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Clean Air Through Liberty: Reforming the Clean Air Act

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Over the past 40 years, the EPA has incrementally expanded regulatory authority under the Clean Air Act. The current EPA, however, is on an unprecedented regulatory spree that jeopardizes electric reliability, jobs, U.S. competitiveness, and state economies. Despite the fact that America's air quality has improved dramatically over the past four decades, in recent years, the EPA has been misusing authority to regulate conventional pollutants to conceal an aggressive anti–fossil fuel agenda. Further, it has arrogated lawmaking powers under an Endangerment Finding to regulate greenhouse gases as pollutants under the existing Clean Air Act. This paper documents the remarkable improvement in air quality, the basic structure of the Clean Air Act, and the evolution of the EPA's sweeping, law-like authority to control basic economic activity and private conduct. The paper recommends five basic reforms of the Clean Air Act based on the Principles of the American Conservation Ethic.

The Clean Air Act (CAA) no longer provides an effective, scientifically credible, or economically viable means of air quality management. Under the CAA, the Environmental Protection Agency (EPA) has broad regulatory authority to enforce laws intended to protect public health and the environment. The current EPA, however, has misused this authority in pursuit of an economically damaging, anti–fossil fuel energy policy—a policy that Congress has repeatedly rejected.

Clearly, the CAA needs major reform. After 40 years of air quality management under the Clean Air Act, federal policies need to absorb the dramatic improvement in our nation's air—a condition quite different from when the CAA was enacted. Congress should reclaim its constitutional authority to make major policy decisions about air quality in order to forestall the unnecessary economic and human damage already flowing from the current EPA's reckless aggression.

Congress also needs to clarify and strengthen the original CAA's recognition that the primary authority to manage air quality resides with the states. The state and local governments' direct accountability to real people has catalyzed creative and cost-effective solutions to air quality problems in stark contrast to the heavy-handed control, bureaucratic red tape, and scientifically unjustified regulatory mandates characteristic of the EPA's approach.

As articulated in Principle VII of the American Conservation Ethic, the CAA needs to relegate science to its proper role as one critical tool to inform policy decisions but not a dictate for regulatory action. To limit the EPA's misuse of science, the CAA needs to establish minimal criteria for vigorous health-effects science and credible regulatory impact analyses of costs and benefits. To weld free-market principles to air quality improvement, the CAA should facilitate measurable environmental results through flexible performance standards—values expressed in Principles IV and VI. The structure of the CAA and organization of the EPA also need to be streamlined through integrated multi-pollutant strategies.

Most critically, federal air quality policies need to incorporate fundamental principles of individual liberty, private property, and the free market. Over the past 40 years, improvements in air quality have been driven by innovation, efficiency, and economic growth. Economic liberty, as noted by Principle VIII, has powerful environmental benefits because liberty promotes objectivity, science, creativity, investment, and problem solving.

That the CAA needs reform is a belief increasingly shared, at least outside of the EPA and activist organizations. A four-year project enlisting the input from 40 environmental experts from across the ideological spectrum concludes that the CAA has statutory arteriosclerosis.[1]

Unprecedented Regulatory Overreach

Using—and often exceeding—the broad authority of the CAA, the current EPA is on a regulatory spree unprecedented in U.S. history.[2] The EPA is churning out new rules with unparalleled speed, scope, stringency, costs, and job loss—but without rigorous scientific justification or measurable benefits. Since 2009, the EPA has been assuming—without supporting data—health risks at pollutant concentrations already far below the established federal standards to protect human health. The science underlying the current EPA's regulatory onslaught is deeply flawed.[3]

Over 20 new regulations, collectively known as "the EPA train wreck" because of converging effective dates within the next three years, augur cumulative economic impacts of a magnitude never before experienced.[4] The National Electric Reliability Council (NERC) predicts that four of the rules aimed at electric utilities could mean the abrupt loss of 8 percent of the country's electric generation capacity by 2015.[5]

Indeed, the economic and human damage from the EPA's reckless agenda is already emerging: Over 100 electric generating plants have announced closure, withdrawing 53,000 megawatts of electricity from the grid. Coal-fired electric generation has fallen to 36 percent of U.S. electricity from 50 percent only two years ago. Furthermore, utilities have announced sharply higher electric rates for consumers.

Evolution of EPA's Vast Authority

Enacted in 1967, the first version of the CAA was predominantly a general policy statement about the societal value of healthy air. It was not until 1970 that the law assumed its current form: a broad and prescriptive template for controlling the sources of air pollution. The CAA was further strengthened in 1977 and again in 1990 by major amendments. Although the EPA has incrementally enlarged regulatory scope and stringency over the past 30 years, the current EPA's regulatory aggression stands alone.

The CAA articulates five fundamental programs, the first three of which are the subject of increasing controversy.

1 David Schoenbrod, Richard B. Stewart, and Katrina M. Wyman, "Breaking the Logjam: Environmental Reform for the New Congress and Administration," Project Report, New York Law School and New York University School of Law, February 2009, http://www.breakingthelogjam.org/CMS/files/39611235964787FACDBreakingLogjamReportfinal.pdf (accessed June 8, 2012).

2 "Boiler Room Politics: Fake Restraint from the EPA as It Issues a Damaging New Rule," *The Wall Street Journal*, March 2, 2011, http://online.wsj.com/article/SB10001424052748703408604576164471769032958.html (accessed June 8, 2012).

3 Anne Smith, PhD, "An Evaluation of the PM2.5 Health Benefits Estimates for Regulatory Impact Analysis of Recent Air Regulations," NERA, December 2011 http://www.nera.com/nera-files/PUB_RIA_Critique_Final_Report_1211.pdf; Louis Anthony (Tony) Cox, Jr., "Reassessing the Human Health Benefits from Clean Air," *Risk Analysis*, November 2011 http://www.cmpa.com/pdf/ReassessingCleanAirAug22.pdf; Gina McCarthy, Assistant Administrator, Environmental Protection Agency, letter to Rep. Fred Upton, February 3, 2012; and Kathleen Hartnett White, "EPA's Pretense of Science: Regulating Phantom Risks" Texas Public Policy Foundation, May 2012 http://www.texaspolicy.com/pdf/2012-05-RR02-EPAsPretenseofScience-ACEE-KathleenhartnettWhitet.pdf.

4 Kathleen Hartnett White, "House Bill 2545 and Texas Participation in a Regional Air Quality Compact," testimony before the Select Committee on State Sovereignty, Texas House of Representatives, April 7, 2011, http://www.texaspolicy.com/pdf/2011-04-HB2545-testimony-CEE-khw.pdf (accessed June 8, 2012).

5 North American Electric Reliability Corporation, *2010 Special Reliability Scenario Assessment: Resource Adequacy Impacts of Potential U.S. Environmental Regulations*, October 2010, http://www.nerc.com/files/NERC_Swift_Scenario_Aug_2010.pdf (accessed June 8, 2012).

First, the act lists six major "criteria" pollutants for which EPA must set standards: carbon monoxide (CO); lead; sulfur dioxide (SO_2); nitrogen oxides (NOx); particulate matter (PM); and ground-level ozone (O_3). The EPA is directed to establish National Ambient Air Quality Standards (NAAQS) for each of the criteria pollutants, formulated as the maximum allowable atmospheric concentration for each pollutant necessary to protect public health "with a requisite margin of safety." The CAA precludes the consideration of cost as a balancing factor when determining the NAAQS. The statute mandates that each state attain the NAAQS by means of a State Implementation Plan (SIP) that "demonstrates" that the state will meet the NAAQS at the specified date.

Second, the CAA requires that the EPA develop National Emission Standards for Hazardous Air Pollutants (NESHAP) from a list of 189 chemicals, which Congress enumerated in the 1990 amendments to the act. The other three statutorily required programs include reduction of air emissions contributing to regional haze (visibility) over national parks and wilderness areas, acid rain, and stratospheric ozone depletion.

Under the CAA, Congress delegated broad authority to the Environmental Protection Agency to protect human health and the environment by regulation of economic activity, consumer products, and private conduct. When the CAA directs the EPA to formulate national air quality standards adequate to protect health regardless of cost, Congress has effectively delegated law-making authority to unelected federal employees.[6]

One of the most intricate, sweeping, and rigidly prescriptive of all federal laws, the CAA is one of the first statutes to authorize administrative bureaucracies to operate as a federal master throughout the economy. The objective was to allow scientific experts rather than elected lawmakers to make the difficult policy decisions related to highly technical subject matter such as atmospheric chemistry and toxicology. Moreover, as Angelo Codevilla has written:

> *The scientization of American political life was just beginning. Between the 1950s and 2000, social policy was taken away from the voter because courts and "independent agencies" took them over. Beginning in the 1970s, courts and agencies began to take control of economic life through the pretense of scientific environmental management.*[7]

Rule by an administrative state directed by unelected experts, however, undermines the basic function of this nation's constitutional democracy.[8] And by asserting regulatory authority over greenhouse gases under the CAA—a policy rejected by Congress—the EPA has secured unparalleled power over basic economic activity.

EPA and CO_2 Regulation

In 2009, the EPA issued an "Endangerment Finding" that greenhouse gases endanger human health and welfare.[9] This regulatory finding relies entirely on the Fourth Assessment Report of the U.N. Intergovernmental Panel on Climate Change (IPPC).[10] The "Summary for Policy Makers" in this compilation of the climate science on man-made global warming concluded that an 85 percent reduction of greenhouse gases is necessary "to avert dangerous interference with the climate." Reducing current levels of carbon dioxide by this magnitude would return this country to the level of industrialization in the late 19th century.

Carbon dioxide has none of the characteristics of conventional

6 Jonathan H. Adler, "Would the REINS Act Rein in Federal Regulation?" Cato Institute *Regulation*, Summer 2011, http://www.cato.org/pubs/regulation/regv34n2/regv34n2-2.pdf (accessed June 8, 2012).

7 Angelo M. Codevilla, "Scientific Pretense v. Democracy," *The American Spectator*, April 2009, http://spectator.org/archives/2009/04/14/scientific-pretense-vs-democra/print (accessed June 8, 2012).

8 Kathleen Hartnett White, "Taming the Fourth Branch of Government," *Texas Public Policy Foundation Policy Perspective*, October 2011, http://www.texaspolicy.com/pdf/2011-10-PP17-TamingtheFourthBranchofGovernment-CEE-KathleenHartnettWhite.pdf (accessed June 8, 2012).

9 "Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act," Environmental Protection Agency, December 2009.

10 IPCC Fourth Assessment Report: Climate Change 2007 (AR4), http://www.ipcc.ch/publications_and_data/publications_and_data_reports.shtml#1 (accessed June 25, 2012).

pollutants. Unlike emissions of actual pollutants, which in certain concentrations can adversely impact human health, carbon dioxide (CO_2) is a ubiquitous by-product of natural processes and human activity with no ambient health effects. Unlike conventional pollutants measured in parts per million or billion, CO_2 is so ever-present that it is measured in tons. As a result of its Endangerment Finding, the EPA estimated that the number of businesses subject to regulatory requirements would increase from 15,000 to 6.1 million. The EPA estimated the cost to local governments and business at more than $100 billion within the first few years.

The EPA admits that regulatory scope of this magnitude would be "absurd" because it would be administratively infeasible. On this conclusion, the EPA tries to justify narrowing the statutory emission thresholds so that this initial greenhouse gas regulation would apply to only the largest industrial facilities. In this action (Tailoring Rule), the EPA rewrote the black-letter law of its enabling statute.

The intended restraint of the Tailoring Rule, however, is only temporary because this is only the first of what the EPA plans as multiple phases of greenhouse gas regulation. The EPA already has begun a second phase. In April 2012, the agency proposed the first hard limits on carbon dioxide emissions from power plants. The rule's preamble openly admits that this regulation will preclude any new coal-fired power plant without carbon capture of 50 percent—an infeasible technology.

Expanding Bureaucracy, Escalating Costs, Immeasurable Benefits

Perhaps no other federal agency has such discretionary authority to issue prescriptive dictates across the economy. In fact, "two-thirds of the cost imposed by major rules issued by all federal agencies over the past decade [1995–2005] has come from rules issued by [the] EPA."[11] The total cost of all major federal regulations issued in 2010 was $26 billion; EPA regulations accounted for over $23 billion of this total.[12] In the early decades of the Clean Air Act, the EPA's dictates did not necessarily compel a reduction in economic output. The language of the act avers that EPA regulation must be achievable through existing technology,[13] and regulated entities developed creative emission controls to meet the EPA's limits. Increased production carried higher costs, but growth was not precluded.

But after decades of increasingly stricter regulations, the current EPA's exponentially more stringent limits now entail reduced production, compulsory change of the means of production, business closure, or relocation to another country. For example, electric generators in multiple states have had no choice but to close power plants, reduce operations, or switch to a different fuel.[14]

Thus, for the first time in the history of the EPA, the reliability of the nation's electric supply is in jeopardy. As a founding trustee of the Environmental Defense Fund noted as early as 1988, "The EPA's regulation has grown to the point where it amounts to nothing less than a massive effort at Soviet-style planning of the economy to achieve environmental benefits."[15] The EPA's current regulatory agenda is filled with major rules carrying multibillion-dollar annual costs. Although most of these new mandates are not yet fully effective, the unprecedented impacts—job losses, sharply reduced electric capacity, and higher electric rates—are already being felt.

State of the Air Today: A Remarkable Record of Success

Over the past 40 years—and, in particular, the past 20—U.S. air quality has improved

11 David Schoenbrod, *Saving Our Environment from Washington* (New Haven, Conn.: Yale University Press, 2005), p. 62.
12 James L. Gattuso, Diane Katz, and Stephen A. Keen, "Red Tape Rising: Obama's Torrent of New Regulation," Heritage Foundation *Backgrounder* No. 2482, October 26, 2010, http://www.heritage.org/research/reports/2010/10/red-tape-rising-obamas-torrent-of-new-regulation.
13 See, e.g., Section 112(d)(3) of the Clean Air Act, 40 U.S.C. § 7412.
14 Kathleen Hartnett White, "EPA's Capricious Lignite Rule Threatens Texas' Electricity Supply," *The Dallas Morning News*, July 8, 2008, http://www.dallasnews.com/opinion/latest-columns/20110708-kathleen-hartnett-white-epas-capricious-lignite-rule-threatens-texas-electricity-supply.ece (accessed June 8, 2012).
15 Schoenbrod, *Saving Our Environment from Washington*, p. 244.

TABLE 1

Air Quality Improvement, 1980–2010

	Ambient, 1980–2008	Ambient, 1980–2010	Emmissions, 1980–2008	Emissions, 1980–2010
Carbon Monoxide (CO)	–79%	–82%	–58%	–71%
Ozone (O_3)	–25%	–28%	–49%	No current data
Lead (Pb)	–92%	–90%	–96%	–97%
Nitrogen Dioxide (NO_2)	–46%	–52%	–40%	–52%
Particulates (PM_{10})*	–31%	–38%	–46%	–83%
Fine Particulates ($PM_{2.5}$)**	–21%	–27%	–36%	–55%
Sulfur Dioxide (SO_2)	–71%	–76%	–56%	–69%

* 1990–2010 ** 2000–2010

Source: U.S. Environmental Protection Agency, "Air Quality Trends," January 2012, http://www.epa.gov/airtrends/aqtrends.html (accessed April 18, 2012).

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dramatically,[16] but how often do the media report on this environmental success? The table above documents the U.S.'s remarkable record of improving air quality. Although infrequently noted, these data are easily accessible on the EPA's website. The table notes the percentage of reduction from 1980–2010. The condition, or trend, of air quality is measured in terms of ambient levels in the air and emission volumes. Emissions are an estimate of the volume of pollutants released into the air by human activities. The ambient levels are the key measure of health risk because they are a physical measurement of the actual concentrations of pollutants in the air to which humans are exposed. Monitors measure ambient levels across the country while models estimate emissions.

The improvement of air quality in the United States is an unqualified success story—although a story rarely told and, more often, utterly denied. The current EPA Administrator, Lisa Jackson, repeatedly tells the public that outdoor air in the country "may kill you."[17] Yet the EPA's own data, as documented in the table above, contradict Ms. Jackson's misleading declaration.[18] Since 1970, aggregate emissions of the six criteria pollutants regulated under the Clean Air Act have decreased 53 percent[19]—an achievement realized even as the U.S. gross domestic product (GDP) increased over 200 percent. Virtually the entire country has attained the NAAQS for four of the six criteria pollutants.

Urban areas in some states continue to exceed the NAAQS for ozone and particulate matter, but the levels of exceedance as well as the number of non-attainment zones are rapidly falling. In 1997, EPA classified 113 metropolitan areas as non-attainment for ozone; now only 30 ozone non-attainment areas remain. Once vying with Los Angeles as the most ozone-polluted city in the country, Houston, Texas—home of the world's largest petrochemical industrial complex—met the federal ozone standard in 2009 and 2010.[20]

16 U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, *Our Nation's Air: Status and Trends Through 2008*, EPA-454/R-09-002, February 2010, http://www.epa.gov/airtrends/2010/report/fullreport.pdf (accessed June 22, 2012).

17 Politico, "Jackson Gets Real," October 24, 2011, at http://www.politico.com/morningenergy/1011/morningenergy361.html (accessed June 8, 2012).

18 EPA, *Our Nation's Air*.

19 Steven F. Hayward, *The Age of Reagan: The Fall of the Old Liberal Order, 1964–1980* (New York: Three Rivers Press, 2001).

20 Kathleen Hartnett White, "Texas' Ozone Success: Changing Standards Mask Texas' Air Quality Achievements," Texas Public Policy Foundation, Armstrong Center for Energy & Environment, May 2010, http://www.texaspolicy.com/pdf/2010-05-RR04-Ozone-khw.pdf (accessed June 8, 2012).

Evidence of the massive improvement in America's air quality abounds:

- Emissions from cars and trucks, now the predominant source of particulate matter and precursor emissions for ozone, have been reduced over 90 percent, while vehicle-miles traveled have increased 165 percent.
- Emissions of lead have declined by 97 percent, largely a result of eliminating lead in transportation fuels.
- The EPA's Toxics Release Inventory documents a 65 percent reduction since 1988.
- Between 1990 and 2008, mercury emissions declined by roughly 60 percent.[21]
- New power plants emit 90 percent–95 percent less sulfur dioxide than power plants built in the 1940s.[22]

The long-term trend in cleaner skies is certain to continue with the turnover of old equipment and refinement of technologies. Indeed, as Principle V posits, "the learning curve is green." The competitive private marketplace spurred technological innovations. Market-driven operational efficiencies to avoid costly wastes simultaneously reduced emissions and conserved energy use. Privately owned enterprises, acting in a free market under a predictable and limited government, prospered and were thus able to absorb the steep costs of environmental controls.

As the Environmental Performance Index[23] and The Heritage Foundation/*The Wall Street Journal Index of Economic Freedom*[24] (among other studies) consistently demonstrate, those countries that structurally enshrine economic liberty under the rule of clear and limited laws also achieve environmental success. As Principle VIII notes, "Freedom unleashes forces most needed to make our environment cleaner. ..." Environmental quality remains an unaffordable luxury for most of the developing world and an elusive goal for countries that deny or undermine property rights.

The dramatic improvement in air quality across the U.S. is a major public policy success—albeit one to which the EPA or major media give less than lip service. And while the EPA's regulation played a role, the main engines driving this transformation were technological advances in efficiency and emission controls—innovations made possible by economic growth within the dynamics of the free market. Objective science, creative technology, entrepreneurial investments of capital, and rapid information exchange—these hallmarks of the free market maximize continued environmental enhancement.

Conclusion

Harsh criticism of the current EPA's administration of the CAA in no way implies a rollback of meaningful environmental protections—let alone a slackening of future efforts to address air quality challenges. In fact, the reforms recommended in this chapter would support more effective, efficient, and meaningful management of air quality.

The policy principles articulated in this publication inform the recommendations on reform of a 40-year-old law that no longer provides effective, scientifically credible, or economically viable management of the quality of our nation's air. The CAA's foundational mission is the same as Principle I: The health and welfare of real people is the foremost measure of air quality.

The powerful incentives of the free market and private property rights (Principles III and VIII); effective technological advances (Principles II, IV, V, VI, and VII); and process efficiencies (Principle V) drove the recent improvements in air quality—improvements made as the economy grew and incomes increased. Creative, site-specific solutions

21 Hayward, *The Age of Reagan*.
22 Gregg Easterbrook, *A Moment on Earth: The Coming of Age of Environmental Optimism* (London, U.K.: Penguin 1995).

23 Yale Center for Environmental Law & Policy, "Environmental Performance Index," February 7, 2012, http://epi.yale.edu/ (accessed June 9, 2012).
24 Terry Miller, Kim R. Holmes, and Edwin J. Feulner, *2012 Index of Economic Freedom* (Washington, DC: The Heritage Foundation and Dow Jones & Company, Inc., 2012), p. 155.

developed at the state and local levels worked, and air pollution decreased (Principle VI). Objective, vigorous scientific methods enabled air quality management to work (Principle VII).

As one observer noted, the EPA speaks flexibility but practices rigidity. Left unchecked, the EPA has become a centralized economic planning agency in pursuit of an energy policy that defies both mathematics and physics. The EPA's regulatory agenda would not only "fundamentally change the economy," as the President has promised; the unelected technocrats at the EPA would undermine this nation's form of democratic governance—a system in which elected representatives, not federal employees, make the major policy decisions that affect the country and its citizens.

The principles inspiring this project have a proven record of environmental success and public health: Over the past century, lifespan in the U.S. has increased by 70 percent.

Recommendations

The Clean Air Act, now 40 years old, is in urgent need of reform. The CAA gave broad discretionary authority to the EPA to make what are now decisions jeopardizing the health of the entire economy, the livelihoods of real people, and national security. Many states now must devote finite resources to challenging the EPA's encroachment on fundamental state authority rather than to the hands-on job of protecting air quality.

If the CAA is to guide a broadly supported and effective response to the air quality challenges of the future, meaningful reform is therefore essential. Moreover, unless the EPA's authority is limited by amendments to the CAA, the courts have sparse legal ground to restrain the agency. Indeed, the National Academy of Sciences' recent conclusion that the EPA's science—the purported foundation of the agency's regulatory decisions—"is on the rocks" should be a clarion call for reform of the CAA.

The following recommendations articulate the basic categories for needed reform and address widely recognized problems that are now the subject of legal challenge to the EPA's actions in more than 500 lawsuits.

Restore Congressional Authority and Accountability.
As a matter of policy, the elected branches of government are responsible for defining "healthy air." While science should critically inform government decisions about air quality, it is inherently incapable of dictating a final policy decision that involves a complex balancing of interests, risks, costs, diverse benefits, relative effectiveness, and inherent scientific uncertainties.

Perhaps the most effective federal air quality programs to date were stipulated by Congress in the Clean Air Act and not left to the EPA's discretionary designs. Congress not only created these programs; it also specified the extent of emission reductions, the timetable for compliance, and the distribution of the burdens imposed by the regulations. Congress also injected regulatory flexibility through market-like mechanisms for emission trading.

These congressionally stipulated programs include the Acid Rain program, which cut relevant emissions by 50 percent; elimination of lead in gasoline; new engine standards, which cut 99 percent of three criteria pollutants from tailpipe emissions; and the stratospheric ozone program.[25] As the Principle IV articulates, clear regulatory goals for measurable environmental benefits are the most effective.

To restrain the current EPA's overreaching actions and to forge a more effective CAA, Congress should:

- Reclaim the legislative authority delegated to the EPA to set the federal air quality standards for criteria pollutants and the emission limits for hazardous pollutants. "It is axiomatic that an administrative agency's power to promulgate legislative regulation is limited to the authority delegated by Congress," according to the Supreme Court.[26] What authority Congress has delegated Congress can reclaim.
- Exercise authority to approve all the major rules proposed by the EPA and to establish minimal criteria for credible science and for meaningful regulatory impact analyses. The EPA should function in a far more advisory and less regulatory role. Congress could require the EPA to submit annual or biannual reports containing stipulated information on the following: air quality data,

25 David Schoenbrod and Melissa Witte, "Statutory Arteriosclerosis," American Enterprise Institute *Environmental Forum*, Vol. 28, No. 5 (September/October 2011), http://www.aei.org/files/2011/09/09/SCHOENBROD-FORUM.pdf (accessed June 9, 2012).
26 *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204 (1988).

progress reports, risk assessments, priority risks, and alternative implementation strategies.

- **Require annual advisory reports that contain regulatory impact analyses of risk, cost, effectiveness, and benefits based on a methodology and scope determined by Congress.** Numerous bills filed in the 112th Congress would require far more comprehensive regulatory impact analyses, including impact on jobs, electric rates, and electric reliability as well as cumulative impacts of multiple regulations.[27] For example, the increased electric rates projected as a result of the EPA's rules affecting electric generation would have harshly regressive impacts on low-income families.[28]

Restore State Authority.
The EPA's predominant emphasis on process and micromanagement of state authorities impedes effective management of air quality. A 2004 National Research Council study concluded that the inflexibility and complexity of the state implementation plan (SIP) process imposed on states is counterproductive. As noted by the National Research Council of the National Academies:

> *The process now mandates extensive amounts of time and resources in a legalistic, often frustrating proposal and review process, which focuses primarily on compliance with intermediate process steps. This process probably discourages innovation and experimentation at the state and local levels; overtaxes the limited financial and human resources available to the nation's [air quality management system] at the state, local and federal levels; and draws attention and resources away from the more germane issue of ensuring progress towards the goal of meeting the NAAQS.*[29]

The original CAA wisely asserted that "prevention and control of air pollution is the primary responsibility of the States and local government" because "those closest to a resource or pollution problem are also those best able to manage them,"as Principle VI espouses.[30] The EPA, however, increasingly treats state agencies as instruments of the federal government rather than as partners, much less as equal sovereigns. Under the current regime, the states have the responsibility on pain of sanctions to do whatever the EPA dictates.

To reestablish state control, Congress should:

- **Clearly state the CAA's original allocation of federal and state authorities in law.** As noted in 1977, "Congress carefully balanced State and national interests by providing for a fair and open process in which States and local governments, and the people they represent, will be free to carry out the reasoned weighing of environmental and economic goals and needs."[31] The EPA has obviously strayed from this statutory framework. Consequently, Congress should forcefully restate the act's original allocation of federal and state powers.
- **Abandon the current state implementation plan process.** SIPs must now contain a mass of information: elaborate emission inventories, reams of photochemical modeling runs, and all control measures needed to attain the NAAQS in question. States must complete separate SIPs for each criteria pollutant and other federal programs,

27 Regulations from the Executive in Need of Scrutiny (REINS) Act, H.R. 10, S. 299 (2011); Transparency in Regulatory Analysis of Impacts on the Nation (TRAIN) Act, H.R. 2401 (2011); Clearing Unnecessary Regulatory Burdens (CURB) Act, S. 602 (2011); Freedom from Restrictive Excessive Executive Demands and Onerous Mandates (FREEDOM) Act, S. 1030 (2011); Regulatory Responsibility for Our Economy Act, S. 358 (2011); Unfunded Mandates Accountability Act of 2011, S. 1189 (2011); Regulatory Flexibility Improvements Act, H.R. 527 (2011); Small Business Regulatory Freedom Act, S. 474 (2011).
28 U.S. Bureau of Labor Statistics, Consumer Expenditure Survey 2009, October 2010.
29 National Research Council, *Air Quality Management in the United States* (Washington, D.C.: National Academies Press, 2004), http://www.nap.edu/catalog.php?record_id=10728 (accessed June 9, 2012).
30 Air Pollution and Control Act of 1967, Pub. L. No. 90-148.
31 The Clean Air Act, H.R. Rep. No. 95-294, at 46 (1977).

none of which are coordinated although all data and programs are interconnected. The current SIP process must be abandoned. The EPA could provide non-binding guidance for plans that the states choose to develop.

- Eliminate the EPA's authority to disapprove of state programs. Through SIP approval authority, the EPA asserts command-and-control authority over state governments. If the EPA now disapproves a state program considered a required component of the SIP, it can take over the state authority through a Federal Implementation Plan (FIP), impose freezes on road constructions, and withhold highway funds owed to the state.

- Rescind the EPA's authority to compel state actions. States may seek EPA counsel on air quality management, but EPA approval or guidance should not be binding. States may elect to form regional interstate compacts to combine resources or to address interstate air quality issues as several state legislatures already have done.[32]

- Encourage Performance Standards: Monitors Trump Models. The EPA's implementation of the CAA increasingly emphasizes command of intermediate process steps at the expense of achieving "real environmental benefits," as advocated by the Principle IV. After four decades of prescriptive emission standards and programs, air quality regulation should emphasize historically successful performance standards that focus on concrete environmental results. Congress should therefore require that the EPA:

- Utilize performance standards based on measurable results. Performance standards require objective, measurable results of what must be achieved in lieu of rigid and complex requirements that dictate how the entity will operate. Performance standards allow more flexibility in operation, maximizing the incentives of property rights (Principle III) and site-specific adaptation (Principle VI). The permit holder may choose how to operate and even expand production as long as the standard is met.

Performance standards include plant-wide emission caps, emission trading schemes, and other systems that incorporate market-like mechanisms and property rights. Cap-and-trade schemes may work for some traditional pollutants, but the trading system must be designed to minimize pitfalls that are typical when government creates and manages a market. Continual change of the rules of the market and price controls undermine market dynamics.

Restore Objective, Rigorous, and Transparent Science.
The EPA justifies its regulatory actions on what it construes as scientific edicts. Yet scientific findings, inherently incomplete and uncertain, are incapable of weighing the complex policy considerations that inform and shape the law in a democracy, as Principle VII holds.[33]

Science offers both the promise and the demise of meaningful management of air quality to protect human health—"the foremost measure" of environmental quality as articulated by Principle I. When developed and applied by a government body, science is easily manipulated to justify a predetermined policy preference. When objective, transparent, and rigorous in accordance with the scientific method, scientific knowledge provides a powerful tool to inform final regulatory decisions. Scientific findings, however, are categorically different from policy judgments. The wide body of environmental science existing today should guide but never dictate the major regulatory decisions under the CAA. To restore objective, rigorous,

32 H.B. 2545, 82nd Leg. Sess. (Texas 2011).

33 Michael Honeycutt, PhD, "Comments Regarding the Primary National Ambient Air Quality Standards for Ozone and PM, and the Utility MACT," October 4, 2011, http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/100411_Honeycutt.pdf (June 9, 2012).

and transparent science, Congress should:

- **Mandate that regulatory actions are supported by third-party, independently peer reviewed cost-benefit analyses.** The CAA requires that ambient air quality standards must be protective of public health with an adequate margin of safety—regardless of cost. The EPA increasingly uses this statutory rubric to legitimize unachievable regulatory mandates as if no risks were too low and no costs were too high. For decades, the EPA has adopted increasingly stricter NAAQS that now approach naturally occurring (and thus unpreventable) background levels. Objective and comprehensive cost-benefit analyses could provide critical information to policymakers and would prevent the implausible charade of the current EPA's regulatory justifications.

- **Reject the "no threshold" linear regression model to impute risk.** The EPA implausibly assumes that a positive, linear, no-safe-threshold causal relation exists between any concentration of a pollutant above zero and the risk of premature death. Piling assumption upon assumption, the EPA attributes a 100 percent probability—and thus certainty—to the premise that there is no ambient level at which human health is adequately protected. This statistical methodology enables the EPA to calculate health benefits far surpassing the regulatory costs. When, in 2009, the EPA began extrapolating risks at natural background levels of fine particulate matter (PM 2.5), the number of mortality risks that it attributed to this pollutant almost quadrupled from 88,000 to 320,000 deaths.

- **Abandon the absolutist version of the precautionary principle.**[34] Vague statistical correlations between death rates and pollutant levels cannot be transformed into causal connections. Costs and political interests invariably affect the EPA's decisions, but the law's absolutist terms shield the agency's pretensions from judicial scrutiny. The CAA should acknowledge that consideration of the cost to society is a necessary, valuable, and ineluctable factor of any regulatory decision.

- **Establish minimal criteria for scientific risk assessment of health effects.** Many scientific bodies have harshly criticized the weakness of the EPA's current science. The National Academy of Sciences, the National Research Service, and the EPA's own Scientific Advisory Board, Board of Scientific Counselors, and Advisory Council on Clean Air Compliance Analysis have voiced concerns about the integrity of the science on which the EPA relies.

  Minimal criteria for health-effects risk assessment would include the following:

  1. EPA health-effects studies must be peer-reviewed by an independent body.

  2. Toxicological studies and clinical trials demonstrating a causal connection between pollutant exposures and health effects carry more weight than ecological epidemiological studies indicating statistical correlations. Epidemiological studies alone are not sufficiently robust to support change to the NAAQS.

  3. Health-based standards must incorporate average exposure and not implausibly assume that all people are exposed to the highest monitored level 100 percent of the time.

  4. Physical measurement through monitored readings trumps models.

  5. Health-effects findings must include a plausible biological mechanism.

34 Indur M. Goklany, *The Precautionary Principle: A Critical Appraisal of Environmental Risk Assessment* (Washington, D.C.: Cato Institute, 2001).

Encourage Adoption of Multi-Pollutant Strategies by the States.
Most of the criteria pollutants and many hazardous pollutants share sources, precursors, and control strategies. A single, flexible management plan with integrated strategies to reduce multi-pollutants could facilitate cost-effective results. As highlighted by the Principles IV and VI, state and local authorities are far better situated than the EPA to devise and implement effective plans.

Consequently, Congress should:

- Allow states to develop multi-pollutant strategies. The current SIP process should be replaced by a single integrated multi-pollutant plan devised by states. Such a comprehensive management plan should encompass both criteria pollutants and select hazardous pollutants. Since 1970, the EPA has focused all but exclusively on attainment of the NAAQS through the SIP process. Now that the criteria pollutants have been substantially reduced, the EPA's predominant emphasis on the NAAQS is no longer justified.
- Break down the EPA's bureaucratic silos to allow for integrated strategies. Acting under an organizational structure modeled on the statutory structure of the CAA enacted in the 1970s, the EPA promulgates individual federal air quality standards for each of the six criteria pollutants in administrative silos. The EPA similarly compartmentalizes the national emission standards for hazardous air pollutants, permitting regimes, and other programs, and the air, water, and waste programs operate independently as if they were hermetically sealed from each other. Yet air pollutants, water contaminants, and waste issues are all interconnected. EPA's bureaucratic silos impede environmental improvements and create massive administrative burdens for state and local governments.