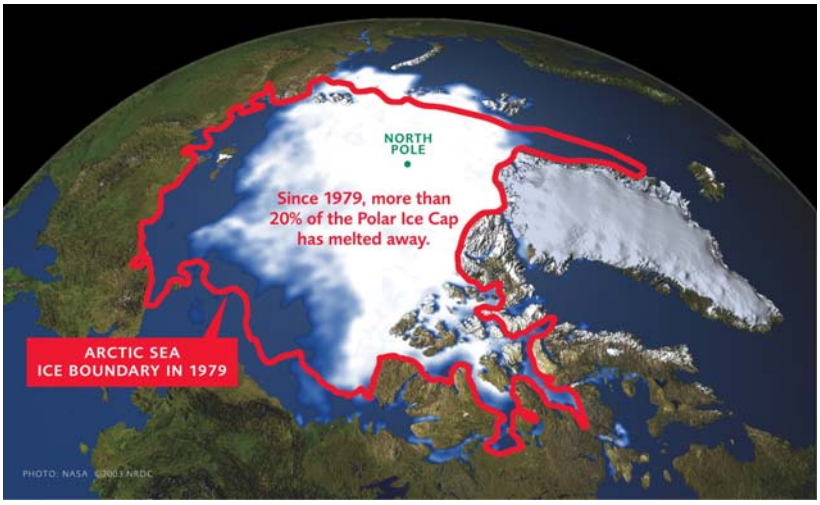
Unlike conventional pollution problems, global warming is a problem with enormous built-in inertia. Conventional pollutants wash out of the air within a few days or weeks, meaning that atmospheric pollution levels come down almost immediately after emission reductions are put in place. In contrast, CO_2 stays in the atmosphere for hundreds of years. Once the atmospheric concentration of CO_2 and other greenhouse gases has been raised, it stays raised. As a practical matter, it will take generations, even centuries, to lower the concentrations once they are raised. This means that loading the atmosphere with greenhouse gases is, for all practical purposes, irreversible. For all practical purposes, you cannot go backwards.

These time lags mean that managing the threat of global warming is like navigating the Titanic – to avoid colliding with the iceberg we have to start altering course long before we arrive there. While we may not know now exactly how close we are to the iceberg or how severely our ship will be damaged from striking it, it is a fact that if we steam ahead with our current energy systems until we have a global body count, we will have locked ourselves and our children into unavoidable, large-scale damage.

Two years ago, President Bush said: "I reaffirm America's commitment to the United Nations Framework Convention and its central goal, to stabilize atmospheric greenhouse gas concentrations at a level that will prevent dangerous human interference with the climate." The President acknowledged that this requires us to "slow, stop, and reverse" the trend of increasing CO_2 emissions.

But the President has offered only a voluntary plan that, even if fully achieved, will result in emissions growth of 14 percent between 2002 and 2012 – virtually the same rate of emissions growth as occurred in the decade before. Let us consider whether that is enough to give Planet Earth better prospects than the Titanic.

Before the industrial revolution, the atmosphere contained about 270 parts per million (ppm) of CO_2. At present, atmospheric CO_2 has increased to more than 380 ppm. Many scientists believe we are already seeing concrete impacts of global warming at this level. As just one example, we have lost 20 percent of polar ice cap since 1979. Many would consider that we are already in the realm of "dangerous human interference with the climate."



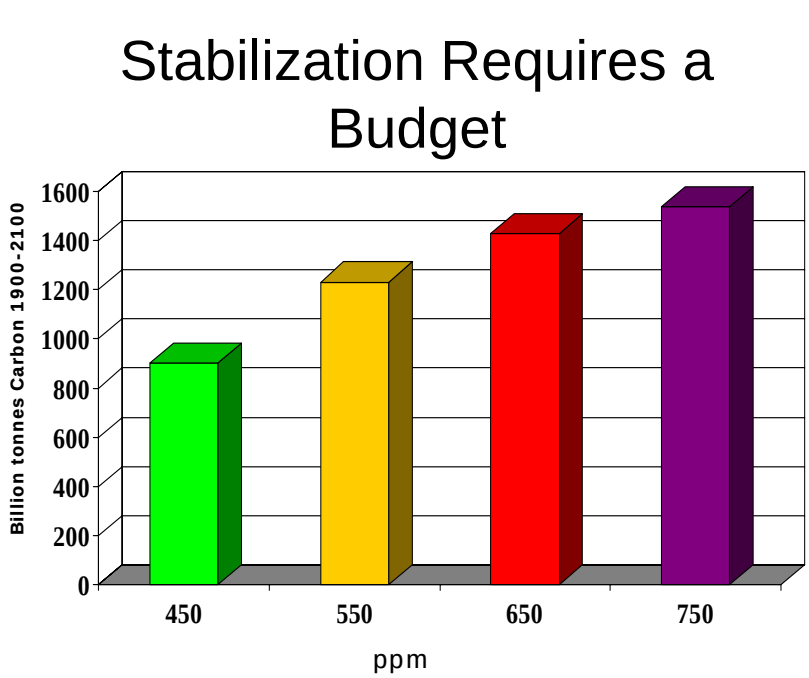
(Figure 14)

The critical question is how high we are prepared to allow concentrations of CO_2 and other greenhouse gases to rise. 450 ppm? 550 ppm? 650 ppm? Or even higher? Unfortunately, we cannot put the world on "pause" while we do more research. Even as we debate exactly what adverse impacts on

temperatures, weather patterns, sea level, human health, and ecological systems would occur at each of these levels, is it not obvious that higher concentrations mean greater risk of "dangerous human interference with the climate"?

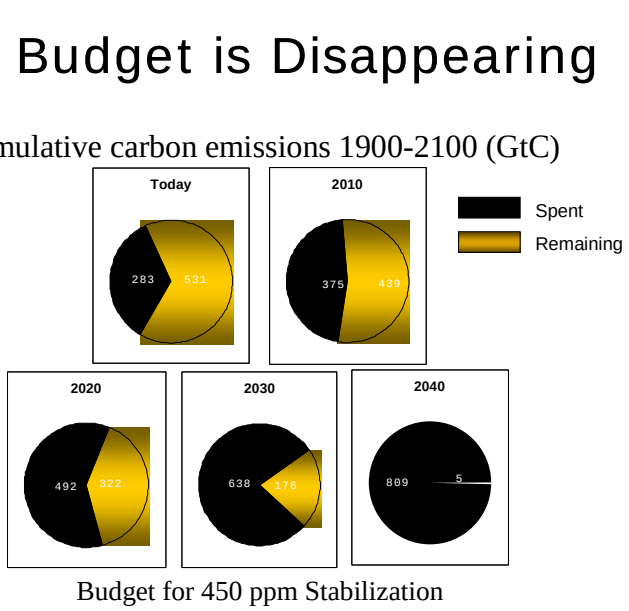
For the very reason that we do not know exactly what will happen at each higher level, conservative principles should lead us to be extremely cautious about irrevocably committing the world to ever higher CO_2 concentrations.

With that as a starting point, we must recognize that for each possible concentration target, there is only a specific amount of CO_2 that can be emitted. The figure below shows for each of these concentrations, the maximum tonnage of CO_2 that can be emitted on a global basis over the two centuries from 1900 through 2100.



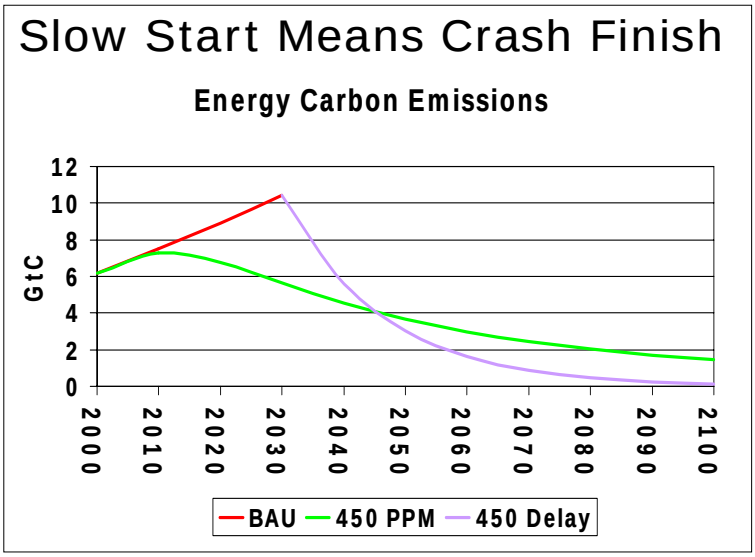
(Figure 15)

The next figure illustrates how fast we are eating up these budgets. We have already used up nearly half of the 200-year budget for a goal of avoiding more than 450 ppm CO_2. And because emissions – both here in the U.S. and in the world as a whole – are increasing, the entire budget runs out by 2040. The picture is not much different for more "relaxed" targets: For a goal of not exceeding 550 ppm, on present emission trends the budget runs out only a decade later.



(Figure 16)

Once we grasp these two facts – that for any given CO_2 concentrations there is only a limited budget of CO_2 emissions available, and that you can't go backwards once atmospheric concentrations have risen – the costs of delaying emission reductions become clearer: Unrestrained emissions growth is eating up the global carbon budget, locking us into two bad choices – either dangerously high CO_2 levels or crash reductions later.



(Figure 17)

In this figure, the green line shows an emissions path consistent with not exceeding 450 ppm, in which we start to reduce emissions in the next few years. Compare this with the red and purple line, also consistent with a 450 ppm limit, but where we do not start reducing emissions until later. The slower start

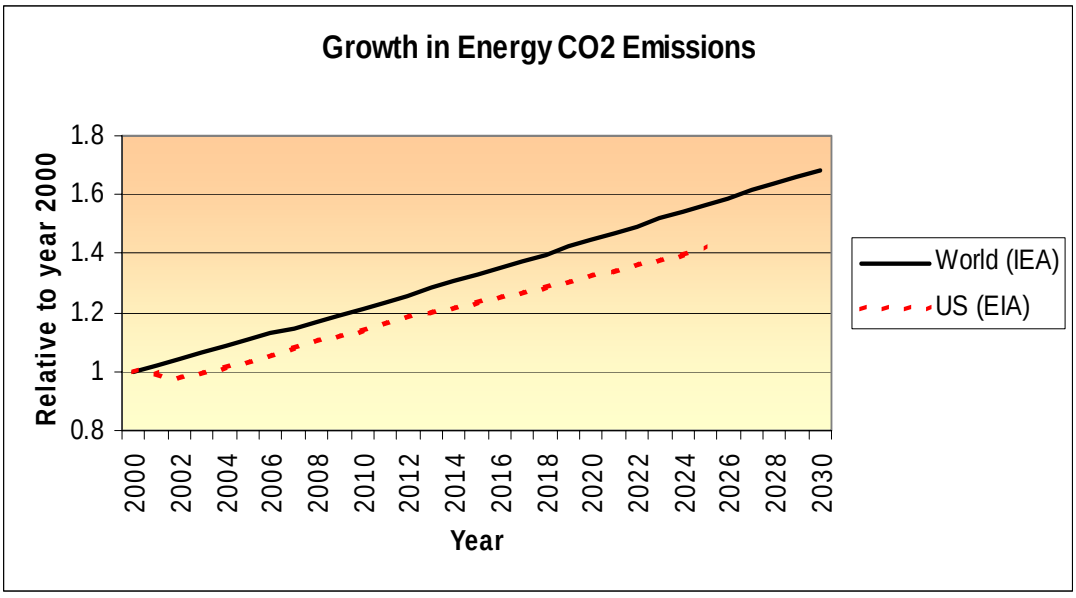
means that not exceeding 450 ppm requires reductions on a crash basis later on, with far more potential for economic disruption.

Advocates of delay argue against acting until we know exactly how harmful a given increase in CO_2 concentrations will be. The CO_2 we emit may cause a temperature rise at the high end of published estimates, the low end, or in between; the damage done by a specific temperature rise also may be larger or smaller. But once we know for sure, it will be too late to change course. The fact is that continuing on our current path will commit us to an outcome that we will not be able to undo.

Such a choice is not responsible. Delay will turn what is still a manageable threat into a runaway, unmanageable problem. In the national security context, the administration has no difficulty understanding that waiting until a danger has fully developed runs the risk of foreclosing our ability to avert that danger. This logic applies strongly to global warming. If we wait until this danger has fully developed, it will be too late to prevent.

The problem of delay is particularly intense with respect to the electric power sector. Power plants have extremely long lives. There are plants still operating in the U.S. today that are more than 60 years old. New plants built in the next 20 years will still be operating in the third quarter of this century, and their cumulative emissions will determine how much the climate warms. While we procrastinate, energy demand keeps growing and more investments are made in power plants that are no less carbon-emitting than yesterday's plants.

The U.S. Energy Information Administration forecasts that the United States will build the equivalent of over 1350 medium-sized fossil energy power plants between now and 2025 (405,000 MW).[136] The path we are on today will result in skyrocketing emissions of CO_2 in the U.S. and globally. Figure 9 shows current forecasts for the U.S. and the world over the next 25-30 years: U.S. emissions are projected to increase by 40% and world emissions by nearly 70% over 2000 levels. These emissions will stay in the air for hundreds of years making the task of protecting the climate that much harder and more expensive.



[136] U.S. Energy Information Administration, Annual Energy Outlook 2003.

(Figure 18)

C. There Is a Cleaner Energy Path.

We can do three things to limit CO_2 emissions from the electricity sector. First, produce and use electricity more efficiently. Second, dramatically increase our reliance on renewable energy resources. Third, pursue methods to capture and permanently store CO_2 from the fossil energy sources we continue to use.

If these technologies are rapidly deployed, we can move U.S. electric generation onto an emissions pathway for the next several decades that represents this sector's fair share of a national and global strategy for keeping CO_2 concentrations under 450 ppm. All three of these methods will be stimulated by adopting a program to limit CO_2 emissions from the power sector. All three will languish if Congress ignores CO_2 in a power plant bill.

A word in particular is due about coal gasification and carbon storage. Technologies in commercial operation today demonstrate it is feasible to capture CO_2 from coal-based power plants in a form that can be kept out of the atmosphere provided that suitable geologic repositories are developed. In the U.S. today we inject over 30 million tons of CO_2 annually into oil fields to recover additional oil. Yet, only about 20 percent of that CO_2 is supplied by power plants. Rather it is pulled out of natural CO_2 reservoirs and piped hundreds of miles to be stuck back in the ground.

Because industrial CO_2 can still be emitted to the air in unlimited amounts for free, there is no adequate economic incentive to use and optimize existing technology to capture these emissions. Nor is there an adequate incentive to invest to bring down the costs of today's gasification and CO_2 capture systems.

Ironically, the current policy procrastination makes U.S. coal industry's future a very uncertain one. No one believes that action on global warming can be delayed indefinitely and this is making investors leery of large new investments in conventional coal-fired power plants. On the other hand, without a policy program to limit CO_2 emissions over time, the uncertainty is too great for most investors to develop and plan to deploy advanced coal technologies like gasification and capture systems. That is why there is growing understanding in the power sector and the coal industry that we must face up to the need for carbon limits.

American delay in adopting these technologies also leads to delay by other countries, especially rapidly industrializing developing countries. Per capita electricity consumption and CO_2 emissions in these countries is as little as $1/10^{th}$ to $1/20^{th}$ our own. Yet their electric generating sectors are growing rapidly. It is as important to move them to new technologies – including coal gasification and carbon capture – as it is to move to these technologies here at home. Action here at home will help show that it is both feasible and important to reduce CO_2 emissions in developing countries too. And, action here at home will give American companies the technological experience and know-how to capture the market for these technologies in developing countries.

D. Voluntary Programs Will Not Work.

The administration and its allies point to a hodgepodge of voluntary programs and modest public investments in new technology. But without a real market signal, such as that provided by real limits on CO_2 emissions, these efforts are not sufficient even to stem the steady increase in power plant CO_2 emissions.

The president's voluntary target, announced last year, is phrased as a reduction in the nation's "emissions intensity"– the amount of carbon pollution per dollar of economic output. But the administration's target lets total carbon pollution keep increasing every year. In fact, even if the administration's target is met, total U.S. global warming emissions will increase by 14 percent between 2002 and 2012 – exactly the same rate as they grew in the 1990s.[137]

Past voluntary efforts have failed to cut carbon pollution. In one Department of Energy program, power companies claimed to have made nearly 140 million tons of "reductions" even as their total global warming emissions skyrocketed by 420 million tons. Instead of making real investments to reduce their overall pollution, most power companies simply claimed credit for business-as-usual actions – and thus made no real difference in rising emission trends.[138]

The power sector's latest voluntary pledge, announced in December 2004, would let total CO_2 emissions from power plants grow by 13 to 16 percent between 2000 and 2010 – even more than overall U.S. emissions.[139]

Without the real market signal from a limit on emissions, the administration's policy of voluntary programs and small investments in technology R&D is an expensive, inefficient, and ineffective strategy for changing emissions trends. The plain fact is that in the absence of a real market signal, voluntary programs and modest subsidies alone will not significantly change power sector emission trends.

E. We Need Real Policies Now to Send a Real Market Signal.

To avoid reaching concentrations that are several times pre-industrial levels, we will need to change the technology we use to generate electric power. Given that the electric power sector is the country's largest emitter of global warming pollution, accounting for 40 percent of U.S. CO_2 emissions, there is no other way to proceed. In the decision whether to include CO_2 in a power plant emission control bill, this Congress will either stimulate investors to get serious about developing and using new climate-friendly power technology or send them a signal to procrastinate.

Including provisions to limit CO_2 in a power plant bill can speed the process of bringing advanced technologies to market; leaving CO_2 out will keep that activity on the back burner.

The administration and many in Congress have resisted including a binding limit on CO_2 in power plant legislation out of an apparent belief that any binding cap will have unacceptable impacts on electricity rates and fuel diversity. That is not correct. Analyses discussed in NRDC's testimony to the full Committee in June 2002 show that it is possible to craft legislation that limits power plant CO_2 with modest impacts on the economy.[140]

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[137] NRDC (2002), "Untangling the Accounting Gimmicks in White House Global Warming, Pollution Plans," http://www.nrdc.org/globalWarming/agwcon.asp.

[138] NRDC (2001), "Reported 'Reductions,' Rising Emissions: The Failure of Voluntary Commitments and Reporting to Reduce U.S. Electric Industry CO_2 Emissions," http://www.nrdc.org/globalWarming/reductions/execsum.asp.

[139] Climate Vision Memorandum of Understanding Between the United States Electric Power Sector and the Department of Energy (Dec. 13, 2004), http://www.climatevision.gov/sectors/electricpower/pdfs/powerpartners_mou.pdf

[140] See Testimony of David G. Hawkins on S.556, June 12, 2002.

For example, even the administration's own analyses conclude that some versions of binding CO_2 caps would have very modest impacts on electricity rates and fuel use, even when using a number of conservative (and we believe, flawed) assumptions.[141] In September and October 2001, both EPA and EIA analyzed a binding carbon cap for the electric sector using a set of requirements specified by Chairman Voinovich, former Senator Smith, and Senator Brownback.[142] Among the scenarios examined by EIA and EPA were requirements to cut SO2 , NOx, and mercury emissions by 75 percent from 1999 levels in two stages (2007 and 2012) and to cap power sector CO_2 emissions at forecasted 2008 levels.[143]

EIA's report calculated this set of requirements would result in an average electricity rate of 7.1 cents per kwh, compared to a 1999 average electricity rate of 6.7 cents per kwh. EIA projected coal consumption in 2020 would be the same as in 1999.[144]

The key point is the need to set a schedule now for limiting and then decreasing emissions of CO_2. By adopting a schedule now, you can provide the maximum lead-time for the industry and achieve long-term reductions at the most gradual rate of change. By adopting a schedule for limiting carbon emissions you put market forces to work to deliver the clean energy resources we will need to meet economic growth without disrupting the climate that strongly influences the quality of life in our country and others around the globe.

In sum, failure to include CO_2 limits in a power plant bill has real costs. It would keep the U.S. and the world on a path of accelerating CO_2 emissions – a path that is unacceptably risky given what we already know about the potential of global warming to change our lives for the worse. It would steer investments at the margin to patching up old, existing capacity that should be replaced with modern, efficient systems. And it would continue the policy uncertainty that operates as an obstacle today to business planners considering what energy investments they should pursue.

By acting now to adopt a schedule for limiting CO_2 emissions we can change behavior both here and abroad and make it easier to address global warming. With U.S. leadership, we can design new energy projects to rely on climate-friendly technology. Doing so will expand our options to reconcile aspirations for improved economic well-being around the world while preserving the climate we all depend on to provide us with a hospitable place to live.

In conclusion let me suggest it is time for all sides to stand down from the posturing of past years on this issue and adopt a more pragmatic approach. There are many sensible policies that can be adopted to start limiting CO_2 emissions and there are many compelling reasons to do so. Working together, members of both parties and the administration would be able to identify a path forward that all could

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[141] A number of flaws in the administration's analyses of "four-pollutant" bills are described in NRDC's testimony of June 12, 2002 at the full Committee hearing on S.556, the Clean Power Act. *Id.* Testimony of David G. Hawkins at 12-16.

[142] Energy Information Administration, "Reducing Emissions of Sulfur Dioxide, Nitrogen Oxides, and Mercury from Electric Power Plants," September 2001. ("EIA S-V-B report") and U.S. EPA, "Analysis of Multi-Emissions Proposals for the U.S. Electricity Sector," October 2001.

[143] Letter of June 8, 2001 from Senators Smith, Voinovich, and Brownback to John Weiner, EIA, reproduced in EIA S-V-B report at Appendix A. Compliance with the CO_2 cap could be achieved with on-system reductions or credits for "sinks" enhancements or reductions from other source categories. EIA's report calculated costs assuming that only CO_2 emission reductions from U.S. energy facilities would be used for compliance.

[144] While this result represents a decrease in coal consumption from no-control forecasts, EIA's report assumed no penetration of coal- gasification technology in the electric sector, even by 2020. This is inconsistent with the Department of Energy's programmatic goals for this technology. EPA's report on the S-V-B scenario forecasts smaller price and fuel impacts than EIA's, due to EPA's broader assumed trading options than EIA assumed.

embrace and all could point to as a real accomplishment. NRDC will work with you to help make that happen.