UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

79 Fed. Reg. 34830 (June 18, 2014)

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COMMENTS OF PEABODY ENERGY CORPORATION

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EXECUTIVE SUMMARY

The genesis of the proposed Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units ("Proposed Rule") was a June 2013 speech by President Obama in which he announced the Administration's "Climate Action Plan."[1] Since then, EPA has been taking a series of unilateral administrative steps to implement the goals of the President's speech. EPA Administrator Gina McCarthy stated on June 25, 2014, "As part of the President's plan – he called on EPA to act. And over this past year, we've been answering that call."[2] The Proposed Rule is another part of EPA's agenda to carry out the President's speech, in combination with the other components of the EPA Power Plan—namely, the proposed New Source Rule and the proposed Modified and Reconstructed Stationary Source Rule.[3]

But a speech – even a Presidential speech -- is not a *law* and cannot provide a *legal* basis for EPA to act. A speech cannot supply the statutory authority that Congress has repeatedly refused to provide the Administration to permit the adoption of its climate plan. A speech cannot provide a *legal* foundation for distorting the meaning of Section 111 of the Clean Air Act, 42 U.S.C. § 7411, which expressly *forbids* the Proposed Rule (on the ground that electric generating units are a source category that EPA already regulates under Section 112). A speech cannot justify executive overreach, the unilateral assertion of lawmaking power by an administrative action, or the cramdown of a fatally flawed "Climate Action Plan" on the American people. The

[1] *See* http://www.whitehouse.gov/climate-change.

[2] *Under President Obama's Climate Action Plan, a Year of Progress at EPA*, EPA CONNECT: THE OFFICIAL BLOG OF EPA'S LEADERSHIP, *available at* http://blog.epa.gov/epaconnect/2014/06/obamas-climate-action-plan-a-year-of-progress-at-epa/.

[3] Peabody submitted comments on the New Source Rule and Modified and Reconstructed Stationary Source Rule and incorporates those comments by reference. Peabody has also joined in comments with Professor Laurence H. Tribe in comments filed in this Docket on December 1, 2014, titled "Comments of Laurence H. Tribe and Peabody Energy Corporation." Those comments are supplemental to the comments submitted herewith.

executive branch's constitutional duty is to *execute* the law, not to *make up* the law via speechmaking.

Nor can a speech provide a basis for sound policymaking. The Proposed Rule seeks to reduce coal generation by 22% by 2020 and by 27% by 2025.[4] Yet coal is a time-tested, baseload fuel that, unlike intermittent renewables, plays a critical role in the U.S. electrical grid. Coal is the fuel most responsible for providing affordable, reliable electricity -- one of the greatest technological achievements in human history. Coal ensures U.S. economic growth and a high quality of life for all Americans. The Proposed Rule jeopardizes U.S. energy security in a headlong rush towards a predetermined political result announced in the President's June 2013 speech.

Another danger of policymaking-by-speechifying is that it creates an inherently capricious process. The goalposts can always be moved in the next speech, with no political accountability or democratic oversight. Thus, five months after the Proposed Rule was announced in June 2014, the President announced a new climate target (as part of a U.S. – China November 12 climate agreement) of reducing U.S. greenhouse gas (GHG) emissions to 26-28 percent below 2005 levels by 2025. The arbitrary Presidential approach for setting climate policy can be reversed by another speech, or by a stroke of the pen. At the same time, decisions by utilities, their suppliers, and their customers are for decades. In the real world, these groups must make investments, build plants and other facilities, and enter into contracts. The Administration's cavalier disregard for the need to make long-term plans, and for the well-settled reliance interests arising therefrom, underscore why any deference to the "Climate Action Plan"

[4] U.S. ENVIRONMENTAL PROTECTION AGENCY, REGULATORY IMPACT ANALYSIS FOR THE PROPOSED CARBON POLLUTION GUIDES FOR EXISTING POWER PLANTS AND EMISSION STANDARDS FOR MODIFIED AND RECONSTRUCTED POWER PLANTS ("RIA"), 3-32 (2014), *available at* http://www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf.

would be inappropriate. As John Adams wrote, ours is "a government of laws, and not of men."[5] The Proposed Rule represents a unilateral end-run by EPA around the political process – an effort to force a radical shift in federal policy that will threaten affordable and reliable electricity, trigger enormous job losses, and impose enormous hardship on consumers. The resulting widespread economic harm and job losses will pit coal-using regions of the country, like the Midwest, against other parts of the country that are less reliant on coal. EPA should not be in the business of discriminating against certain parts of the country to the detriment of others.

The Proposed Rule represents a sudden and dramatic shift from coal. For decades, with the express approval of both the Legislative and Executive Branches, federal policy encouraged extensive reliance on coal, with full knowledge of the purported climate risks now cited by EPA. Consumers, businesses large and small, employees, and communities across the country, all took the federal government at its word. The federal government has profited to the tune of billions of dollars in royalty revenues from coal extraction.

Coal has been central to economic progress, both in the U.S. and worldwide. It has been responsible for raising society after society out of poverty and supplying the benefits of modern life across the globe. In the words of the Chief Economist and Director of Global Energy Economics at the International Energy Agency in Paris, "The importance of coal in the global energy mix is now the highest since 1971… [Coal is] the fuel underpinning the rapid industrialization of emerging economies, helping to raise living standards and lift hundreds of millions of people out of poverty."[6]

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[5] John Adams, 7th "Novanglus" letter, published in the Boston Gazette in 1774.

[6] Faith Birol, *Coal's Role in the Global Energy Mix: Treading Water or Full Steam Ahead?*, THE OFFICIAL JOURNAL OF THE WORLD COAL INDUSTRY, (May 20, 2013), *available at* http://cornerstonemag.net/coals-role-in-the-global-energy-mix-treading-water-or-full-steam-ahead/.

Thus, the benefits of coal are proven, while the alleged "benefits" of the Proposed Rule are speculative and unsupported by observed fact or scientific logic. The disruption, hardship, and violation of well-settled expectations that the Proposed Rule will entail are not counterbalanced by any societal gain from the Proposed Rule. EPA does not contend that the Proposed Rule will have any measurable impact on global climate. In fact, the agency does not make any predictions that the rule will lead to an appreciable decrease in worldwide GHG concentrations at all. EPA Administrator Gina McCarthy testified before the Senate Environment and Public Works Committee on July 23, 2014: "The great thing about this [EPA Power Plan] proposal is that it really is an investment opportunity. *This is not about pollution control*."[7] Such a complete (and acknowledged) mismatch between (i) the clear and demonstrable costs of the Proposed Rule and (ii) the conjectural and nonexistent "benefits," is the very definition of arbitrary decisionmaking. The mismatch and lack of social benefit distinguish the Proposed Rule from other actions by EPA under the Clean Air Act.

EPA should not take this monumental policy leap without careful consideration and debate by Congress and national consensus by our elected leaders. In *Utility Air Regulatory Grp. v. EPA*,[8] the Supreme Court voiced powerful concerns regarding EPA's unilateral assertions of power and warned that "[a]n agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate."[9] "We are not willing to stand on the dock and wave goodbye as EPA embarks on a multiyear voyage of discovery"[10] about how it wishes to regulate greenhouse

[7] U.S. House. Energy Commerce Comm. Press Release, Pollution vs. Energy: Lacking Proper Authority, EPA Can't Get Carbon Message Straight (Jul. 23, 2014), *available at* http://energycommerce.house.gov/press-release/pollution-vs-energy-lacking-proper-authority-epa-can%E2%80%99t-get-carbon-message-straight (emphasis added).

[8] 134 S. Ct. 2427 (2014).

[9] *Id.* at 2446.

[10] *Id.*

gases. The Court added that it is "patently unreasonable — not to say outrageous — for EPA to insist on seizing expansive power" that the statute was not designed to grant.[11] The Court accused EPA of "laying claim to extravagant statutory power over the national economy."[12] In the same way, EPA's politicized freelancing in this rulemaking constitutes a circumvention of democratic decision-making, and the Proposed Rule represents a quintessentially legislative judgment that EPA is not entitled to make.

The Proposed Rule is *ultra vires*. It is beyond EPA's authority and illegal under the Clean Air Act, the Administrative Procedure Act, and the Constitution. **First**, EPA lacks statutory power under Section 111 to adopt the Proposed Rule. EPA's legal position rests on the assertion that since 1990 the U.S. Code has reflected the wrong version of Section 111 and that EPA has discovered a mistake that the Office of Law Revision Counsel of the House of Representatives did not catch. EPA's extravagant interpretation of Section 111 is at odds with the longstanding understanding of the statute, conflicts with decisions by the U.S. Supreme Court and the D.C. Circuit, and would raise grave constitutional questions, which eliminate any claim to deference pursuant to *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc*., 467 U.S. 837 (1984). **Second**, EPA failed to evaluate how the Proposed Rule would affect employment as required by Section 321(a) of the Clean Air Act. **Third**, EPA failed to make the requisite finding that CO_2 emissions from electrical generating plants endanger public health or welfare as required by Section 111(b)(1)(a) of the Clean Air Act. **Fourth**, EPA ignored any evaluation of the impacts of expected increases in energy costs on low-income and fixed-income Americans, in violation of several Executive Orders and the Clean Air Act itself.

[11] *Id.* at 2444.

[12] *Id.*

The Proposed Rule also raises grave constitutional concerns. **First**, by EPA's own reasoning, it represents an exercise of the lawmaking power assigned to Congress, because EPA asserts that it has the authority to select which of the 1990 amendments to the Clean Air Act it wishes to enforce. **Second**, the Proposed Rule violates individual liberty and equality interests, particularly under the Fifth Amendment because it would upset well-settled investment-backed expectations developed in reliance on long-standing federal policy. **Third**, the Proposed Rule violates structural protections against overreaching federal executive assertions of authority, including the Tenth Amendment and principles of federalism. As shown by the many comments submitted by states and state regulators, the Proposed Rule interferes with state regulatory schemes for electricity, commandeering the sovereign states to do EPA's unpopular bidding, to avoid political accountability for EPA's mandated *federal* energy policies.

In this regard, the Proposed Rule operates as window-dressing: it forces states to adopt policies that will raise energy costs and prove deeply unpopular, and then cloaks those policies in the garb of state "choice" – even though in fact the polices are compelled by the federal government. Beyond the affront to state sovereignty, EPA thumbs its nose at democratic principles by confusing the chain of decision-making between federal and state regulators to avoid political transparency and accountability. It sets in motion a byzantine process of decision-making intended to make it impossible to disentangle cause and effect, truth and fiction. Americans will be prevented from meaningfully judging the cause of bad policy-making and remedying the problem at the ballot box.

The benefits of the Proposed Rule are speculative and unproven. The United States is not the world's largest carbon emitter. The emissions of other nations are increasing, not decreasing. Other nations are missing their own self-imposed targets and are reducing their emissions

reductions goals. The November 2014 U.S.-China emissions agreement commits China to nothing but an empty promise "to intend to achieve the peaking of CO_2 emissions around 2030"[13] – *i.e.*, the status quo, according to a study by the Lawrence Berkeley National Laboratory finding that Chinese emissions will peak by 2030-2035 under current policies in any event.[14] A Chinese official made clear that "the timeline China has committed to is not a binding target."[15]

The climate science upon which EPA relies cannot sustain this dramatic step to remake a significant sector of the American economy. EPA relies on its 2009 Endangerment Finding, which in turn points to the 2007 report of the Intergovernmental Panel on Climate Change (IPCC). However, even if the IPCC report were taken at face value (and it is deeply flawed and should *not* be accepted at face value), the IPCC has steadily downgraded its projections since 2007. It now predicts a slow and moderate warming trend that the IPCC's own data and own scientists have indicated will be *net beneficial* to the world. For example, Richard Tol of the University of Sussex, who has been active in the IPCC since 1994, serving in various roles in all its three working groups, most recently as a convening lead author for a working group for the Fifth Assessment report, has stated that "[t]here is broad agreement" that "the initial benefits of a modest increase in temperature are probably positive, followed by losses as temperatures increase further. . . . The initial benefits arise partly from CO_2 fertilization, and partly from

[13] *China-US Joint Announcement on Climate Change*, CHINA DAILY USA (Nov. 12, 2014), *available at* http://usa.chinadaily.com.cn/china/2014-11/12/content_18902555.htm.

[14] ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY, CHINA'S ENERGY AND CARBON EMISSIONS OUTLOOK TO 2050, at ix (April 2011), *available at* http://china.lbl.gov/sites/all/files/lbl-4472e-energy-2050april-2011.pdf.

[15] *China, US agree limits on emissions, but experts see little new*, REUTERS (Nov. 12, 2014) *available at* http://www.reuters.com/article/2014/11/12/china-usa-climatechange-idUSL3N0T21YK20141112.

reduced heating costs and cold-related health problems in temperate zones."[16] His academic paper shows *positive* effects on Gross Domestic Product (GDP) from temperature increases below about 2.2º C.[17] One of the models on which EPA relies (the Climate Framework for Uncertainty, Negotiation and Distribution (FUND)) shows *positive net benefits* for warming below 3º C.[18] Even if EPA's climate science were accepted (and it is fatally flawed and should not be accepted), it would not support the Proposed Rule.

Moreover, even the IPCC's newly downgraded predictions cannot be squared with the real-world observational data showing that global average surface temperatures have not significantly increased for 16 years (and, according to some analyses, for 26 years). The computer models on which the IPCC relies cannot account for this phenomenon. In fact, a 2008 report from the National Oceanic and Atmospheric Administration (NOAA) acknowledged that a "pause" or "hiatus" in warming of 15 years or more would invalidate current models: "The simulations rule out (at the 95% level) zero trends for intervals of 15 yr or more . . . ."[19] That trend has now occurred, and it demonstrates that the existing models are fatally flawed.

These concerns cannot be brushed aside. Dozens of published studies in peer-reviewed academic journals, summarized in the Appendix attached to these comments, have documented serious defects in existing climate models that render them unfit for reasoned decisionmaking, as well as other weaknesses in the climate science on which EPA relies. Steven Koonin, former

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[16] Richard S.J. Tol, *Targets for global climate policy: An overview*, 37 J. OF ECON. DYNAMICS & CONTROL 911, 912 (2013).

[17] Richard S.J. Tol, *Targets for global climate policy: An overview* (corrigendum), 42 J. OF ECON. DYNAMICS & CONTROL121 (2014).

[18] U.S. INTERAGENCY WORKING GROUP ON THE SOCIAL COST OF CARBON, TECHNICAL SUPPORT DOCUMENT:- SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS- UNDER EXECUTIVE ORDER 12866, at 9 (Feb. 2010), *available at* http://www.epa.gov/oms/climate/regulations/scc-tsd.pdf.

[19] J. Knight, J.J. Kennedy, C. Folland, G. Harris, G.S. Jones, M. Palmer, D. Parker, A. Scaife, and P. Stott, *Do Global Temperature Trends Over the Last Decade Falsify Climate Predictions?*[in *State of the Climate in 2008*], 90 BULL. AMER. METEOR. SOC. S23 (Aug. 2009).

undersecretary for science in the Department of Energy during the first Obama Administration and Director of the Center for Urban Science and Progress at New York University, recently observed:

> The idea that "Climate science is settled" runs through today's popular and policy discussion. Unfortunately, that claim is misguided. It has not only distorted our public and policy debates on issues related to energy, greenhouse-gas emission and the environment. But is has inhibited the scientific and policy discussions that we need about our climate future.[20]

MIT economist Robert S. Pindyck has written that EPA's calculation of the "social cost of carbon" contains "crucial flaws" and *ad hoc* assumptions that make it "*close to useless* as [one of the] tools for policy analysis."[21]

Even Cass Sunstein, the former Administrator of the Office of Information and Regulatory Affairs for the Obama Administration, has acknowledged that "[m]any people believe that [EPA's report of its technical supporting data] relies on unreliable integrated assessment models."[22]

Further, EPA fails adequately to consider the well-established principle of CO_2 fertilization. CO_2 is essential to plant growth, and numerous studies have documented that rising CO_2 levels will increase vegetation, even in arid regions such as the Sahara Desert. That effect is documented and already occurring. For example, a recent study by the Commonwealth Scientific and Industrial Research Organisation (Australia's national science agency), in collaboration with the Australian National University, found (based on satellite observations) that higher levels of CO_2 have helped increase green foliage across the world's arid regions over

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[20] Steven Koonin, *Climate Science is Not Settled*, WALL ST. J., (Sep. 19, 2014), *available at* http://online.wsj.com/articles/climate-science-is-not-settled-1411143565.

[21] Robert S. Pindyck, *Climate Change Policy: What Do the Models Tell Us?* (Nat'l Bureau of Econ. Research, Working Paper No. 19244, 2013) (emphasis added), *available at* http://www.nber.org/papers/w19244.

[22] Cass R. Sunstein, *On Not Revisiting Official Discount Rates: Institutional Inertia and the Social Cost of Carbon*, 104 AM. ECON. REV.: PAPERS & PROCEEDINGS 547, 548 (2014).

the past 30 years. The study found an 11 percent increase in foliage cover from 1982-2010 across Australia, North America, the Middle East and Africa.[23] A National Geographic report found that "[s]cientists are now seeing signals that the Sahara desert and surrounding regions are greening due to increasing rainfall. If sustained, these rains could revitalize drought-ravaged regions, reclaiming them for farming communities."[24] The report added that "[t]his desert-shrinking trend" could lead to a "return to conditions that turned the Sahara into a lush savanna some 12,000 years ago" and that "rising temperatures could benefit millions of Africans in the driest parts of the continent."[25] According to Robert Mendelsohn of Yale's School of Forestry and Environmental Studies and Department of Economics, "projections suggest that global warming may be slightly beneficial to American agriculture."[26] Without a proper consideration of these significant benefits, EPA's analysis cannot legitimately assess the value of carbon.

EPA justifies its cursory analysis by relying on a flawed "social cost of carbon" statistic, which is based on assumed environmental impacts that are contradicted by actual observational data. It is the product of faulty science and defective procedure. But there is an even larger problem with EPA's approach: it ignores the social *benefits* of coal, which are orders of magnitude greater than its costs.

All of this is not to say that EPA should do nothing. But instead of a radical change that would lock American energy policy into a costly path with imperceptible carbon reductions, the United States should maintain its role as a leader and innovator in the development of high-

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[23] CSIRO, *Deserts "Greening" from Rising CO2*, (July 3, 2013), *available at* http://www.csiro.au/Portals/Media/Deserts-greening-from-rising-CO2.aspx (summarizing recent study by Donohue, et al.).

[24] James Owen, *Sahara Desert Greening Due to Climate Change?*, NATIONAL GEOGRAPHIC NEWS (Jul. 31, 2009), *available at* http://news.nationalgeographic.com/news/2009/07/090731-green-sahara.html.

[25] *Id.*

[26] Mendelsohn et al., *The Impact of Global Warming on Agriculture: A Ricardian Analysis*, 84 AM. ECON. REV. 753, 769 (1994).

efficiency coal-fired power plants. The emissions of today's plants are a tiny fraction of the previous generation's. Continued development of high-efficiency plants will help ensure that electrification can proceed world-wide in an affordable manner and further reduce world energy poverty.

Now is not the time for the United States to abandon its longstanding leadership in innovative coal technologies. Yet the Proposed Rule does not analyze low-carbon coal technology as a regulatory alternative *at all*. Instead, EPA would unilaterally commit the United States to an austerity-based, high-cost, low-growth approach. The better solution is to foster economic growth, both in the United States and abroad. The United States cannot be a global leader if it hobbles itself from the start, as the Proposed Rule threatens to do.

Given the serious legal and policy defects in the Proposed Rule, it defeats the purpose of rulemaking — truthful, fair and representative policy-making through impartial and objective procedures. When the administrative process lacks traditional safeguards designed to prevent arbitrary decision-making and required by procedural due process, the courts have not hesitated to step in and invalidate agency rule-making.

Thus, the Proposed Rule not only will stifle both social and economic development, it also violates basic rules of statutory construction and constitutional principles designed to protect democratic policy choices, individual liberty, and equality. The Proposed Rule should be withdrawn.

DETAILED COMMENTS

I. The Proposed Rule Is *Ultra Vires*: EPA Lacks Statutory Authority to Adopt the Proposed Rule.

A. The Proposed Rule Cannot Be Justified By A Presidential Speech.

Rather than follow the applicable law, EPA has crafted its own decision-making process with the goal of ordaining a pre-determined outcome. The origin of the Proposed Rule was a June 2013 speech by President Obama in which he announced the Administration's "Climate Action Plan."[27] Subsequently, EPA has taken a series of unilateral administrative steps to implement the goals of that speech. As EPA Administrator Gina McCarthy stated on June 25, 2014, "As part of the President's plan – he called on EPA to act. And over this past year, we've been answering that call."[28] The Proposed Rule is another part of EPA's effort to carry out the President's speech.

But the June 2013 speech by President Obama certainly cannot support the Proposed Rule. Presidential speeches do not have the force of law; indeed, the Supreme Court has dismissed them even as aids to statutory interpretation.[29] As one court opined, a President's public speech "is an insufficient basis for the exercise of lawful authority by executive agencies."[30] As another court remarked, "what President Obama 'thinks' about [an issue], and his characterization of those beliefs in public speeches, has no legal effect."[31] Nor can an

[27] *See* President Barack Obama, Address at United Nations Climate Summit to highlight actions taken by United States under Climate Action Plan, (Sept. 23, 2013), *available at* http://www.whitehouse.gov/climate-change.

[28] "Under President Obama's Climate Action Plan, a Year of Progress at EPA," *available at* http://blog.epa.gov/epaconnect/2014/06/obamas-climate-action-plan-a-year-of-progress-at-epa/.

[29] *See Horne v. Flores*, 557 U.S. 433, 459 n.8 (2009).

[30] *American Fed'n of Gov't Emps., AFL–CIO v. Freeman*, 498 F.Supp. 651, 658 (D. D.C.1980).

[31] *Int'l Internships Programs v. Napolitano*, 798 F.Supp.2d 92, 101 n.11, (D. D.C. 2011), vacated after appeal dismissed as moot, 463 F. App'x. 2 (D.C. Cir. 2012).

international agreement entered into unilaterally by the President create the basis for a sweeping regulation like the Proposed Rule.[32]

Policymaking-by-speechifying is an inherently arbitrary process, because the policy can be reversed by another speech, or by a stroke of the pen, with no political accountability. Thus, five months after the Proposed Rule was announced in June 2014, the President announced a *new* climate target (as part of a U.S.–China November 12 climate agreement) of reducing U.S. greenhouse gas (GHG) emissions to 26-28 percent below 2005 levels by 2025.

But while the President asserts the ability to change goals and policies in the next speech or the next announcement, decisions by utilities, their suppliers, and their customers must be made on a much longer time horizon. In the real world, these groups must make long-term investments, build plants and other facilities that last for decades, and enter into multiyear contracts. An executive regulation – let alone a speech or announcement – "altering future regulation in a manner that makes worthless substantial past investment incurred in reliance upon the prior rule" "may for that reason be 'arbitrary' or 'capricious.'"[33] Such an after-the-fact disruption of reliance interests would conflict with "fundamental notions of justice" that have been recognized throughout history.[34] The Supreme Court has thus condemned changes in the law that "can deprive citizens of legitimate expectations and upset settled transactions."[35] The Administration's cavalier disregard for the well-settled expectations of millions of Americans underscores why any deference to the "Climate Action Plan" would be inappropriate.

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[32] *See* Laurence H. Tribe, *Taking Text and Structure Seriously: Reflections on Free-Form Method in Constitutional Interpretation*, 108 HARV. L. REV. 1221, 1249-77 (1995).

[33] *Bowen v. Georgetown University Hosp.*, 488 U.S. 204, 220 (1988) (Scalia, J., concurring).

[34] *Kaiser Aluminum & Chemical Corp. v. Bonjorno*, 494 U.S. 827, 855 (1990) (Scalia, J., concurring).

[35] *General Motors Corp. v. Romein*, 503 U.S. 181, 191 (1992).

Hence, EPA must look to the Clean Air Act in an attempt to justify the Proposed Rule. That attempt fails. EPA has no authority under the Clean Air Act to adopt the Proposed Rule.

B. The Proposed Rule is Invalid under Section 111(d) of the Clean Air Act.

The Proposed Rule violates Section 111 of the Clean Air Act, 42 U.S.C. § 7411, for multiple reasons. EPA cannot adopt Section 111(d) regulations for a source category unless it has first adopted corresponding regulations for that category under Section 111(b).[36] EPA has failed to do so here, and its Proposed Modified and Reconstructed Stationary Source Rule is unlawful under Section 111(b) for reasons explained by Peabody in its comments in that rulemaking.

Section 111 contains another key limitation: It specifically excludes the regulation of any air pollutant emitted from a source category that EPA already regulates under Section 112 of the Clean Air Act, 42 U.S.C. § 7412. Section 111(d)(1) provides:

> The Administrator shall prescribe regulations which shall establish a procedure similar to that provided by section 7410 of this title under which each State shall submit to the Administrator a plan which
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> (A) establishes standards of performance for any existing source for any air pollutant
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> (i) for which air quality criteria have not been issued or which is not included on a list published under section 7408 (a) of this title or *emitted from a source category which is regulated under section 7412 of this title* ….[37]

[36] *See* Section 111(d)(1)(A)(ii) (Section 111(d) standards apply to air pollutants emitted by source categories "to which a standard of performance under this section would apply if such existing source were a new source").

[37] 42 U.S.C. § 7411(d) (emphasis added). Section 111(d) contains an additional limitation. Section 111(d) permits regulations for existing sources only if there already exist corresponding regulations for subsection (d) "new" sources. There must be a "standard of performance under [§ 7411 that] would apply if such existing source were a new source." 42 U.S.C. § 7411(d)(1)(A)(ii). Currently, there is no 111(b) regulation applicable to "new" stationary sources of CO_2 that would correspond to the proposed 111(d) regulations. EPA acknowledges that 111(b) regulations for CO_2 are a necessary prerequisite and has stated that it intends to complete at least one of two Section 111(b) regulations concerning CO_2 emissions from new fossil fuel-fired EGUs before it finalizes the current 111(d) rulemaking, in order to satisfy what it acknowledges is a "requisite predicate for" the 111(d) rules. Legal Memo (rev. 2) at 6.

Stationary power plants are already a source category regulated under Section 112 of the CAA. EPA categorized power plants as part of a "source category" under Section 112 in 2000.[38] In February 2012, EPA promulgated a new national emission standard for power plants under Section 112.[39] Earlier this year, the D.C. Circuit upheld EPA's rule under Section 112.[40]

Accordingly, the plain text of Section 111(d) prohibits the proposed rule. As the Supreme Court opined in *AEP v. Connecticut*: "EPA may not employ § 7411(d) if existing stationary sources of the pollutant in question are regulated under the national ambient air quality standard program, §§ 7408-7410, or the 'hazardous air pollutants' program, § 7412."[41]

1. EPA's Claimed "Ambiguity" Is Illusory.

Given that the plain reading of Section 111(d) prohibits the proposed rule, EPA relies on what it calls "an ambiguity in the provisions of section 111(d)(1)(A)(i), arising from Congress's simultaneous enactment of two separate versions of this provision."[42] EPA thereby seeks to trigger the interpretative deference described in *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

EPA acknowledges that a "literal" application of Section 111(d) would preclude the proposed rule.[43] Its Legal Memorandum explains:

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[38] *See* Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units, 65 Fed. Reg. 79,825, 79,831 (Dec. 20, 2000).

[39] *See* National Emission Standards for Hazardous Air Pollutants From Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 Fed. Reg. 9,304 (Feb. 16, 2012).

[40] *See White Stallion Energy Center, LLC v. EPA*, 748 F.3d 1222 (D.C. Cir. 2014).

[41] 131 S. Ct. at 2537 n.7 (2011).

[42] U.S. EPA, LEGAL MEMORANDUM FOR PROPOSED CARBON POLLUTION EMISSION GUIDELINES FOR EXISTING ELECTRIC UTILITY GENERATING UNITS ("Legal Memorandum"), at 12, *available at* http://www2.epa.gov/carbon-pollution-standards/clean-power-plan-proposed-rule-legal-memorandum.

[43] Legal Memorandum, at 26.

> As presented in the U.S. Code, the Section 112 Exclusion appears by its terms to preclude from section 111(d) any pollutant if it is emitted from a source category that is regulated under section 112. The U.S. Code version of 111(d) can be read to provide that the provision would not cover GHGs because GHGs are emitted from EGUs and EGUs are a source category regulated under section 112.[44]

However, EPA asserts that Section 111(d) is actually "ambiguous" and therefore subject to the agency's "reasonable" interpretation.[45] In particular, EPA relies on what it calls "apparent drafting errors that occurred during enactment of the 1990 CAA Amendments."[46] According to the agency, "[t]he confusion arises because two different amendments to section 111(d) were enacted in the 1990 CAA Amendments," and "the U.S. Code does not accurately reflect what was enacted – it presents only one of the two amendments."[47]

EPA's Legal Memorandum contends that there are effectively *two versions* of Section 111(d) – one in the U.S. Code and the other the Statutes at Large. According to EPA, this curious state of affairs results from the fact that there are

> two versions of the Section 112 Exclusion, one passed by the U.S. House of Representatives and one passed by the U.S. Senate. The two versions were never reconciled, and both were enacted as part of the 1990 CAA Amendments. The two versions conflict with each other and thus render the Section 112 Exclusion ambiguous.[48]

EPA originally developed this argument in 2005[49] as part of a Section 111(d) rulemaking whose results the D.C. Circuit vacated in *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008).

EPA's argument that there are two competing versions of the Section 112 Exclusion – one based on the House bill, the other on the Senate – results in a highly unusual situation where

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[44] Legal Memorandum at 21.

[45] Legal Memorandum at 8, 26.

[46] *Id.* at 21.

[47] *Id.*

[48] Legal Memorandum at 23.

[49] *See* 70 Fed. Reg. at 16,031.

the agency asserts the prerogative to choose between two different versions of the same statute. In EPA's view, this circumstance renders Section 111(d) "ambiguous."

2. EPA's Interpretation Ignores Basic Principles Of Statutory Construction.

EPA's interpretation runs headlong into a fundamental rule of statutory interpretation: agencies must attempt to reconcile or harmonize statutory provisions, rather than asserting the power to decide which provision they would prefer to enforce.[50]

The history of the 1990 amendments shows that it is very easy to harmonize the House and Senate provisions. Prior to 1990, Section 111(d) prohibited EPA from regulating under that Section "any air pollutant" "not included on a list published under . . . 112(b)(1)(A)."[51] In other words, the pre-1990 prohibition on EPA's Section 111(d) authority focused on whether the *pollutant* was *amenable* to regulation (not listed under Section 112), as opposed to whether EPA *actually* regulated the *source* of the pollutant under Section 112.

In 1990, the House-Senate Conference Committee included two separate changes to Section 111(d)(1) — one from the Senate bill, and the other from the House bill — in the final version of the legislation, which was subsequently passed by both chambers of Congress and signed by the President.

The House Amendment made a substantive change to Section 111(d) by replacing the cross-reference to "112(b)(1)(A)" with the language that now appears in the U.S. Code—EPA may not regulate the "emission" of "any pollutant" from "a source category which is regulated under section 112."[52] The amendment changed the restriction in Section 111(d) from one

[50] *See POM Wonderful LLC v. Coca-Cola Co.*, 134 S. Ct. 2228, 2237 (2014); *Branch v. Smith*, 538 U.S. 254, 273 (2003) (quoting *Posadas v. National City Bank*, 296 U.S. 497, 503 (1936)).

[51] 42 U.S.C. § 7411(d) (1987).

[52] Pub. L. No. 101-549, § 108(g), 104 Stat. 2399 (1990).

triggered by hazardous air pollutants amenable to regulation to one triggered instead by source categories actually regulated under Section 112.

The second amendment (which originated in the Senate) operated by "striking '[112](b)(1)(A)' and inserting in lieu thereof '[112](b).'"[53] The Senate Amendment appears much later in the Statutes at Large among a list of purely clerical changes made in 1990, entitled "Conforming Amendments."[54] "Conforming Amendment[s]" are "amendment[s] of a provision of law that [are] necessitated by the substantive amendments or provisions of the bill."[55] They effectuate the sorts of ministerial changes required to clean up a statute after it has been substantively amended.[56] These "include[] amendments, such as amendments to the table of contents, that formerly may have been designated as clerical amendments."[57]

Consistent with its description as a conforming amendment, the Senate Amendment sought simply to bring up to date Section 111(d)'s cross-reference to Section 112(b)(1)(A). Other substantive amendments to the Clean Air Act in 1990 had already eliminated Section 112(b)(1)(A) and replaced it with Sections 112(b)(1), 112(b)(2), and 112(b)(3). The conforming amendment was ostensibly necessitated by those substantive amendments and therefore sought merely to account for those changes by "striking '[112](b)(1)(A)' and inserting in lieu thereof '[112](b).'"[58]

The Senate conforming amendment should not be interpreted as casting any doubt on the plain terms of Section 111(d) in the U.S. Code. Once Section 111(d) had been substantively

[53] Pub. L. No. 101-549, § 302(a).

[54] Pub. L. No. 101-549, § 302(a), 104 Stat. 2399 (1990).

[55] S. LEGIS. DRAFTING MANUAL § 126(b)(2)(A).

[56] *Id.*

[57] *Id.*

[58] Pub. L. No. 101-549, § 302(a).

amended by the House Amendment (which was included in the conference legislation and enacted into law), the conforming Senate Amendment was no longer necessary. That is why the U.S. Code includes the notation that the clerical entry here "could not be executed."[59] Indeed, in 2005, EPA stated that the second, clerical amendment was "a drafting error and therefore should not be considered."[60]

The net result of the amendments is the statute now in the U.S. Code. The original statute permitted regulation of "any air pollutant" "not included on a list published under . . . [7412](b)(1)(A)."[61] In 1990, "[7412](b)(1)(A)" was replaced with "or emitted from a source category which is regulated under section [7412]."[62] Those amendments are accurately reflected in the U.S. Code:

> The Administrator shall prescribe regulations . . . under which each State shall submit to the Administrator a plan which (A) establishes standards of performance for any existing source for any air pollutant . . . which is not included on a list published under section 7408(a) of this title or emitted from a source category which is regulated under section 7412 of this title.[63]

Importantly, this approach does not "negate" or ignore the Senate amendment. It simply recognizes that the cross-reference to subsection 112(b)(1)(A) that the Senate (conforming) amendment sought to make had already been removed by the first, substantive amendment—and replaced by the language that now appears in the U.S. Code. Such a situation is relatively unremarkable. In fact, this phenomenon is common in complex legislative schemes. The U.S. Code contains numerous examples of the precise "drafting error" that occurs here: a clerical

[59] Revisor's Note, 42 U.S.C. § 7411.

[60] 70 Fed. Reg. at 16,031.

[61] 84 Stat. at 164.

[62] 104 Stat. at 2467.

[63] 42 U.S.C. § 7411(d)(1).

amendment rendered moot by substantive amendments, and in each case the clerical amendment was excluded because it "could not be executed."[64]

Even under EPA's reading, the limitations in the House and Senate amendments are entirely compatible with each other. The House amendment prohibits EPA from regulating, under § 111(d), any pollutants emitted from sources in a source category already regulated under § 112; the Senate amendment forbids EPA from regulating, under § 111(d), any hazardous air pollutants, regardless of whether they are emitted from a source in a category regulated under § 112. Both restrictions on EPA's authority can be applied together, with no conflict. EPA may give effect to both restrictions by construing the two amendments as jointly prohibiting EPA from regulating under § 111(d) any hazardous air pollutants already regulated under § 112, as well as any emissions of any pollutants from a source in "a source category which is regulated under § 112."

3. EPA's Interpretation Would Raise Grave Separation of Powers Issues.

EPA's approach leads to an administrative nightmare where the agency fails its essential purpose of ensuring that the law is faithfully *executed* and instead assumes *lawmaking* power.

[64] *See, e.g.*, Revisor's Note, 5 U.S.C. app. 3 § 12; Revisor's Note, 7 U.S.C. § 2018; Revisor's Note, 8 U.S.C. § 1324b; Revisor's Note, 10 U.S.C. § 869; Revisor's Note, 10 U.S.C. § 1074a; Revisor's Note, 10 U.S.C. § 1407; Revisor's Note, 10 U.S.C. § 2306a; Revisor's Note, 10 U.S.C. § 2533b; Revisor's Note, 11 U.S.C. § 101; Revisor's Note, 12 U.S.C. § 1787; Revisor's Note, 12 U.S.C. § 4520; Revisor's Note, 14 U.S.C. ch. 17 Front Matter; Revisor's Note, 15 U.S.C. § 1060; Revisor's Note, 15 U.S.C. § 2081; Revisor's Note, 16 U.S.C. § 230f; Revisor's Note, 18 U.S.C. § 1956; Revisor's Note, 18 U.S.C. § 2327; Revisor's Note, 20 U.S.C. § 1226c; Revisor's Note, 20 U.S.C. § 1232; Revisor's Note, 20 U.S.C. § 4014; Revisor's Note, 21 U.S.C. § 355; Revisor's Note, 22 U.S.C. § 2577; Revisor's Note, 22 U.S.C. § 3651; Revisor's Note, 22 U.S.C. § 3723; Revisor's Note, 23 U.S.C. § 104; Revisor's Note, 26 U.S.C. § 105; Revisor's Note, 26 U.S.C. § 219; Revisor's Note, 26 U.S.C. § 613A; Revisor's Note, 26 U.S.C. § 1201; Revisor's Note, 26 U.S.C. § 4973; Revisor's Note, 26 U.S.C. § 6427; Revisor's Note, 29 U.S.C. § 1053; Revisor's Note, 33 U.S.C. § 2736; Revisor's Note, 37 U.S.C. § 414; Revisor's Note, 38 U.S.C. § 3015; Revisor's Note, 39 U.S.C. § 410; Revisor's Note, 40 U.S.C. § 11501; Revisor's Note, 42 U.S.C. § 218; Revisor's Note, 42 U.S.C. § 300ff–28; Revisor's Note, 42 U.S.C. § 3025; Revisor's Note, 42 U.S.C. § 5776; Revisor's Note, 49 U.S.C. § 47115.

EPA's interpretation would trigger serious constitutional questions. *Chevron* does not protect such a usurpation of authority.

The Supreme Court's recent holding in *Utility Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427 (2014), voiced powerful concerns regarding EPA's unilateral assertions of power. The Court held that EPA lacks authority to "tailor" the CAA's unambiguous numerical thresholds of 100 or 250 tons per year to accommodate its GHG-inclusive interpretation of the triggers permitting it to set limits (despite the practical arguments made by the four partial dissenters).[65] The Court said that "[a]n agency may not rewrite clear statutory terms to suit its own sense of how the statute should operate."[66] "We are not willing to stand on the dock and wave goodbye as EPA embarks on a multiyear voyage of discovery"[67] about how it wants to regulate greenhouse gases. It was "patently unreasonable — not to say outrageous — for EPA to insist on seizing expansive power that it admits the statute is not designed to grant."[68] The Court accused the agency of "laying claim to extravagant statutory power over the national economy."[69]

The concerns expressed in *UARG* are equally relevant here. The power asserted by EPA to choose between two versions of Section 111(d) – and to pick the one that the U.S. Code has not codified since 1990 – represents an extravagant assertion of lawmaking authority that raises grave constitutional questions.

First, it would raise separation of powers concerns by according no weight to the judgment of the Office of Law Revision Counsel as to how the 1990 amendments should be construed for purposes of the U.S. Code.

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[65] *Id.* at 2445.

[66] *Id.* at 2446.

[67] *Id.*

[68] *Id.* at 2444.

[69] *Id.*

The Office of Law Revision Counsel, operating under the authority of the Speaker of the House of Representatives, is responsible for translating enactments from the Statutes at Large into the U.S. Code. "After laws are passed by Congress and signed by the President, they are published in chronological order in the Statutes at Large, which serve as 'legal evidence' of the law. But 'because that chronological arrangement isn't efficient for researchers,' the statutes are arranged by subject matter for publication in the U.S. Code."[70] Broadly speaking, the Statutes at Large collect enacted laws in chronological order, and then the United States Code transforms them into subject-based titles.

The determinations of the Office of Law Revision Counsel may be questioned only where they are objectively inconsistent with the contents of the Statutes at Large.[71] Here, the standard for second-guessing the U.S. Code version of Section 111(d) cannot be met. EPA is wrong to suggest that the two amendments create an inconsistency or ambiguity. The Statutes at Large do not reflect two separate versions of Section 111(d), and the U.S. Code cannot (and does not) override that clarity. Rather, the Statutes at Large simply disclose a substantive amendment and a conforming (or clerical) amendment that, when properly applied one after the other, reveal that the clerical entry cannot be executed. The U.S. Code properly reflects the first (substantive) amendment but not the second (clerical) amendment, which "could not be executed" because of the substantive amendment.[72] Such a degree of statutory clarity should end the matter.

EPA wishes to engage the deferential second step of the *Chevron* analysis in order to create an ambiguity at the first step that otherwise would not exist. Such a rearrangement of the

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[70] *Gonzalez v. Village of West Milwaukee*, 671 F.3d 649, 661 n.6 (7th Cir. 2012) (citations and internal brackets omitted).

[71] *See United States v. Welden*, 377 U.S. 95, 98 n.4 (1964); *Stephan v. United States*, 319 U.S. 423, 426 (1943); *Warner v. Goltra*, 293 U.S. 155, 160 (1934). *See generally* Mary Whisner, *The United States Code*, Prima Facie *Evidence, and Positive Law*, 101 Law Libr. J. 545, 546-47 (2009).

[72] Revisor's Note, 42 U.S.C. § 7411.

Chevron steps ignores the fact that "[i]t is emphatically the province and duty of the judicial department to say what the law is,"[73] not an administrative agency. "If the intent of Congress is clear, that is the end of the matter." *Chevron*, 467 U.S. at 842-43. Even pre-*Chevron*, when the Internal Revenue Service promulgated a regulation based on a version of the U.S. Code that contained a paragraph that Congress had deleted in conference, the Third Circuit had no problem whatsoever finding the authoritative reading in the Statutes at Large and invalidating the regulation as unauthorized by law.[74] The Statutes at Large, properly applied according to the Revisor's Notes, are unambiguous, leaving no room for *Chevron* step-two deference for a rewriting of the U.S. Code (which is likewise unambiguous).

To allow EPA to use the deferential *Chevron* standard to second-guess the ordered process of the Office of Law Revision Counsel would raise serious separation of powers concerns. The Supreme Court has steadfastly refused to look behind the evidence of an enrolled bill to inquire whether the journals of Congress support the enactment: The enrolled bill is sufficient proof in itself.[75] The Court warned of the uncertainty and instability that would result if every person were "required to hunt through the journals of a legislature to determine whether a statute, properly certified by the speaker of the house and the president of the senate, and approved by the [the executive], is a statute or not."[76] Such an intrusion into the legislative process is well outside of the authority of the judicial branch, extending far beyond the *Marbury* charge. Here, EPA demands that the Court look past not only the clear wording of the U.S. Code

[73] *Marbury v. Madison*, 5 U.S. (1 Cranch) 137, 177 (1803).

[74] *Royer's, Inc. v. United States*, 265 F.2d 615, 618 (3d Cir. 1959). *See also Loving v. I.R.S.*, 742 F.3d 1013, 1022 (D.C. Cir. 2014) ("In our judgment, the traditional tools of statutory interpretation—including the statute's text, history, structure, and context—foreclose and render unreasonable the IRS's interpretation of Section 330. Put in *Chevron* parlance, the IRS's interpretation fails at *Chevron* step 1 because it is foreclosed by the statute.").

[75] *See Marshall Field & Co. v. Clark*, 143 U.S. 649, 670-80 (1892) (holding that federal courts will not inquire into whether an enrolled bill was the bill actually passed by Congress).

[76] *Id*. at 677 (citation omitted).

and the Statutes at Large, but into a clerical amendment which the Revisor of the Code specifically said "could not be executed."[77] Revisor's notes traditionally guide interpretation of statutes.[78] There is no authority supporting EPA's view that Section 111(d) is ambiguous; a demand that a court create such an ambiguity in service to administrative goals violates the proper separation of powers.

Moreover, no court since 1990 has endorsed EPA's interpretation of the Section 112 Exclusion. For example, the D.C. Circuit rejected EPA's understanding of the Exclusion in *New Jersey v. EPA*, 517 F.3d at 583. In that case, the D.C. Circuit vacated a state-by-state standard mandate under Section 111(d) for existing power plants because such plants were listed for regulation under the Act's Section 112 national emission standard program. The D.C. Circuit rejected the proposal even though EPA had not yet issued actual standards for power plants under Section 112 and even though neither the listing decision nor the decision to regulate power plants using national standards rather than by mandating state-by-state standards had yet been subject to judicial review.[79]

Three years later, the Supreme Court similarly opined that Section 111(d) forbids EPA from adopting a rule "if existing stationary sources of the pollutant in question are regulated under . . . the 'hazardous air pollutants' program, § 7412."[80]

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[77] Revisor's Note, 42 U.S.C. § 7411.

[78] *See Muniz v. Hoffman*, 422 U.S. 454, 469-72 & nn. 9-11 (1975).

[79] *New Jersey v. EPA*, 517 F.3d at 583. ("EPA promulgated the CAMR regulations for existing EGUs under section 111(d), but under EPA's own interpretation of the section, it cannot be used to regulate sources listed under section 112; EPA thus concedes that if EGUs remain listed under section 112, as we hold, then the CAMR regulations for existing sources must fall.").

[80] *Am. Elec. Power, Inc. v. Connecticut*, 131 S. Ct. 2527, 2537 n.7 (2011). These judicial decisions indicate that *Chevron* deference is not available here. *See Maislin Indus., U.S., Inc. v. Primary Steel, Inc.*, 497 U.S. 116, 131 (1990) ("Once we have determined a statute's clear meaning, we adhere to that determination under the doctrine of stare decisis, and we judge an agency's later interpretation of the statute against our prior determination of the statute's meaning.").

The novelty of EPA's interpretation of Section 111(d) thus cuts strongly against the agency. By EPA's own count, in four decades it has used the section to regulate only four pollutants and five sources since the statute was enacted in 1970 — and none on the scale of CO_2.[81] EPA acknowledges that "[t]he EPA's previous CAA section 111(d) actions were necessarily geared toward the pollutants and industries regulated," and "[t]he agency has not previously regulated CO_2 or any other greenhouse gas under CAA section 111(d)."[82]

The Supreme Court's reasoning in *UARG* is instructive:

> EPA's interpretation is also unreasonable because it would bring about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization. When an agency claims to discover in a long-extant statute an unheralded power to regulate "a significant portion of the American economy," we typically greet its announcement with a measure of skepticism. We expect Congress to speak clearly if it wishes to assign to an agency decisions of vast "economic and political significance."[83]

4. EPA's Interpretation Would Raise Grave Questions Under Article I and Article II.

EPA seeks to rely on what it calls "the flexibilities inherent in CAA section 111(d),"[84] but any flexibilities in the statute cut against EPA. If Section 111(d) really contained two separate versions of the Section 112 Exclusion, and if EPA were free to pick and choose which version it wanted to enforce, then EPA would be shirking its duty to execute the law enacted by Congress and instead asserting an impermissibly broad delegation of authority—in effect, the ability to "make law."

As the Supreme Court stated in *UARG*:

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[81] *See* 79 Fed. Reg. 34,844 (June 18, 2014) ("Over the last forty years, under CAA section 111(d), the agency has regulated four pollutants from five source categories (i.e., sulfuric acid plants (acid mist), (fluorides), primary aluminum plants (fluorides), Kraft pulp plants (total reduced sulfur), and municipal solid waste landfills (landfill gases)).").

[82] 79 Fed. Reg. at 34,845.

[83] 134 S. Ct. at 2444.

[84] 79 Fed. Reg. 34,833 (June 18, 2014).

> Under our system of government, Congress makes laws and the President, acting at times through agencies like EPA, "faithfully execute[s]" them. The power of executing the laws necessarily includes both authority and responsibility to resolve some questions left open by Congress that arise during the law's administration. But it does not include a power to revise clear statutory terms that turn out not to work in practice.[85]

"Agencies exercise discretion only in the interstices created by statutory silence or ambiguity . . . ."[86] Hence, if Congress indeed enacted two different versions of Section 111(d) in 1990, *Chevron* would not give EPA the latitude to choose between them. *Chevron* allows an agency to fill interstitial gaps in a statutory scheme, or to resolve ambiguities in a statute, not to choose which of two competing versions of a statute the agency wishes to make legally operative. The latter task is the exclusive responsibility of the legislature, subject to judicial interpretation by the courts. By choosing to execute what it describes as the "Senate" version of Section 111(d), EPA is choosing to effectively repeal or to nullify the "House" version.

Under Article I and the separation of powers, "the lawmaking function belongs to Congress" and may not be appropriated by "another branch or entity."[87] "Legislative power is nondelegable. Congress can no more delegate some of its Article I power to the Executive than it could delegate some to one of its committees. What Congress does is to *assign responsibilities* to the Executive . . . ."[88] The distinction is between impermissible delegation of *lawmaking* functions and permissible delegations of responsibility to *execute* or *administer* the laws:

> The true distinction . . . is between the delegation of power to make the law, which necessarily involves a discretion as to what it shall be, and conferring authority or discretion as to its execution, to be exercised under and in pursuance

[85] 134 S. Ct. at 2446.

[86] *Id.*

[87] *Loving v. United States*, 517 U.S. 748, 758 (1996).

[88] *Id.* at 777 (Scalia, J., concurring in part and concurring in judgment) (emphasis in original).

> of the law. The first cannot be done; to the latter no valid objection can be made.[89]

This principle has particular relevance when administrative agencies seek to expand their statutory mandates via *Chevron* deference. Here, EPA is flagrantly refusing to execute the House version of Section 111(d) and is instead seeking to operate as a junior-varsity unicameral legislature. As Justice Kennedy has opined, "[i]f agencies were permitted unbridled discretion, their actions might violate important constitutional principles of separation of powers and checks and balances. To that end the Constitution requires that Congress' delegation of lawmaking power to an agency must be 'specific and detailed.'"[90]

EPA may not arrogate to itself the authority to choose between two different versions of a statutory provision—each of which (according to the agency) is legally operative. EPA insists that in 1990 Congress enacted two different versions of Section 111(d), and it is up to EPA to decide which one it wishes to execute. That amounts to an extravagant assertion of lawmaking power.

C. Statutorily Mandated Jobs Analysis: EPA Has Failed to Conduct an Evaluation of How the Measure will Affect Employment as Required by Section 321(a) of the Clean Air Act.

This proposed rulemaking is also unlawful because EPA has—as it admits—failed to satisfy its mandatory obligation under § 321(a) of the CAA, 42 U.S.C. § 7621(a), to conduct continuing evaluations of how employment is affected by EPA's actions under the Act. As demonstrated below in Part III, *infra*, the Proposed Rule would in fact have a substantial employment impact and would cause widespread job losses. Section 321(a)'s requirements are

[89] *Loving*, 517 U.S. at 758-59 (quoting *Marshall Field & Co. v. Clark*, 143 U.S. 649, 693-94 (1892)).

[90] *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502, 536 (2009) (concurring in part and concurring in the judgment) (quoting *Mistretta v. United States*, 488 U.S. 361, 374 (1989)).

mandatory, and EPA's conceded failure to comply with § 321(a) renders its proposed rulemaking unlawful.

1. Section 321(a) Mandates "Continuing Evaluations" of Employment Impact.

(a) The Statute's Use of the Word "Shall" Establishes Its Nondiscretionary Nature.

With the title "Continuous evaluation of potential loss or shifts of employment," § 321(a) provides:

> The Administrator **shall conduct continuing evaluations** of potential loss or shifts of employment which may result from the administration or enforcement of the provision of [the Clean Air Act] and applicable implementation plans, including where appropriate, investigating threatened plant closures or reductions in employment allegedly resulting from such administration or enforcement.

42 U.S.C. § 7621(a) (emphasis added). The provision's plain language fixes its straightforward mandate: EPA "shall conduct" evaluations of potential loss or shifts of employment resulting from the Act, and it must do so on a "continuing" basis. In its last clause, § 321(a) also confers on the Administrator the discretionary power "where appropriate" to investigate "threatened plant closures or reductions in employment," but that discretion does not supplant the Administrator's nondiscretionary obligation to "conduct continuing evaluations of potential loss or shifts of employment."

This straightforward construction follows established principles of statutory construction. Under settled law, the word "shall" in statutory text establishes a mandatory duty. *E.g.*, *Bennett v. Spear*, 520 U.S. 154, 175 (1997) ("[A]ny contention that the relevant provision of 16 U.S.C. § 1536(a)(2) is discretionary would fly in the face of its text, which uses the imperative 'shall.'"); *United States v. Monsanto*, 491 U.S. 600, 607 (1989) ("Congress could not have chosen stronger

words [than "shall order"] to express its intent that forfeiture be mandatory in cases where the statute applied…"); *Alabama v. Bozeman*, 533 U.S. 146, 153 (2001) ("The word 'shall' is ordinarily 'the language of command.'"); *Allied Pilots Ass'n v. Pension Benefit Guar. Corp.*, 334 F.3d 93, 98 (D.C. Cir. 2003) (noting the "well-recognized principle" that the word "shall" is ordinarily the language of command).

The CAA's use of the word "shall" was no anomaly. As Senator Muskie (a primary author of the 1970 Clean Air Act) made clear, "[t]hroughout the Act, the word 'shall' was used to mandate the functions required to be performed by the Agency. Regulations, implementations, and enforcement all became specific, non-discretionary responsibilities…" 136 CONG. REC. 4,820 (*reprinting* Sen. Edward J. Muskie, *The Clean Air Act: A Commitment to Public Health*, ENVT'L. F., Jan.–Feb. 1990).

(b) Section 321(a)'s Legislative History Removes Any Doubt About Its Mandate.

The statute's legislative history comports with this plain reading. In 1977, when Congress amended the CAA to include what became § 321(a), it expressly pinpointed the prevailing concern about "the extent to which the Clean Air Act or other factors [were] responsible for plant shutdowns, decisions not to build new plants, and consequent losses of employment opportunities."[91] Accordingly, the House Interstate and Foreign Commerce Committee reported:

> Under this provision, the Administrator is ***mandated to undertake an ongoing evaluation*** of job losses and employment shifts due to requirements of the [CAA]. This evaluation is ***to include*** investigations of threatened plant closures or reductions in employment allegedly due to requirements of the act or any actual

[91] H.R. REP. NO. 95–294, at 316 (1977).

> closures or reductions which are alleged to have occurred because of such requirements.

Id. at 317 (emphasis added). Accordingly, in enacting § 321(a), Congress ordered EPA to specifically and separately evaluate employment job losses and shifts on a continuing basis.

The ongoing evaluations required by § 321(a) are distinct from the other analyses that EPA must conduct to meet its obligations under the CAA. For example, § 312 requires the Administrator to conduct cost-benefit analyses associated with certain standards that EPA issues, and those analyses must consider those standards' effects "on employment, productivity, cost of living, economic growth, and the overall economy of the United States." CAA § 312(c), 42 U.S.C. § 7612(c). Similarly, § 317 of the CAA requires the Administrator to prepare economic impact assessments as part of the rulemaking process for certain standards and regulations that EPA promulgates. 42 U.S.C. § 7617. Such economic impact assessments must analyze certain factors, including the costs of compliance, potential inflationary or recessionary effects, effects on competition for small business, consumer costs effects, and any impact on energy use. CAA § 317(c), 42 U.S.C. § 7617(c). Those other compulsory analyses, codified independently in the statute, do not take the place of the comprehensive "continuing" employment-related evaluations that EPA must perform to satisfy § 321(a). Otherwise, § 321(a) would be superfluous. And it is "a cardinal principle of statutory construction" that "a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant." *TRW Inc. v. Andrews*, 534 U.S. 19, 31 (2001).

2. EPA Confesses that It Does Not Perform Continuous § 321(a) Employment Evaluations.

Although EPA has publicly touted the Power Plan as "an investment opportunity," in fact the agency has not complied with its statutory mandate to conduct continuous employment evaluations.

There is no dispute that EPA has not conducted the continuous employment impact evaluations that § 321(a) requires. To the contrary, when EPA Administrator McCarthy was squarely asked whether EPA complies with § 321(a), she responded that "there was no statutory requirement or purpose for conducting economic analysis as part of the development of [EPA's endangerment and cause or contribute] findings," and that "EPA has not interpreted CAA section 321 to require EPA to conduct employment investigations in taking regulatory actions."[92] At her confirmation hearing, she also acknowledged that "EPA has found no records indicating that any Administration since 1977 has interpreted section 321 to require job impacts analysis for rulemaking actions."[93]

Conceding the Agency's failure to comply with § 321(a), the Administrator recently announced that the Agency had finally begun to look at the issue in direct response to pressure from Congress:

> We're actually doing the best we can to do a complete economic analysis. When we do our major rules, we do look at employment impacts to the extent that peer-reviewed science and modeling allows. **Because of Senator Vitter and his efforts to have us relook at whole-economy modeling, we're pulling together an expert panel under our science advisory board to continue to look at these issues and to mature that science.**[94]

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[92] *Murray Energy Corp. v. McCarthy*, Case no. 14–CV–0039–JPB, in the U.S. District Court for the Northern District of West Virginia, FIRST AMENDED COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF (Dkt. #31) ("*Murray* COMPL.") ¶¶ 64–65 (*citing* Letter from Representatives Barton and Walden to Lisa Jackson, Administrator, EPA, at 1 (November 19, 2009); Enclosure with Letters from Gina McCarthy, Assistant Administrator, EPA to Representatives Barton and Walden, at 1, 3 (January 12, 2010)).

[93] ENV'T & PUBLIC WORKS COMMITTEE, U.S. HOUSE OF REPRESENTATIVES, QUESTIONS FOR THE RECORD FROM SENATOR DAVID VITTER, GINA MCCARTHY CONFIRMATION HEARING 17–18, ("Questions for the Record"), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files (last visited Oct. 5, 2014).

[94] *See also* Cable-Satellite Public Affairs Network, *Climate Change Policy*, C-SPAN (Jan. 16, 2014), *available at* http://www.c-span.org/video/?317244-1/administration-defends-climate-change-plan (at approx. 1:54).

At most, EPA has attempted to deflect its non-compliance with § 321(a) by asserting that it considers employment impact in the context of specific major rulemaking.[95] EPA claims to "perform detailed regulatory impact analyses (RIAs) for each major rule it issues, including cost-benefit analysis, various types of economic impacts analysis, and analysis of any significant small business impacts."[96] As noted above, such analyses cannot satisfy EPA's continuing responsibilities under § 321(a). But even so, the Agency's reliance on RIAs is highly questionable. EPA's own written guidelines for cost-benefit analyses admit that no independent examination of employment impacts is regularly conducted:

> At times of recession, questions arise about whether jobs lost as a result of a regulation should be counted as an additional cost of the regulation. However, **counting the number of jobs lost (or gained) as a result of a regulation generally has no meaning in the context of BCA [cost-benefit analysis] as these are typically categorized as transitional job losses.**[97]

These Guidelines note that job losses should only rarely be considered in the rulemaking process: "In ***very rare cases*** in which a regulation contributes additional job losses to a sector exhibiting structural unemployment, analysts should consider including job losses as a separate cost category."[98] EPA has historically considered employment impacts to be generally irrelevant and optional:

> The [Economic Analysis Guideline's] chapters on benefits (Chapter 7) and costs (Chapter 8) point out that **regulatory-induced employment impacts are not, in general, relevant for a BCA**. For most situations, **employment impacts should not be**

[95] *See also id.* ("When we do our major rules, we do look at employment impacts ***to the extent that peer-reviewed science and modeling allows***." (emphasis added).

[96] Questions for the Record at 17-18.

[97] NAT'L CTR. FOR ENVTL. ECON., OFFICE OF POLICY, U.S. ENVTL. PROT. AGENCY, GUIDELINES FOR PREPARING ECONOMIC ANALYSIS § 8.1.4 (Dec. 17, 2010, last updated May 2014) ("*Economic Analysis Guidelines*"), *available at* http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0568-50.pdf/$file/EE-0568-50.pdf) (emphasis added).

[98] *Id.* at § 8.1.4 (emphasis added).

> **included in the formal BCA [cost-benefit analysis].** However, if desired the analyst can assess the employment impacts of a regulation as part of an EIA.[99]

And EPA's record bears this out. In one review of EPA's methods for estimating employment impacts related to air quality regulations, economic research firm NERA:

> found that EPA discussed the employment impacts of proposed air quality regulations in **only 11 of the 48** rulemakings over the 1995 through 2010 period. After 2010 (since the issuance of Executive Order 13563), EPA discussed employment impacts in 7 of 9 rulemakings.[100]

At most, EPA has performed some regulation-specific employment studies on an *ad hoc* basis. It plainly has not satisfied § 321(a)'s requirement for "***continuing*** evaluations of potential loss or shifts of employment" caused broadly by the CAA.

3. EPA Has Wrongly Interpreted § 321(a) as Discretionary.

EPA's consistent refusal to conduct the employment evaluations mandated by § 321(a) is based on its incorrect interpretation of § 321(a). It misconstrues the provision in two ways. First, it treats the provision as only authorizing employment investigations, and second, it maintains that § 321(a) is discretionary because it lacks specific "clear-cut" guidelines and any "date-certain" deadlines. These efforts to skirt § 321(a) are feckless.

By ignoring the provision's first thirty-one words of § 321(a), EPA has told Congress that the provision simply authorizes an investigatory tool:

> In keeping with congressional intent, EPA has not interpreted this provision to require EPA to conduct employment investigations in

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[99] *Id.* at § 9.2.3.3 (emphasis added).

[100] U.S. CHAMBER OF COMMERCE, IMPACTS OF REGULATIONS ON EMPLOYMENT: EXAMINING EPA'S OFT-REPEATED CLAIMS THAT REGULATIONS CREATE JOBS, *available at* https://www.uschamber.com/sites/default/files/documents/files/020360_ETRA_Briefing_NERA_Study_final.pdf) (last visited on Oct. 5, 2014) (emphasis added). Notably, Administrator McCarthy noted that it has only been since 2009 that EPA has increased attention on considering potential employment effects as part of the routine RIAs conducted for each major rule, but even then only "where data and methods permit." Senator David Vitter, Questions for the Record, at 18.

> taking regulatory actions. Section 321 was instead intended to protect employees in individual companies by providing a mechanism for EPA to investigate allegations that specific requirements, including enforcement actions, as applied to those individual companies, would result in lay-offs.[101]

EPA has advanced the same construction in *Murray Energy Corp. v. McCarthy*, a federal court action seeking declaratory and injunctive relief to enforce EPA's obligations under § 321(a).[102] There, the Agency has also maintained that the "history of Section 321(a) indicates that it was intended to authorize EPA's investigation of specific employment effects…"[103] Relying on the instance contained in § 321(a)'s last clause, EPA has asserted that "[t]his singular example of how Section 321(a) might be effectuated indicates that, in at least some circumstances, Congress intended EPA to exercise its authority to investigate and assess potential employment effects on a ***narrow, case-by-case basis***."[104] This proposed construction is wrong as it is completely at odds with § 321(a)'s plain language.

EPA has further argued that § 321(a) is discretionary in nature because, it says, § 321(a) does not impose a "clear-cut" duty and because it lacks any "date-certain" deadline by which the evaluations must be conducted. This argument does not withstand scrutiny. EPA may retain the discretion to decide *how* to perform the § 321(a) evaluations (that is, determining which methodologies should be employed) as well as some discretion to decide how frequently to perform them. But "it is rudimentary administrative law that discretion as to the substance of the

[101] Questions for the Record, at 17.

[102] Def.'s Mem. in Supp. of Mot. to Dismiss and Mot. to Strike at 17, *Murray Energy Corp. v. McCarthy*, No. 14–CV–0039–JPB (N.D. W. Va. June 16, 2014), ECF No. 35 ("EPA MEM.").

[103] *Id.*

[104] EPA MEM. at 17–18 (emphasis added). Ostensibly, § 321(a) is an investigatory tool that EPA has never employed. According to Administrator McCarthy, EPA "could not find any records of any requests for section 321 investigation of job losses alleged to be related to regulation-induced plant closure." Questions for the Record, at 18.

ultimate decision does not confer discretion to ignore the required procedures of decision making."[105]

In rejecting EPA's arguments, the district court presiding over the *Murray Energy* Action has permitted the suit against the Administrator to proceed, concluding that "[while EPA may have discretion as to the timing of such evaluations [under § 321(a)], it does not have the discretion to categorically refuse to conduct **any** such evaluations."[106]

EPA has admittedly not complied with § 321(a)'s unequivocal mandate to "conduct continuing evaluations of potential loss or shifts of employment which may result from the administration or enforcement of the provision of [the Clean Air Act] and applicable implementation plans." This failure has deprived all interested persons and stakeholders with EPA's continuous evaluations of employment effects to address the consequences of EPA's actions on the coal industry.

D. Statutorily Mandated Endangerment Finding: EPA Failed to Make an Endangerment Finding for CO_2 Emissions from Electrical Utilities as Required by Section 111(b)(1)(a) of the Clean Air Act.

EPA may establish an emission guideline under Section 111(d) only for a source category that the agency determines "causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare." CAA § 111(b)(1)(A). EPA has not undertaken the requisite actions to make any finding that CO_2 from coal-fired EGUs causes or significantly contribute to air pollution. EPA admits this readily, but EPA proposes that no endangerment finding is necessary because coal-fired EGUs are already regulated as NSPS sources, and that no separate pollutant specific endangerment finding is necessary with respect to

[105] *Bennett v. Spear*, 520 U.S. 154, 172 (1997) (citing *SEC v. Chenery Corp.*, 318 U.S. 80, 94–95 (1943)); *accord*, *e.g.*, *Appalachian Voices v. McCarthy*, 989 F. Supp. 2d 30, 54 (D.D.C. 2013).

[106] *Murray Energy Corp. v. McCarthy*, No. 5:14-CV-0039, 2014 WL 4656221, at *6 (N.D. W. Va. Sept. 16, 2014) (emphasis in original).

CO_2. Alternatively, EPA argues that even if a pollutant specific endangerment finding were necessary, it offers that EPA's "rational basis" for CO_2 regulation from EGUs, as articulated in the New Source rule proposal of January 2014, would fit the bill as an endangerment finding. EPA is wrong: an endangerment finding is required, and the endangerment finding cannot consist of merely a "rational basis" supported by findings made in other rulemakings unrelated to EGUs.

1. An Endangerment Finding for CO_2 From Coal-Fired EGUs is Required by Clean Air Act Section 111(b).

In its January 2014 NSPS Proposal, EPA contends that it is not required to make an endangerment finding with respect to a particular pollutant for a source category, but rather need only consider the air pollution impacts of the source as a whole. 77 Fed. Reg. 1453. EPA contends that because the agency has long ago established (non-greenhouse gas) performance standards for EGUs, it need not undertake a new endangerment finding solely addressing the substance it now seeks to regulate, CO_2.

EPA's conclusion is wrong. Before it can assert regulatory jurisdiction under Section 111, EPA must make an endangerment finding with respect to CO_2 from the specific source category being regulated (in this case, existing fossil-fuel fired EGUs). The plain language of Section 111(b)(1)(A) requires EPA to make an endangerment determination that is source category specific and includes a threshold significance finding for the air pollutant EPA wishes to regulate. EPA cannot simply read these unique provisions out of the statute by pointing to an endangerment determination from another section that applies a different standard.[107]

[107] *See, e.g., Pub. Emps. Retirement Sys. of Ohio v. Betts*, 492 U.S. 158, 171 (1989) ("[N]o deference is due to agency interpretations at odds with the plain language of the statute itself."); *Duncan v. Walker*, 533 U.S. 167, 174 (2001).

EPA has not even tried to make the requisite endangerment finding. As shown below in Part IV, it would be impossible to make such a finding in this proceeding. With the unprecedented costs and uncertainties posed by this rulemaking, in combination with the New Source Rule and the Existing Source Rule proposals, it is incumbent upon EPA to first demonstrate, after notice and comment, that CO_2 from EGUs cause an endangerment as required by Section 111.

2. EPA's Stated "Rational Basis" for Regulating CO_2 from Coal-Fired EGUs is Insufficient to Satisfy the Statutory Requirement for an Endangerment Finding.

EPA contends that its 2009 endangerment finding, coupled with its denial of petitions to reconsider that finding and the D.C. Circuit's ruling in CRR, provides a rational basis for setting an NSPS for CO_2 emissions from EGUs, and that the rational basis by itself serves the need for any endangerment finding. EPA's conclusion that it merely needs a rational basis for its rule is based on its flawed argument that Section 111(b) is ambiguous as to the nature of the finding required to support regulation, and that under *Chevron* EPA is therefore authorized to interpret the statute to allow it to insert its own interpretation of its burden. EPA's argument fails at the outset, and no *Chevron* deference is warranted, because Section 111(b) is clear on its face: EPA can regulate a source category only upon a finding that it "causes or significantly contributes to air pollution which may be reasonably anticipated to endanger public health or welfare."

EPA cannot rely on the endangerment finding made in 2009 with respect to motor vehicle sources, because that endangerment finding did not specifically address or evaluate measured impacts of emissions from coal-fired EGUs. It evaluated only motor vehicle tailpipe emissions, and evaluated all greenhouse gases collectively, not just CO_2. That endangerment finding is therefore inadequate to support the massive policy change that EPA proposes — a standard for

only one greenhouse gas, CO_2, emitted from a completely different source category unstudied in the motor vehicle endangerment finding. EPA's proposed interpretation would allow the Agency to regulate anything that is emitted from a facility once a generic endangerment determination is made, no matter how long ago, without regard to the risks posed (or lack thereof) by the specific pollutant later sought to be regulated. EPA's construction does not comply with the statute.

E. Executive Order Violations: EPA Failed to Follow Executive Orders which Mandate Best Practices for Regulation.

Executive orders mandate best procedures in administrative decision-making. But EPA failed to follow the applicable executive orders in developing the EPA Power Plan. Executive Orders dating back to the Clinton Administration direct agencies to consider and balance the costs and benefits of potential regulations: "In deciding whether and how to regulate, agencies should assess *all costs and benefits of available regulatory alternatives, including the alternative of not regulating*."[108]

An agency should "tailor its regulations to impose the least burden on society."[109] In doing so, an agency must consider "the most cost-effective manner" to achieve its objectives.[110] Agencies are required to select the regulatory approach that maximizes economic, public health, and safety benefits and distributive impacts and equity. *Id.* With respect to energy production, agencies must consider price increases.[111]

EPA's cost-benefit analysis under the Proposed Rule ignores the executive orders governing best practices for rulemaking by refusing fully to consider the impact of the Proposed

[108] Regulatory Planning and Review, Exec. Ord. No. 12866, Fed. Reg. 58, 51735 (Sept. 30, 1993)(emphasis added).

[109] Improving Regulation and Review, Exec. Ord. No. 13563, Fed. Reg. 76, 3821 (Jan. 18, 2011).

[110] Regulatory Planning and Review, Exec. Ord. No. 12866, Fed. Reg. 58, 51735 (Sept. 30, 1993).

[111] Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use, Exec. Ord. No. 13211, Fed. Reg. 66, 28355 (May 22, 2001).

Rule on the economy, employment, and low-income ratepayers. EPA has focused on speculative and in fact utterly unproven "benefits" while turning a blind eye to the clear and palpable economic harms, particularly the steep increase in electricity rates that low-income ratepayers will not have the financial ability to afford. EPA cannot refuse to consider the relevant costs.

For example, EPA finds that the national average electricity rate increase will only be between 5.9 and 6.6% in 2020, but that average grossly underestimates the increase in rates that particular states will experience because it does not capture variability. EPA's regional projections show that many regions will see an increase of nearly 10%.[112] EPA's takes a flawed approach to estimating rate increases. Because EPA commingles rates for coal-dependent states with those for coal-independent states, the overall mean rate figure is not an accurate portrayal of what will occur in either type of state. In reality, some coal-dependent states will suffer an increase in rates by as much as 30%, while others will be less affected. A 30% percent increase matters to low-income ratepayers. Such a spike could be the difference between having heat and not having heat to warm a home during winter. EPA does not consider, quantitatively or qualitatively, the social costs of unaffordable electricity in such circumstances. In fact, EPA does not conduct an analysis of ***any*** financial impact that price increases resulting from the Proposed Rule will have on low-income ratepayers. Accordingly, EPA has no basis for assuming that the conjectural "benefits" of the Proposed Rule will outweigh its certain costs on low-income ratepayers.

EPA's failure to conduct a proper cost-benefit analysis results in an illegitimate power grab. EPA cannot make convenient assumptions to avoid its duty to fully consider the costs and

[112] U.S. ENVIRONMENTAL PROTECTION AGENCY, REGULATORY IMPACT ANALYSIS FOR THE PROPOSED CARBON POLLUTION GUIDES FOR EXISTING POWER PLANTS AND EMISSION STANDARDS FOR MODIFIED AND RECONSTRUCTED POWER PLANTS ("RIA"), at 3-21 (2014), *available at* http://www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf.

benefits of its Power Plan. It has engaged in an outcome-driven, skewed cost-benefit analysis that is unlawful.

II. The Proposed Rule Is *Ultra Vires* For An Even More Fundamental Reason: The Proposed Rule Raises Serious Constitutional Questions.

Even if EPA had statutory authority to adopt the Proposed Rule – and it does not -- the Proposed Rule should be withdrawn because it raises serious constitutional questions. EPA's assertion of lawmaking power (*see* Part I-A, *supra*) raises grave issues under Article I, Article II, and the doctrine of separation of powers, which are necessary for liberty and for democratic checks to function. The Proposed Rule is a perfect illustration of the dangers inherent in permitting an unelected agency to restructure the U.S. economy on its own and the palpable unfairness of imposing all the costs on a small subset of entities within the agency's cross-hairs.

Because of these constitutional questions, EPA is not entitled to deference under *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc*., 467 U.S. 837 (1984). The Supreme Court has instructed that deference to an agency's interpretation is not appropriate where it would raise a serious constitutional issue.[113] Statutes must be construed to avoid serious constitutional doubt.[114] "[D]eference to an agency interpretation is inappropriate not only when

[113] *See Edward J. DeBartolo Corp. v. Florida Gulf Construction Trades Council*, 485 U.S. 568, 574-75 (1988) (noting that a "statutory interpretation by the Board would normally be entitled to deference" under *Chevron* but not deferring to the Board's interpretation because it would raise a serious constitutional issue that could be avoided through an alternative interpretation); *see also Solid Waste Agency of N. Cook Cnty v. United States Army Corps of Eng'rs*, 531 U.S. 159, 172 (2001) (choosing to "read the statute as written to avoid the significant constitutional and federalism questions raised by [the Army Corps of Engineers'] interpretation, and therefore [to] reject the request for administrative deference").

[114] *See, e.g., Bond v. United States*, 134 S. Ct. 2077, 2087 (2014) (rejecting the government's interpretation of a criminal statute, because the Court concluded that giving the statute the sweeping construction sought by the prosecutor would have triggered serious constitutional questions (indeed, the concurring Justices would have declared the statute unconstitutional outright)); *Adoptive Couple v. Baby Girl*, 133 S. Ct. 2552, 2565-71 (2013) (Thomas, J., concurring) (recasting the entire majority holding as compelled by constitutional avoidance); *Arizona v. Inter Tribal Council of Arizona, Inc*., 133 S. Ct. 2247, 2257-59 (2013) (extending avoidance canon to find that "validly conferred discretionary executive authority is properly exercised ... to avoid serious constitutional doubt"); *Elgin v. Dep't of Treasury*, 132 S. Ct. 2126, 2130-40 (2012) (avoiding constitutional dilemma by interpreting Civil Service Reform Act to require exclusive judicial review through the Federal Circuit, including constitutional

it is conclusively unconstitutional, but also when it raises serious constitutional questions."[115] EPA is not entitled to deference under this standard.

A. The Proposed Rule Would Upset Well-Settled Investment-Backed Expectations Developed In Reliance On Longstanding Federal Policy And Would Single Out A Few To Bear Burdens That In Fairness Should Be Borne By Society As A Whole.

The Proposed Rule represents a reversal of decades of federal policy emphasizing increased use of domestic coal as a way of reducing consumption of imported foreign oil and providing the nation with reliable and affordable domestic energy. The Proposed Rule therefore represents a radical shift in federal policy that would upset settled, investment-backed expectations, with no corresponding climate or environmental benefits. In fact, the agency does not contend that the proposal would affect the climate in any way. EPA has sought to justify the EPA Power Plan as an economic measure, not a "pollution control" plan. EPA Administrator Gina McCarthy testified before the Senate Environment and Public Works Committee on July 23, 2014: "The great thing about this [EPA Power Plan] proposal is that it really is an investment opportunity. *This is not about pollution control*. It's about increased efficiency at our plants, no matter where you want to invest. It's about investments in renewables and clean energy."[116]

Because the Proposed Rule will entail significant harm to society and disruption of well-settled reliance interests that are not counterbalanced by any gain, the Proposed Rule represents the epitome of arbitrary decisionmaking. The Proposed Rule is different from other regulations

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challenges to statute); *Skilling v. United States*, 561 U.S. 358, 408-09 (2010) (adopting limiting construction of honest-services statute in order to avoid due process problems).

[115] *U.S. WEST, Inc. v. FCC*, 182 F.3d 1224, 1231 (1999), *cert. denied, rev'd sub nom. Competition Policy Inst. v. U.S. WEST, Inc.*, 530 U.S. 1213 (2000).

[116] U.S. House. Energy Commerce Comm. Press Release, Pollution vs. Energy: Lacking Proper Authority, EPA Can't Get Carbon Message Straight (Jul. 23, 2014), *available at* http://energycommerce.house.gov/press-release/pollution-vs-energy-lacking-proper-authority-epa-can%E2%80%99t-get-carbon-message-straight (emphasis added).

by EPA under the Clean Air Act. The Proposed Rule is an agenda-driven regulation that has no benefit in achieving the stated goal and is therefore constitutionally infirm.

Policymakers in the 1970s and 1980s understood that the cost-benefit analysis favored coal. No fuel is free from risk, but the clear benefits available from coal – and the promise of high-efficiency technologies – strongly militate in its favor and has led Administrations of both political parties to support coal. This is a lesson that should not be lost on today's policymakers. Indeed, innovation has brought the United States to a new era of low-carbon emission technology using coal (i.e., super-critical pulverized coal, hereinafter "21st Century Coal"), and the cost-benefit analysis in favor of coal is even more obvious today than it was in decades past.[117]

Coal was championed throughout the 20th century. As John F. Kennedy cautioned when discussing the future of coal in this Nation: "It would be the height of folly for this nation to permit its coal mines to be abandoned – to permit the skills of our miners to be scattered throughout the country, in other industries – and to neglect further research and development in this major American industry. … We need intensive research on the development and use of our coal resources."[118]

After the 1973 oil embargo and the 1979 oil crisis, policymakers put a renewed emphasis on developing domestic energy sources. Concerns about energy independence and the importance of oil and gas for residential and industrial uses led Congress to enact legislation prohibiting power plants from relying on petroleum or natural gas as their primary source of

[117] *See* Roger Bezdek and Robert Wendling, *The Return on Investment of the Clean Coal Technology Program in the USA*," 54 ENERGY POLICY 104—12 (March 2013).

[118] Senator John F. Kennedy, Campaign Speech at Mercer Cnty. W. Va., (May 9, 1959), *available at* http://www.wvculture.org/history/1960presidentialcampaign/newspapers/19590510bluefielddailytelegraph.html.

power.[119] Four years later, Congress restricted construction of new power plants using oil or natural gas as a base load fuel, encouraging reliance on coal.[120]

As a result, national energy and economic policy led America to build a greater number of new coal plants and convert existing plants to coal-fired electricity generation. Federal policy "turned back to coal as an intermediate term (fifty to 100 years) or long-term (more than 100 years) energy source."[121]

Full utilization of domestic coal resources has been a central tenet of energy policy for every single president since Jimmy Carter, who urged a "shift to plentiful coal" in order to reduce dependence on foreign oil.[122] President Carter promised a certain and consistent policy to provide the industry with the confidence necessary to make investments to move the United States toward energy independence.[123]

President Carter's plan included shifting industry from natural gas to coal in order to conserve the former for household use, and set a goal for increasing annual coal production by 400 million tons.[124] Legislative price interventions in the oil and natural gas markets were specifically designed to incentivize the energy industry to shift to coal.[125] Indeed, the program pushed for legislation "to assure the greatest possible conversion of utilities and industrial

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[119] Energy Supply and Environmental Coordination Act of 1974, Pub. L. No. 93-319, § 2, 88 Stat. 246 (1974) (codified at 15 U.S.C. § 792).

[120] Power Plant and Industrial Fuel Use Act of 1978, Pub. L. No. 95-620, 92 Stat. 3289 (1978) (codified at 42 U.S.C. § 8301 et seq.).

[121] A. Dan Tarlock, *Western Coal in Context*, 53 U. COLO. L. REV. 315, 318 (1982).

[122] Jimmy Carter, Fact Sheet for Address on National Energy Plan Delivered Before a Joint Session of Congress (April 20, 1977), *available at* http://www.presidency.ucsb.edu/ws/?pid=7373.

[123] *Id.* ("We can protect ourselves from uncertain supplies by reducing our demand for oil, making the most of our abundant resources such as coal, and developing a strategic petroleum reserve. … Government policies must be predictable and certain. Both consumers and producers need policies they can depend on so they can plan ahead.").

[124] *Id.*

[125] *Id.*

installations to coal."[126] In addition, the plan "under[took] a major expansion of the Government's coal research and development program. The program will focus primarily on meeting environmental requirements more effectively and economically, and will seek to expand the substitution of coal for gas and petroleum products."[127]

Over the next few months, the federal government created the Department of Energy (in August 1977) and took further steps to encourage coal production.[128] Coal was a key component of the plan: "first, cut back on consumption; second, shift away from oil and gas to other sources of energy; and third, encourage production of energy here in the United States."[129] "We will use research and development projects, tax incentives and penalties, and regulatory authority to hasten the shift from oil and gas to coal, to wind and solar power, to geothermal, methane, and other energy sources."[130]

During this same time period, the Democratic Party praised coal usage and investment. The 1980 Democratic Party platform stated:

> The Democratic Party regards coal as our nation's greatest energy resource. It must play a decisive role in America's energy future. We must increase our use of coal … We must make clean coal conversion a reality. To this end, we will assist utilities that are large enough to permit coal conversion while maintaining or improving air quality. Coal conversion … can and must increase the use of coal, reduce the demand for oil, and provide employment where jobs are needed the most.[131]

The potential risks now cited by EPA were well-known throughout this period. The global warming scenarios of today are not new. In fact, virtually every prediction made about

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[126] *Id.*

[127] *Id.*

[128] *See* President Jimmy Carter, Address to the Nation on Energy delivered on Election Day (Nov. 8, 1977), *available at* http://millercenter.org/president/carter/speeches/speech-3400.

[129] *Id.*

[130] *Id.*

[131] 1980 Democratic Platform (August 11, 1980), *available at* https://patriotpost.us/documents/490.

climate change today can be traced back to its counterpart in the 1980s, and to the 1980 report issued by the President's Council on Environmental Quality (CEQ).[132] Given the limits in today's science already identified, *supra*, it is fair to say that all of the risks identified today were raised in 1980. Thus, the federal government promoted coal use — and strongly encouraged coal development and production — while fully aware of the risks cited by EPA.

The 1980 CEQ Report explained that increased coal investments would commit the U.S. to use fossil fuels for the lifespan of the EGUs and other facilities.[133] CEQ recognized the long life cycle of coal production and use: once the investment is undertaken, the federal government would effectively have to go "all-in" given the long-term nature of the investment. And the federal government did precisely that: notwithstanding perceived risks of global climate change, and fully aware of the long-term nature of capital investments, the federal government encouraged extensive coal production and consumption to make coal a cornerstone of U.S. energy policy.[134]

In exchange, the federal government has profited enormously from coal production. Royalty revenue collected by the U.S. Department of the Interior is an important part of both federal and state budgets. Under the Mineral Leasing Act of 1920, as amended, the federal government collects royalties on every ton of coal that is mined on federal lands. The Department's Office of Natural Resources Revenue (ONRR) subsequently forwards approximately half of these royalty revenues to states, which in turn distribute the money toward road construction, schools, universities, communities affected by energy development and

[132] Gus Speth, *Global Energy Futures and the Carbon Dioxide Problem*, 9 B.C. ENVTL. AFF. L. REV. 1 (1980), *available at* http://lawdigitalcommons.bc.edu/ealr/vol9/iss1/6.

[133] *Id.* at 5.

[134] For example, since 1950, the federal government has invested $36 billion in coal RD&D programs; *see* Roger Bezdek & Robert Wendling, *Energy Subsidy Myths and Realities: Playing Favorites or 'All of the Above'?*, PUB. UTILS. FORTNIGHTLY 62—67(June 2012).

general funds.[135] States received nearly $2.1 billion from oil, gas, coal and other energy royalties in FY2012, according to ONRR.[136] More than 460.3 million tons of coal mined on federal lands was sold in FY2012, with a total sales value of $8.1 billion. [137] This coal generated more than $875.8 million in royalty revenue. [138] The federal government collected more than $6.8 billion in royalties between FY2003 and FY2012.[139]

A network of programs, spanning several decades, has fostered investments in the promise of coal. For example:

- In 1984, President Reagan established a $750 million "Clean Coal Technology Reserve" in the Treasury intended for distribution through the DOE.[140] The Clean Coal Technology Demonstration Program (CCTDP), under the DOE, was created to disburse these funds.[141] After a separate appropriation ($400 million) in 1985[142] the CCTDP began ongoing long-term investments in developing coal technology.
- President Reagan has established a panel to advise the Administration on coal technology, the Innovative Control Technology Advisory Panel.[143]
- The CCTDP matured as it cooperated with EPA on the Clean Air Act Amendments of 1990. [144] It has responded to shifting environmental priorities, including decreasing GHG levels.[145]
- This activity was soon followed by President Bush's comprehensive Energy Policy Act of 1992,[146] which devoted an entire title to coal, including research and development,

[135] *See* Ron Wyden Senator for Oregon, *Fact Sheet: Federal Coal Royalties and their Impact on Western States*, (last viewed Oct. 9, 2014), *available at* http://www.wyden.senate.gov/download/coal-royalty-fact-sheet.

[136] *Id.*

[137] *Id.*

[138] *Id.*

[139] *Id.*

[140] FY1985 Appropriations, Pub. L. 98-473, 98 Stat. 1860, 1874 (42 U.S.C. §§ 5901, 8721).

[141] U.S. DEPT. OF ENERGY, MAJOR DEMONSTRATION PROGRAMS: PROGRAM UPDATE 2013, CLEAN COAL TECHNOLOGY, A-2 (Sept. 2013), *available at* http://seca.doe.gov/technologies/coalpower/cctc/resources/pdfsprog/cctupdat/DemoPrograms_CCTUpdate2013.pdf.

[142] Pub. L. 99-190; 99 Stat. 1251 (42 U.S.C. § 5903d).

[143] U.S. DEPT. OF ENERGY, MAJOR DEMONSTRATION PROGRAMS: PROGRAM UPDATE 2013, CLEAN COAL TECHNOLOGY, at A-2.

[144] *Id.*

[145] *Id.* at A-1 to A-2.

[146] Pub. L. 102-486, 106 Stat. 2776 *et seq.*

refinement to reduce emissions, and waste utilization.[147] The Act devoted specific provisions to international cooperation on coal technologies.[148]

- Through this period, the CCTDP expanded its funding, including over $2 billion between 1989 and 1992.[149] After funding 33 successful programs, the CCTDP gave way to the Power Plant Improvement Initiative (PPII) in 2000, in response to widespread brownouts and blackouts of the consumer electric grid, and the Clean Coal Power Initiative (CCPI) in 2002.[150] Through 2009, approximately $1.7 billion has been appropriated for the CCPI.[151]
- Funds from the American Recovery and Reinvestment Act of 2009 (ARRA) allowed DOE to develop further programs to research, develop, and demonstrate coal technologies. In 2010, FutureGen 2.0 ($1 billion) began a long-term project to create an emission-free coal-fired power plant in Meredosia, Illinois.[152] Compared to the specific focus of FutureGen 2.0, the Industrial Carbon Capture and Storage (ICCS) initiative is a $1.5 billion broad-based effort to reduce emissions through both specific projects and research, development, and demonstration activities.[153]

Thus far, the cumulative benefits of these low-carbon coal programs total about $40 billion (2008 dollars). Federal expenditures for these programs totaled about $3 billion (2008 dollars), and thus the benefit-cost ratio is an impressive 13-to-1.[154] In addition, these programs are currently generating about 60,000 jobs in the U.S. economy – jobs for highly-skilled, well-paid, technical and professional workers.[155]

In short, the Proposed Rule is a radical shift in direction from previous administrations, whether Democratic or Republican. The federal government has long encouraged coal production, while being fully aware of the potential risks now cited by EPA. In exchange, the

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[147] §§ 1301-13 (106 Stat. 2970-76).

[148] §§ 1321, 1331-41 (106 Stat. 2976-93).

[149] U.S. DEPT. OF ENERGY, MAJOR DEMONSTRATION PROGRAMS: PROGRAM UPDATE 2013, CLEAN COAL TECHNOLOGY, at A-2.

[150] *Id.* at ES-1 to ES-2, 1-3.

[151] *Id.* at 2-1.

[152] *Id.* at 1-5.

[153] *Id.*

[154] *See* Roger Bezdek and Robert Wendling, *The Return on Investment of the Clean Coal Technology Program in the USA*, 54 ENERGY POLICY 104—12 (March 2013).

[155] *Id.*

federal government has profited enormously from coal and has received billions of dollars in royalties from coal production. This radical shift raises constitutional questions.

The Fifth Amendment's Due Process and Takings Clauses aim "to prevent the government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole." *Eastern Enters. v. Apfel*, 524 U.S. 498, 522-23 (1998); *see also Armstrong v. United States*, 364 U.S. 40, 49 (1960). But this is precisely the purpose of the Proposed Rule: forcing the United States power plants and energy industry to bear a global burden. The Proposed Rule demonstrates the risk of allowing an unaccountable administrative agency to "make" law and attempt to impose the burden on an unlucky and unfortunate few. The Proposed Rule will strangle the United States coal industry for no benefit. EPA's singling out of a mere handful of emitters and limiting (or curtailing) their property is exactly the type of overreaching the Fifth Amendment seeks to prevent. As John Adams wrote, ours is "a government of laws, and not of men."[156] Similarly, Justice Jackson warned,

> The authority [vested by the Constitution in a federal branch] must be matched against words of the Fifth Amendment that "No person shall be …deprived of life, liberty, or property, without due process of law." . . . One gives a governmental authority that reaches so far as there is law, the other gives a private right that authority shall go no farther. These signify about all there is of the principle that ours is a government of laws, not men, and that we submit ourselves to rulers only if under rules.[157]

Because the Proposed Rule would reverse decades of federal policy *after* private industry has already committed to its investments, it operates in retroactive fashion to strand the very investments the federal government has encouraged and raises grave constitutional concern under *Penn Cent. Transp. Co. v. City of New York*, 438 U.S. 104, 107 (1978) and *Eastern Enters. v. Apfel*, 524 U.S. 498, 522-23 (1998) (a regulation "may so frustrate distinct investment-backed

[156] John Adams, 7th "Novanglus" letter, published in the Boston Gazette in 1774.

[157] *Youngstown Sheet & Tube Co. v. Sawyer*, 343 U.S. 579, 646 (1952) (Jackson, J., concurring).

expectations as to amount to a 'taking'"). That the Proposed Rule is open to comment does not dispel or otherwise lessen the constitutional concern. *See* Bentzion S. Turin, *Eastern Philosophy: A Constitutional Argument for Full Stranded Cost Recovery by Deregulated Electric Utilities*, 36 HOUS. L. REV. 1411, 1453 (Winter 1999) ("Although it is certainly true that the government … will often open its decision-making process for comment, in the final analysis, regulation by sovereignty proceeds unilaterally, with the government imposing its will on the regulated party, with or without the latter's consent.").

In *Eastern* Enterprises, a plurality of the Supreme Court distilled from prior case law three factors of "particular significance" to the Fifth Amendment inquiry: "the economic impact of the regulation, its interference with reasonable investment backed expectations, and the character of the governmental action."[158] The remaining Justices applied similar reasoning, although they would have framed the inquiry in terms of Fifth Amendment due process rather than the Fifth Amendment's Takings Clause.[159]

EPA's Proposed Rule raises serious concerns under all three factors:

First, the economic impact is severe. The Proposed Rule is unquestionably designed to drastically cut and eventually eliminate the use of coal. The economic impact of the rules on consumers, communities, and businesses that rely on coal would be substantial. The impact would also be discriminatory. It would fall harshly on the Midwestern United States and on other selected regions throughout the country, while largely bypassing the coastal areas. In fact, the Proposed Rules would not affect Vermont and Washington, D.C. at all.

[158] *Eastern Enters. v. Apfel*, 524 U.S. 498, 523-24 (1998).

[159] *See* 524 U.S. at 539 (Kennedy, J., concurring in the judgment and dissenting in part); *id.* at 556-58 (Breyer, J., joined by Stevens, Souter, and Ginsburg, JJ., dissenting).

The sheer depth of impact and harshness of the Proposed Rule suggest it crosses the constitutional line. *See Lingle v. Chevron U.S.A., Inc.*, 544 U.S. 528, 538 (2005) ("inquiry turns in large part … upon the magnitude of a regulation's economic impact and the degree to which it interferes with legitimate property interests."). The unprecedented scope and impact of the Proposed Rule raises serious Fifth Amendment concerns, in that "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking." *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922).

Second, the Proposed Rule would interfere with reasonable investment-backed expectations. To be sure, the federal government in the past has provided financial support to various kinds of energy sources. But the Proposed Rule is qualitatively different from previous policies. Rather than simply encouraging alternative sources of energy, the EPA Power Plan is aimed at stamping out coal.

The phase-out of coal use intended by the Proposed Rule would injure not only coal companies, but their employees, customers, and communities. The Proposed Rule unduly penalizes them for following the government's past directive and encouragement to invest in coal. This about-face in policy punishes those who relied upon the government, in the same way as the regulation held to be an impermissible taking in *Ruckelshaus v. Monsanto*, 467 U.S. 986 (1984) (finding a constitutional infringement when the government frustrated statutorily created expectations that trade secretes submitted to the government would be kept confidential.) Government policies shape business decisions and help determine the reasonableness of investment-backed expectations. *See Palazzolo v. Rhode Island*, 533 U.S. 606, 618 (2001); *Tahoe-Sierra Preservation Counsel Inc. v. Tahoe Reg'l Planning Agency*, 535 U.S. 302, 333 (2001). Here, the Proposed Rule represents a 180-degree turn in energy policy.

Third, the Proposed Rule is highly discriminatory in that it forces a select set of victims – including coal-reliant consumers, communities, regions, businesses and utilities – to bear a substantial share of the economic burden for a worldwide public policy objective. The stated public policy objective of the Proposed Rule is global in nature, yet forcing a select set of victims to make the proposed reductions in CO_2 emissions would have an imperceptible effect on worldwide greenhouse gas levels.

The Proposed Rule therefore flunks the Fifth Amendment's constitutional test. EPA lacks the authority to adopt it.

B. The EPA Power Plan Violates Structural Limits on EPA Authority and Principles of Federalism.

The Proposed Rule would comprehensively re-order national electricity policy, allowing EPA to elbow state regulators as well as FERC out of the way. But the Clean Air Act does not establish EPA as the national electricity czar. In fact, EPA asserts a greater authority over state energy regulation and local consumption than Congress has granted to FERC. EPA has seized upon Section 111(d), an obscure provision of the CAA has previously only been used in a handful of instances and used it to try to justify a radical restructuring of the energy sector. The Proposed Rule is dramatically different from other rules adopted under Section 111(d), and there is no evidence that Congress intended that provision to support the kind of sweeping change that EPA proposes, particular in an area of electricity regulation and national grid management that lies far outside the Agency's expertise. The comments of numerous states and governmental entities demonstrate that the Proposed Rule impermissibly trenches on state agencies currently exercising authority over electricity regulation. The Proposed Rule conflicts with the Clean Air Act and would raise serious constitutional questions under the Tenth Amendment and principles of federalism.

Under the Clean Air Act, EPA lacks authority to establish emission reduction requirements that are binding on states. Congress did not give EPA authority under Section 111(d) to set a required level of emissions performance by facilities within the regulated source category. Rather, Congress provided that EPA should establish a "procedure" for the submission of state plans. EPA's proposed minimum standards are substance, not a procedure. Under the Proposed Rule, EPA has already ensured that it will make all of the pivotal decisions, leaving no meaningful role for states. EPA has already arrogated to itself the authority to determine the "best system of emission reduction" ("BSER"),[160] and refuses to reopen that rulemaking.[161] EPA also determines the "state goal" for emissions, the target states must meet.[162] While states may comment on the proposed BSER, methodology for computing state goals, and underlying data, the resulting BSER and state goal are set and cannot be changed: the relevant rulemakings will not be reopened.[163] A state's only option would be to file a petition for reconsideration, but such an option must be limited to "relevant information not available during the comment period."[164] The Proposed Rule asserts that EPA is confident that "states will be able to achieve their final CO_2 emission performance goals and that no special provision for state adjustment of goals outside the normal notice-and comment rulemaking process is warranted."[165] To the extent plans may be modified, there is an explicit "no backsliding" mandate.[166] The Proposed Rule also

[160] "State Plans for the Control of Certain Pollutants From Existing Facilities," 40 Fed. Reg. 53340, 53346 (Nov. 17, 1975).

[161] 79 Fed. Reg. at 34852 n.86

[162] 79 Fed. Reg. at 34853.

[163] 79 Fed. Reg. 34898 & n.268.

[164] 79 Fed. Reg. at 34898 n.269 ("In the event that a state becomes concerned about its ability to meet the goal that EPA promulgates for it, the state may submit to EPA a petition for reconsideration, if that petition is based on relevant information not available during the comment period. See CAA section 307(d)(7)(B).").

[165] 79 Fed. Reg. at 34898.

[166] 79 Fed. Reg. at 34917.

imposes a short, 13-month timeline for the submission of state plans,[167] even though many states will need to enact legislation and develop entirely new regulatory programs during this period.

However, Congress gave states, not EPA, authority under Section 111(b) to "establish" standards of performance. Section 111(d) specifically provides that "each State shall submit to the Administrator a plan which (A) *establishes* standards of performance…." (Emphasis added.) Congress' decision not to subject state Section 111(d) plans to the full weight of the Section 110 SIP review process underscores Congress' intent that EPA would play a lesser role in approving or disapproving state Section 111(d) plans than would occur under the formal Section 110 process.

By specifying state goals and implementation, EPA maintains control over all significant policy choices. At most, state can only fine-tune the federal program. For example, the Proposed Rule improperly deprives states of authority to consider the remaining useful lives of regulated sources. Under Section 111(d)(1)(B), "Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source under a plan submitted under this paragraph to take into consideration, among other factors, the remaining useful life of the existing source to which such standard applies." The Proposed Rule contains no such provision.

Next, the Proposed Rule would define "BSER" as requiring states to mandate that coal EGUs significantly reduce generation or even shut down completely, supposedly as a "system of emission reduction" within the meaning of Section 111(a). This is unlawful under Section 111(d) and contrary to 40 years of experience. Throughout the NSPS program, which has involved performance standards for more than 70 categories of sources, EPA has never taken the

[167] 79 Fed. Reg. at 34915.

view that simply shutting down regulated facilities or forcing them to operate less constitutes "BSER." The Proposed Rule is also contrary to the plain language of Section 111(a). A requirement that a facility limit production in order to reduce emissions is not a "system" of emission reduction or any kind of "system" at all. It is simply a limit on production.

The Proposed Rule setting state goals has an additional flaw. Standards of performance cannot be established on a state-by-state basis. Section 111(d) provides for EPA to adopt regulations calling on states to submit plans establishing "standards of performance for *any existing source*." Thus, standards of performance must be established on a source-by-source basis, not a state-by-state basis.

Further, Section 111 does not permit EPA to approve a SIP with "portfolio" measures that do not apply directly to facilities within the regulated source category,[168] such as renewable energy or conservation programs that states or third parties would carry out. Section 111(b) provides for EPA to list categories of sources and then to establish "standards of performance for new sources *within such category*." 42 U.S.C 7411(b) (emphasis added). As also described above, Section 111(d) provides for states to submit plans which "(A) establish[] standards of performance for any existing source for any air pollutant … (ii) to which a standard of performance under this section would apply *if such existing source were a new source*." (Emphasis added.) Thus, the measures that state Section 111(d) plans must include, and which EPA can approve (or disapprove), are performance standards that apply to facilities *within the listed source category*.

The Proposed Rule is therefore inconsistent with the Clean Air Act, and its invasion of state regulatory control is not authorized by Congress. The Proposed Rule would also raise grave

[168] 79 Fed. Reg. at 34,837.

constitutional questions because it seeks to commandeer state agencies in violation of principles of federalism and the Tenth Amendment. The Proposed Rule would lock states into a framework where the goals are set by EPA, the means to be used to achieve those goals are set by EPA, and even the 13-month timetable for the enactment and implementation of new legislation is set by EPA. If a state fails to formulate a state plan at all, EPA will mandate a federal plan and impose sanctions on the state on its citizens.

This commandeering violates the Constitution. The Supreme Court has drawn a line: "[T]his Court never has sanctioned explicitly a federal command to the States to promulgate and enforce laws and regulations."[169] When faced with such a command in *New York v. United States*,[170] the Supreme Court struck it down, holding that the federal government could not compel a state to choose either to take title to nuclear waste or to enact particular state waste regulations and that the ability of a state to fine-tune a federal mandate was not a genuine choice. The Court explained that "[n]o matter which path the State chooses, it must follow the direction of [the federal government]."[171] The same is true here.

The Court extended this "anti-commandeering" principle in *Printz v. United States*,[172] invalidating federal legislation the purported to require state law enforcement officers to perform federally mandated background checks on handgun purchasers. And in *Nat'l Fed'n of Indep. Bus. v. Sebelius*,[173] the Court applied similar reasoning to strike down the Affordable Care Act's expansion of Medicaid, on the ground it would coerce states either to accept the expansion or risk losing existing Medicaid funding.

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[169] *FERC v. Mississippi*, 456 U.S. 742, 761-62 (1982).

[170] 505 U.S. 144 (1992).

[171] *Id.* at 177.

[172] 521 U.S. 898, 926 (1997).

[173] 132 S. Ct. 2566, 2601-2605 (2012).

In a belated response to widespread criticism for the flaws in the Proposed Rule, EPA released a Notice of Data Availability (NODA) for the Proposed Rule (Docket No. EPA-HQ-OAR-2013-0602; FRL-9918-53-OAR; RIN 2060-AR33) on October 28, 2014, soliciting comments on additional matters included in the Proposed Rule. The press release accompanying the document states that such notices "do not change a proposal."[174] Even so, the NODA introduces substantial amounts of uncertainty into the Proposed Rules, for example opening up the possibility of measuring attainment regionally rather than statewide.[175] The Proposed Rule itself was quite clear that emissions would be measured statewide.[176] Such last-minute shifts only worsen the situation for states, who cannot even plan ahead to know whether they will be measured on their own or, for example, combined with their neighbors. Indeed, the NODA acknowledges this dilemma and explains that *EPA has no good answer* for the problem of "Balkanization": the prospect of states isolated by regional pacts.[177] At best, an individual state would be forced into a pact with other states or regulated on its own while other states combine with neighbors to average out their emissions.

Worst of all, the NODA does not at any point change the binding nature of the state goal determined by EPA. EPA solicits comments on how the BSER is calculated for each state, tacitly acknowledging that its numbers were calculated poorly,[178] but remains notably silent on the

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[174] EPA, *EPA Provides Additional Information on Clean Power Plan/Agency Requests Public Comment on Additional Information and Proposes Carbon Goals for Areas in Indian Country and U.S. Territories,* (Oct. 28, 2014), *available at* http://yosemite.epa.gov/opa/admpress.nsf/596e17d7cac720848525781f0043629e/bd4d43b1c0fc593285257d7f005dd563!OpenDocument.

[175] EPA, NOTICE OF DATA AVAILABILITY, CARBON POLLUTION EMISSION GUIDELINES FOR EXISTING STATIONARY SOURCES: ELECTRIC UTILITY GENERATING UNITS 36 (Oct. 28, 2014) ("NODA").

[176] 79 Fed. Reg. at 34853 ("It should be noted that an important aspect of the BSER for affected EGUs is that the EPA is proposing to apply it on a statewide basis.").

[177] *See* NODA, at 49 (soliciting comments on the subject).

[178] *Id.* at 51—58.

mandatory nature of the BSER. Now state goals are left uncertain until the final rule is promulgated--at which point they will be set in stone. The NODA introduces even more uncertainty, but fails to address the core problem: Ultimately, states have no control over their regulatory programs and no choice to select any option other than EPA's.

At bottom, the Proposed Rule hides political choices and prevents accountability. It forces states to adopt policies that will raise energy costs and prove deeply unpopular, while cloaking those policies in the garb of state "choice" – even though in fact the polices are compelled by EPA. The Supreme Court has condemned such arrangements, because "where the Federal Government directs the States to regulate, it may be state officials who will bear the brunt of public disapproval, while the federal officials who devised the regulatory program may remain insulated from the electoral ramifications of their decision." *New York v. United States*, 505 U.S. 144, 169 (1992); *see also Printz v. United States*, 521 U.S. 898, 923 (1997) (citing need for "accountability" as a reason to prohibit federal government from forcing state officials to implement federal policy). EPA thumbs its nose at democratic principles by confusing the chain of decision-making between federal and state regulators to avoid political transparency and accountability.

These grave constitutional questions require that the Proposed Rule be withdrawn.

III. The Proposed Rule Would Impose Clear, Proven, And Overwhelming Costs.

The costs of the Proposed Rule are clear, proven by experience, and overwhelming in magnitude. At the outset, it is important to make clear that EPA's consideration of "social costs" is far too narrow. The RIA acknowledges that social costs "are the total economic burden of a regulatory action."[179] EPA admits that "[t]he social costs of a regulatory action will not

[179] RIA at 3-48.

necessarily be equivalent to the expenditures associated with compliance. Nonetheless, here we use compliance costs as a proxy for social costs."[180]

By focusing on compliance costs, EPA fails to include the far-reaching systemic costs imposed by the Proposed Rule, which aims at remaking a large section of the U.S. economy. For example:

• EPA fails to consider the vital importance of reliable and affordable electricity to human welfare, longevity, and social progress. EPA acknowledges that electricity prices may change as a result of the Proposed Rule but makes no effort to quantify the impact that will have outside the electricity sector.[181] EPA vastly undercounts the social benefits of carbon with its constrained definition of "social cost" as equivalent to compliance costs.

• EPA fails to undertake a proper jobs and employment analysis. The Agency purports to consider employment impacts, *but only* in the electricity sector and demand-side efficiency programs.[182] EPA therefore does not consider job losses in other sectors due to the Proposed Rule and the substantial increases in electricity prices that it will entail.

• EPA fails to consider the risks to the electrical grid (and the consumers who rely on it) if the loss of reliable generating units lead to blackouts. EPA forecasts that "[n]one of the interregional changes in the policy cases suggested that there would be increases in flows that would raise significant concerns about grid congestion or grid management."[183] EPA therefore ignores problems including reduced reliability and winter blackouts.

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[180] *Id.*

[181] *Id.* at 5-6.

[182] *Id.* at 6-1 to 6-34, 6A-1 to 6A-10.

[183] *Id.* at 3-33.

In short, EPA is artificially truncating its consideration of "costs" in order to justify a pre-determined political outcome. The Proposed Rule must be analyzed against the full scope of its societal impact. The issue here is the continued improvement of the *human environment*, a concept recognized since the "Declaration of the United Nations Conference on the Human Environment" in 1972 and reaffirmed to this day:

• 1972 – "Of all things in the world, people are the most precious. It is the people that propel social progress, create social wealth, develop science and technology." (United Nations, Stockholm).

• 1992 – "Human beings are at the centre of concerns for sustainable development. They are entitled to a healthy and productive life." (World Health Organization, Rio).

• 2012 – "Eradicating poverty is the greatest global challenge facing the world today and an indispensable requirement for sustainable development. In this regard we are committed to freeing humanity from poverty and hunger as a matter of urgency." (United Nations, Rio).

Likewise, the implementing regulations for the National Environmental Policy Act (NEPA) provide that "Federal agencies shall to the fullest extent possible" use "all practicable means, consistent with the requirements of the Act and other essential considerations of national policy, to restore and enhance the quality of the *human environment* and avoid or minimize any possible adverse effects of their actions upon the quality of the *human environment*." 40 C.F.R. § 1500.2(f) (emphasis added).

EPA fails to consider the full costs of the Proposed Rule.

A. The Overwhelming Benefits Of Coal Are Clear And Proven By Experience.

Coal is the key to affordable and reliable electricity, both in the U.S. and worldwide. If developing countries followed the "model" of the Proposed Rule, energy costs would skyrocket

beyond the reach of many—and certainly beyond the reach of those who need it the most. For these reasons, coal will remain, and should remain, the bedrock of global energy policies.

In a very real sense, fossil fuels — primarily coal— produced the modern civilized world. Coal and fossil fuels facilitated successive industrial revolutions (including the 21st century electricity-based information revolution), created our advanced technological society, and permit the high quality of life that we take for granted.[184] Over the past 250 years, global life expectancy has doubled, population has increased eight times, and incomes have increased eleven times.[185] During this period, CO_2 levels in the atmosphere increased from approximately 320 parts per million (ppm) to approximately 400 ppm — from 0.032% of the atmosphere to 0.040%.[186]

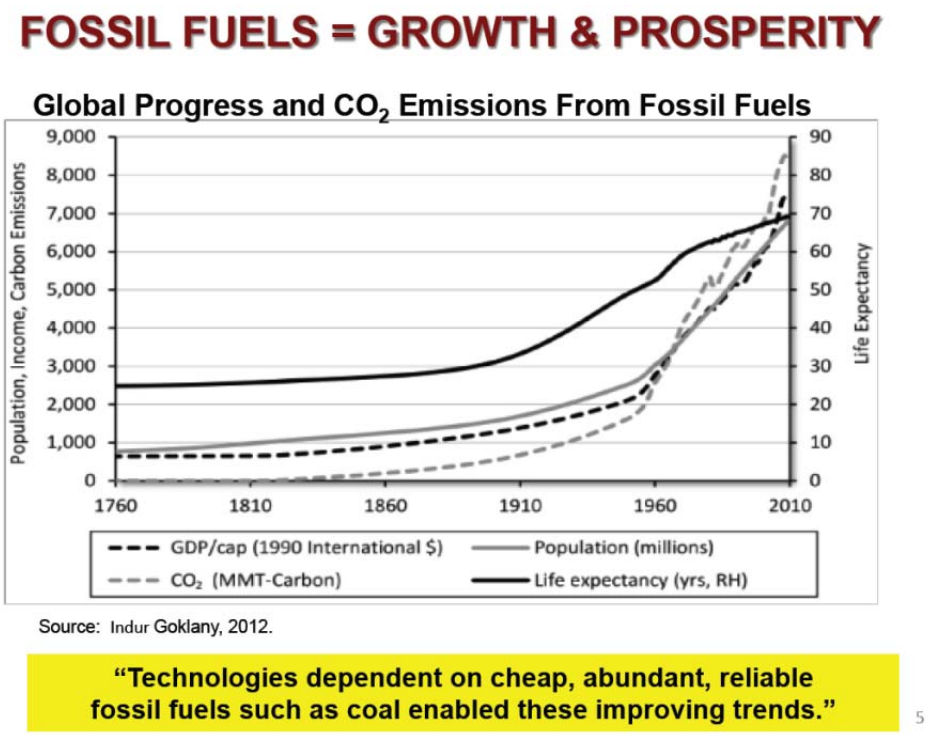
The following chart shows the strong relationship between coal and fossil fuel use and global prosperity:[187]

[184] Presentation by Roger Bezdek on Social Cost of Carbon for George C. Marshall Institute, (Feb. 26, 2014), *available at* http://marshall.org/climate-change/presentation-by-roger-bezdek-on-social-cost-of-carbon/.

[185] *Id.*

[186] *Id.*

[187] *Id.*

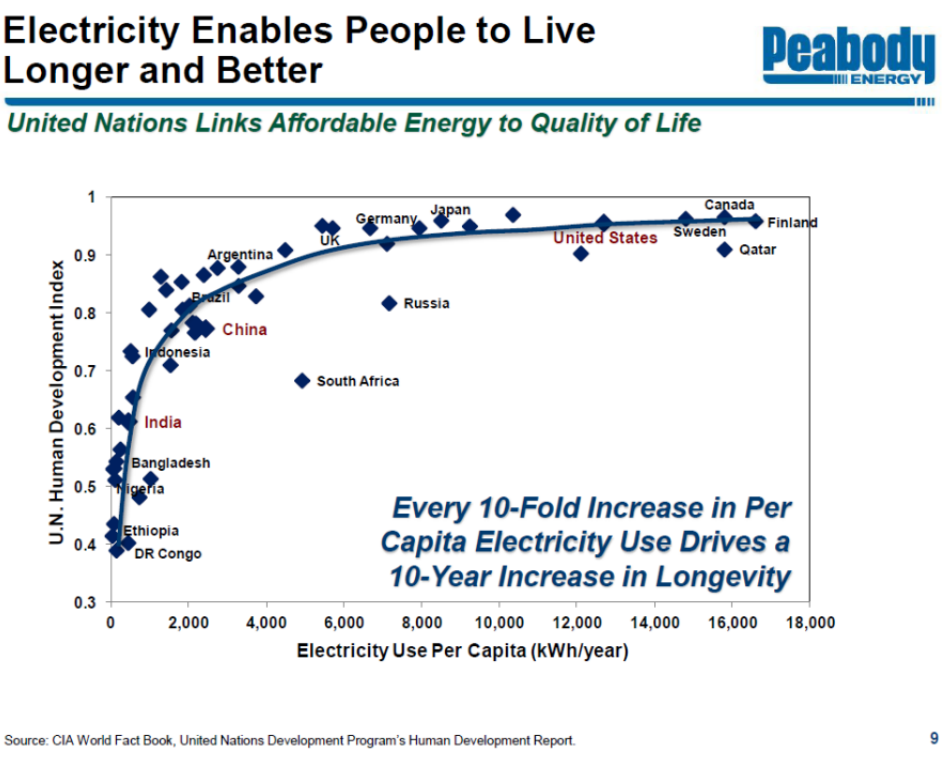


Not surprisingly, the United Nations Development Fund has cited electrification as the world's most significant engineering achievement of the past century and ranked it as the second most significant innovation of the past 6,000 years, after the printing press.[188] Coal is essential to the achievement of the United Nations' Millennium Development Goals, which range from halving extreme poverty rates to achieving universal primary education.[189]

Quite simply, electricity is essential for human progress, and there is a strong relationship between electricity consumption and increases in longevity:

[188] *Id.*

[189] UNITED NATIONS, MILLENNIUM DEVELOPMENT GOALS, *available at* http://www.un.org/millenniumgoals/ (last viewed on Oct. 16, 2014).



A wide range of distinguished scholars supports the link between fossil fuels — primarily coal — and prosperity. As noted by Robert U. Ayres (former Carnegie-Mellon professor and now INSEAD Emeritus Professor of Economics and Political Science and Technology Management in Fontainebleau, France), historically economic growth has been driven primarily not by "technological progress" in some general and undefined sense, but specifically by "the availability of ever cheaper energy - and useful work - from coal, petroleum, or gas."[190] Professor Ayres continues: "The rather standard assumption that economic growth is independent of energy availability must be discarded absolutely. It is not tenable. It implies, wrongly, that energy-related emissions (GHGs) can be reduced or eliminated without

[190] Robert U. Ayres & Benjamin Warr, *The Economic Growth Engine: How Energy and Work Drive Material Prosperity* (2009).

consequences for growth."[191] In the words of Vaclav Smil (Distinguished Professor Emeritus in the Faculty of Environment at the University of Manitoba), "[T]he most fundamental attribute of modern society is simply this: Ours is a high energy civilization based largely on combustion of fossil fuels."[192] Professor David Stern of the Australian National University explains that "[t]he theoretical and empirical evidence indicates that energy use and output are tightly coupled, with energy availability playing a key role in enabling growth. Energy is important for growth because production is a function of capital, labor, and energy, not just the former two . . . ."[193] Another group of scholars concluded: "The bottom line is that an enormous increase in energy supply will be required to meet the demands of projected population growth and lift the developing world out of poverty without jeopardizing current standards of living in the most developed countries."[194]

The data strongly bear out the scholars' work: Increased energy consumption generally is required for economic growth.[195]

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[191] Robert U. Ayres, Jeroen C.J.M. van don Bergh, Dietmar Lindenberger, & Benjamin Warr, *The Underestimated Contribution of Energy to Economic Growth*, (INSEAD, Working Paper No. 2013/97/TOM/EPS/SOCIAL Innovation Centre, 2013), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2328101.

[192] Vaclav Smil, *Energy at the Crossroads: Global Perspectives and Uncertainties*, MIT PRESS (2005).

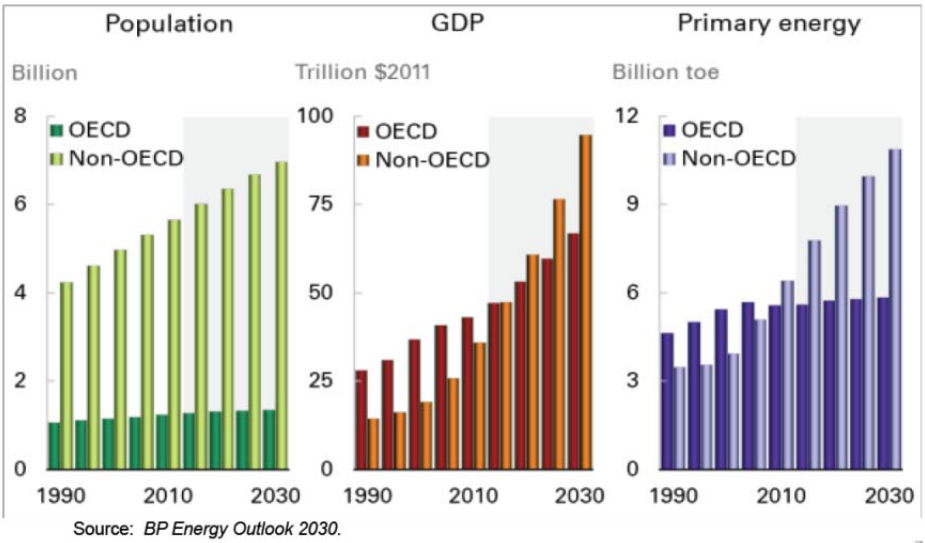
[193] David I. Stern, *The Role of Energy in Economic Growth*, (The United States Association for Energy Economics and the International Association for Energy Economics, USAEE-IAEE Working Paper No. 10-055, Nov. 2010).

[194] James H. Brown, William R. Burnside, Ana D. Davidson, John P. DeLong, William C. Dunn, Marcus J. Hamilton, Jeffrey C. Nekola, Jordan G. Okie, Norman Mercado-Silva, William H. Woodruff, and Wenyun Zuo, *Energetic Limits to Economic Growth*, 61 BIOSCIENCE 19 (Jan. 2011).

[195] Presentation by Roger Bezdek on Social Cost of Carbon (George C. Marshall Institute, Feb. 26, 2014), *available at* http://marshall.org/climate-change/presentation-by-roger-bezdek-on-social-cost-of-carbon/.

ENERGY REQUIRED FOR ECONOMIC GROWTH

Forecast of World Population, GDP, and Energy Growth



Source: *BP Energy Outlook 2030.*

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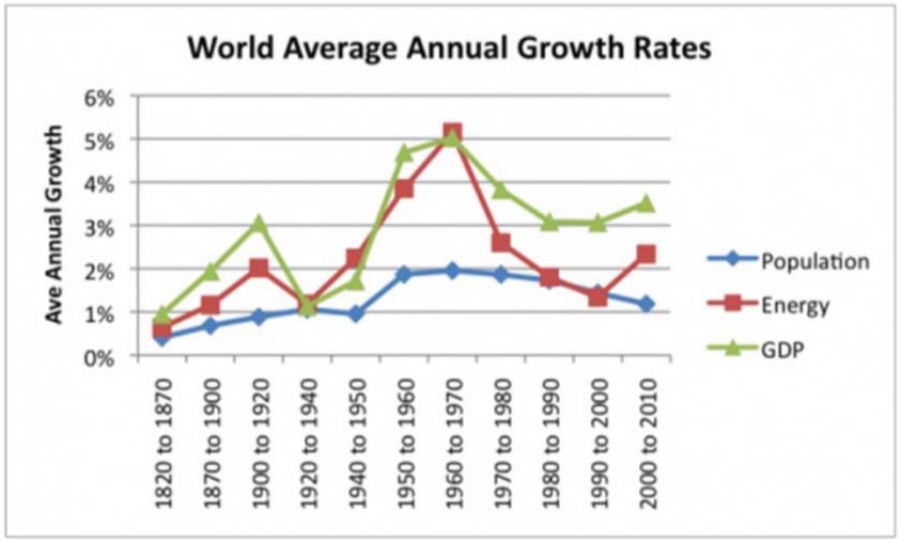
Accordingly, there is a strong relationship between economic growth and energy use:[196]

CLOSE LINK BETWEEN ENERGY & GDP



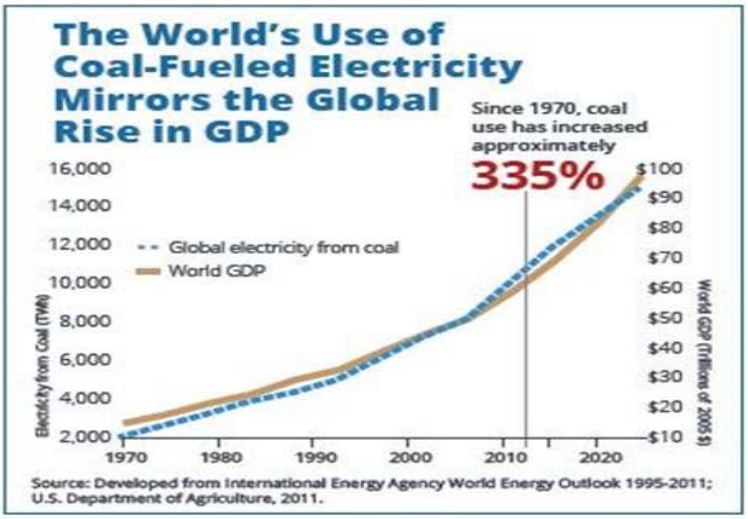
Source: Gail Tverberg, 2012.

"Fossil fuels created an economic miracle that has lifted billions of people out of hopeless poverty."

15

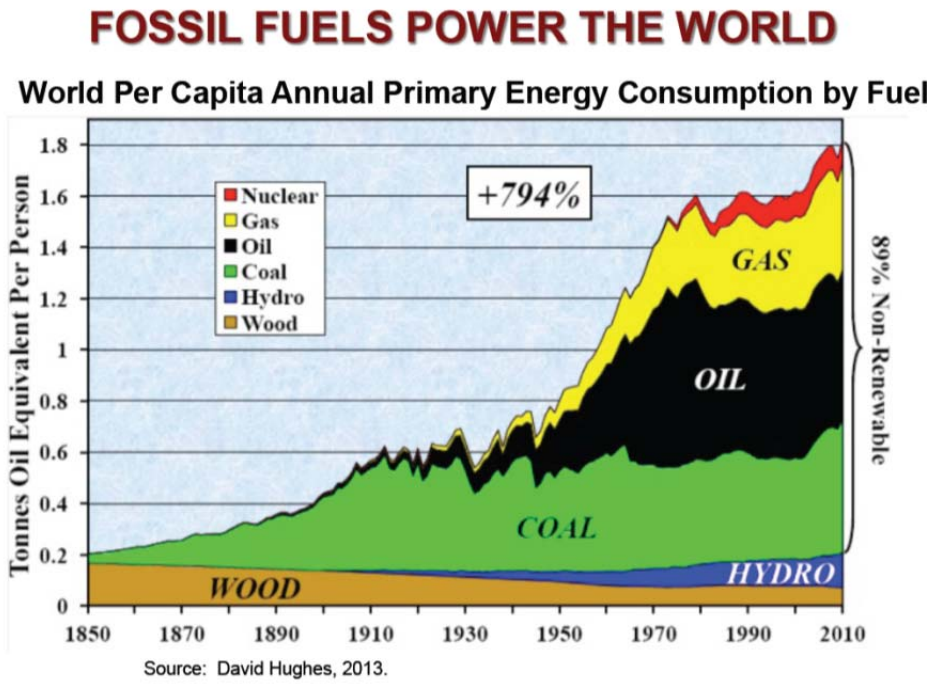
And also a strong relationship between coal and economic growth:

[196] *Id.*



There is a near perfect correlation between expanding coal use and growing economies. A rapid rise in the world's use of coal-fueled electricity mirrors the global rise in GDP.

Coal has played a critical role in the development of the modern world. Per capita energy consumption of coal has been historically significant and is growing today:[197]



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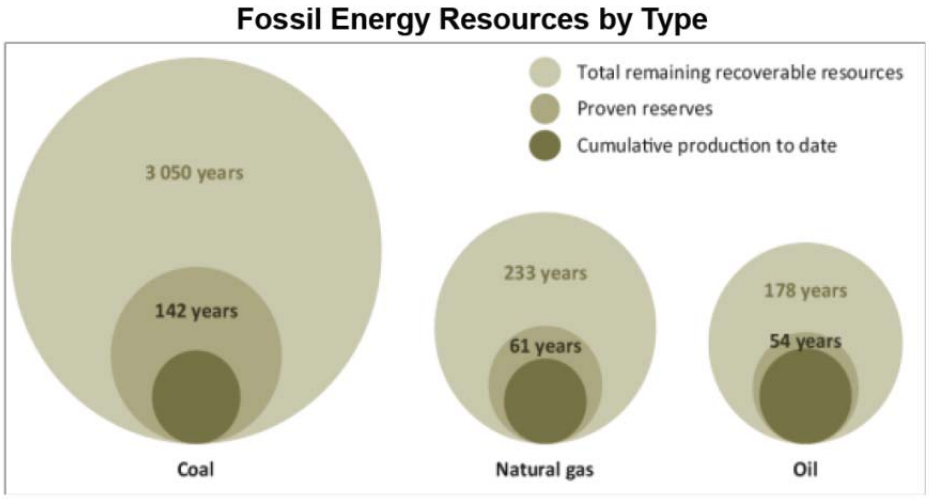
[197] *Id.*

The reason is that coal is a plentiful, affordable resource and will therefore be essential to continued economic progress:[198]

COAL > 80% OF ALL FOSSIL FUELS



Source: International Energy Agency

Coal resources are many times > natural gas & oil <u>combined.</u>

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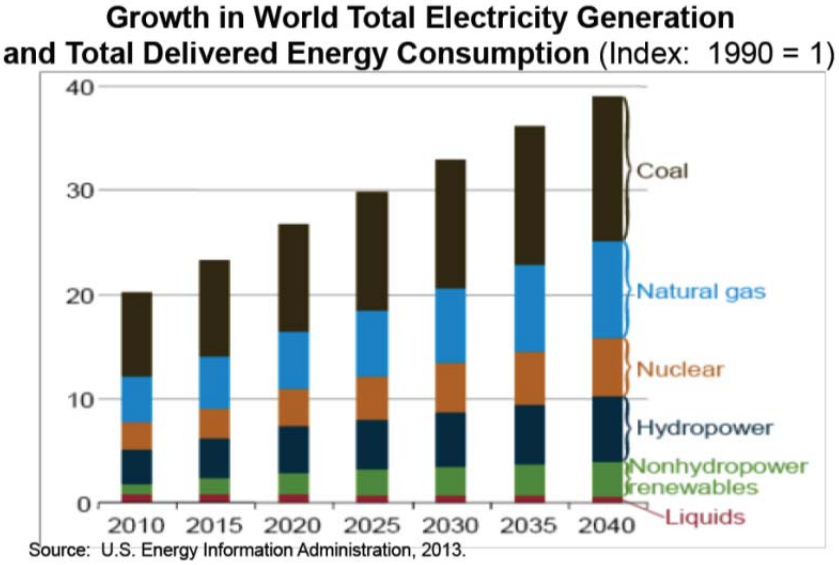
FOSSIL FUELS ESSENTIAL FOR ELECTRICITY



Source: U.S. Energy Information Administration, 2013.

Electricity use doubles: <u>Coal is currently world's predominant fuel for electricity generation & is forecast to remain so</u>

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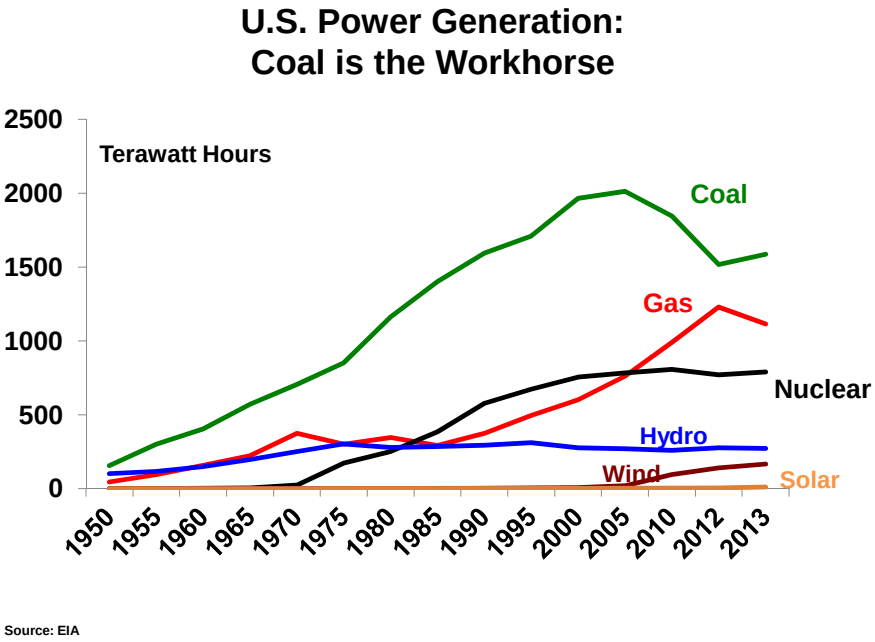
[198] *Id.*

Coal remains the critical fuel in the United States as well:



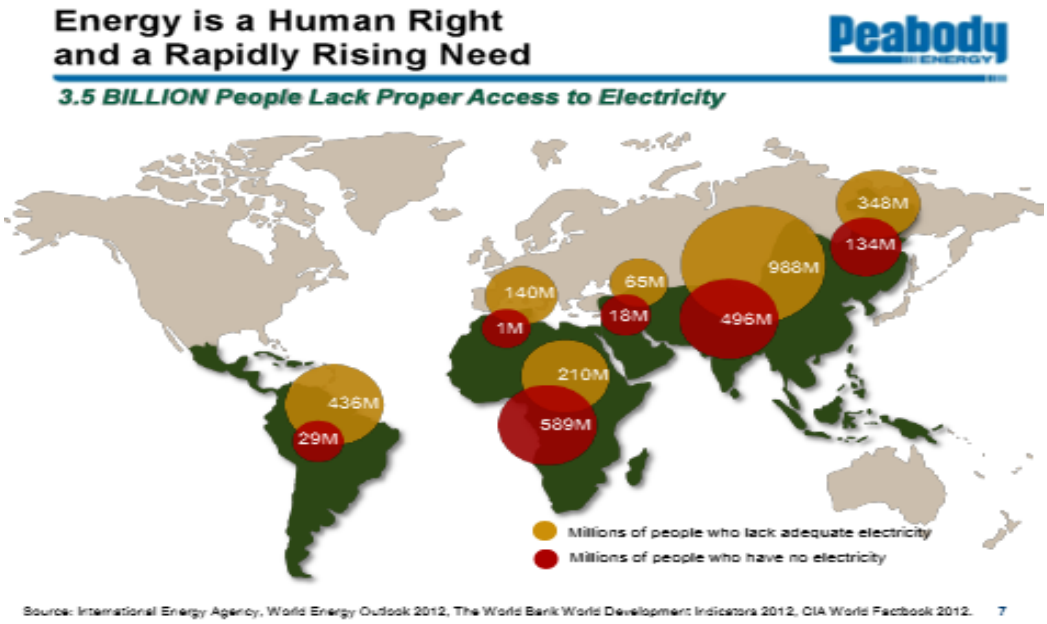
"The importance of coal in the global energy mix is now the highest since 1971… [Coal is] the fuel underpinning the rapid industrialization of emerging economies, helping to raise living standards and lift hundreds of millions of people out of poverty."[199] As the developing world continues its efforts at industrialization, promotion of education, and attainment of health and sustainability, the availability of coal will be of utmost importance and will dictate success or failure.

Nearly 40 percent of global electricity is produced from coal.[200] Because of coal's affordability and abundance, global coal consumption is expected to increase by 40 percent by

[199] Faith Birol, *Coal's Role in the Global Energy Mix: Treading Water or Full Steam Ahead?*, THE OFFICIAL JOURNAL OF THE WORLD COAL INDUSTRY, (May 20, 2013), *available at* http://cornerstonemag.net/coals-role-in-the-global-energy-mix-treading-water-or-full-steam-ahead/.

[200] International Energy Agency, *Coal*, *available at* http://www.iea.org/topics/coal/ (last viewed on Nov. 26, 2014); *see also* INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK 2013.

2035, with non-OECD Asia's demand growing by 58 percent.[201] The need for increased affordable energy cannot be ignored:



Indeed, "study after study – and pure common sense – tells us that access to electricity helps people live longer and better. For every agency voicing a 2050 GHG goal … we need 10 working toward the goal of broad energy access to reduce global poverty."[202] For example, coal has provided China the resources and power to provide electricity to the nation. Such electricity brings with it jobs, health care, and better social and economic opportunities. "Electrification in China is a remarkable success story … the most important lesson for other developing countries [is] that electrified countries reap great benefits, both in terms of economic growth and human welfare."[203]

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[201] *Id.*

[202] Gregory H. Boyce, *Empowered: The Peabody Plan and the Social Benefit of Coal – A Model for the World*, U.S. ENERGY ASSOCIATION (May 26, 2014), *available at* http://www.usea.org/sites/default/files/event-/PEABODY%20PRESENTATION%20%20USEA%206th%20Annual%20Energy%20Supply%20Forum%202013%20FIN.pdf.

[203] INTERNATIONAL ENERGY AGENCY, WORLD ENERGY OUTLOOK 2007, at 281-87 (2007) *available at* http://www.worldenergyoutlook.org/media/weowebsite/2008-1994/weo_2007.pdf.

In fact, the United States has historically supported coal development through its support of multilateral institutions such as the World Bank. Although the World Bank initially announced in 2012 that it would no longer issue loans for coal-fired plants, it changed its mind in the face of the desperate need for stable power in the developing world.[204] The international lender realized that Africa was experiencing "almost energy apartheid," according to its president, Jim Yong Kim.[205] "There's never been a country that has developed with intermittent power," he stated, recognizing that coal could provide stability that other sources of energy could not.[206] In the end, the World Bank and "its biggest shareholder," the United States, recognized that raising the developing world out of poverty depends on intelligent development and utilization of coal. That is an important lesson for the United States domestically as well.

B. The "Human Environment": The Proposed Rule Will Cripple Social And Economic Growth.

The benefits of coal are many and well-documented. Not only is it affordable and reliable, but coal production fuels economic growth and employs millions of workers. Low-cost electricity from coal allows American business to prosper and lower-income Americans to improve their quality of life. On the flipside, the costs to society from suddenly curtailing the nation's energy mix away from coal will be substantial. The radical change sought by the EPA Power Plan will result in millions of jobs lost, billions less in gross economic output, skyrocketing electricity prices, and disparity affecting communities based on income and geography, all of which will threaten America's economic recovery and world leadership.

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[204] Nina Glinski, "*World Bank May Support African Coal Power," Kim Says*, BLOOMBERG (Aug. 5, 2014) , *available at* http://www.bloomberg.com/news/2014-08-05/world-bank-may-support-african-coal-power-kim-says.html ("The proposition would force the lender and its biggest shareholder, the U.S., to make an exception in their clean-energy commitments and concede that burning coal can be the fastest route out of poverty.").

[205] *Id.*

[206] *Id.*

Studies have found that a 10 percent increase in the electricity price will result in a one percent decrease in GDP and jobs; thus, such an increase could result in the destruction of between 1 and 2 million U.S. jobs.[207] Surprisingly, EPA declined to include a discussion or consideration of these crippling costs in its RIA. EPA should not and cannot ignore these costs.

1. The Cost of Electricity Will "Necessarily Skyrocket."

> *"Under my plan … electricity rates would necessarily skyrocket." Making coal power plants retrofit their operations "will cost money. They will pass that cost on to consumers."*

—Then-Sen. Barack Obama, Interview with SF CHRON. (2008)[208]

The Proposed Rule will result in significantly higher electricity prices. It does not require the federal government to make any capital investment in change but instead will saddle electric ratepayers with the true cost of the EPA Power Plan. Skyrocketing electricity prices will have immediate impacts on businesses that rely on affordable energy to sustain hiring and production levels. High electricity prices will also hit low-income Americans particularly hard, given the high percentage of their monthly budgets that they devote to basic needs such as heating and cooling.

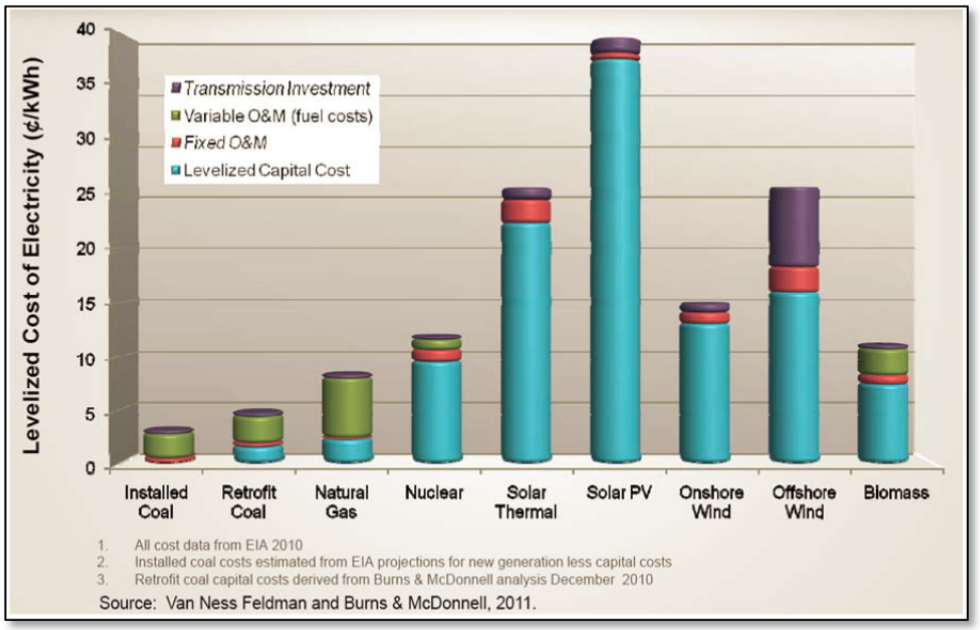
2. Increased Electricity Costs Disproportionately Fall on Low-Income Communities.

The EPA Power Plan will force low-cost coal to be abandoned in favor of other, more expensive and less reliable energy sources. This will dramatically increase the price of

[207] *See* AMERICAN COALITION FOR CLEAN COAL ELECTRICITY, THE SOCIAL COSTS OF CARBON? NO, THE SOCIAL BENEFITS OF CARBON, Appendix III, at 175-181 (Jan. 2014), *available at* http://www.americaspower.org/sites/default/files/Social_Cost_of_Carbon.pdf.

[208] Battle Born PAC, *Obama: My Plan Makes Electricity Rates Skyrocket,* (Mar. 19, 2009), *available at* http://www.youtube.com/watch?v=HlTxGHn4sH4

electricity. Coal fuels approximately 40 percent of our domestic electricity production.[209] It is one of the least expensive ways to generate electricity:[210]

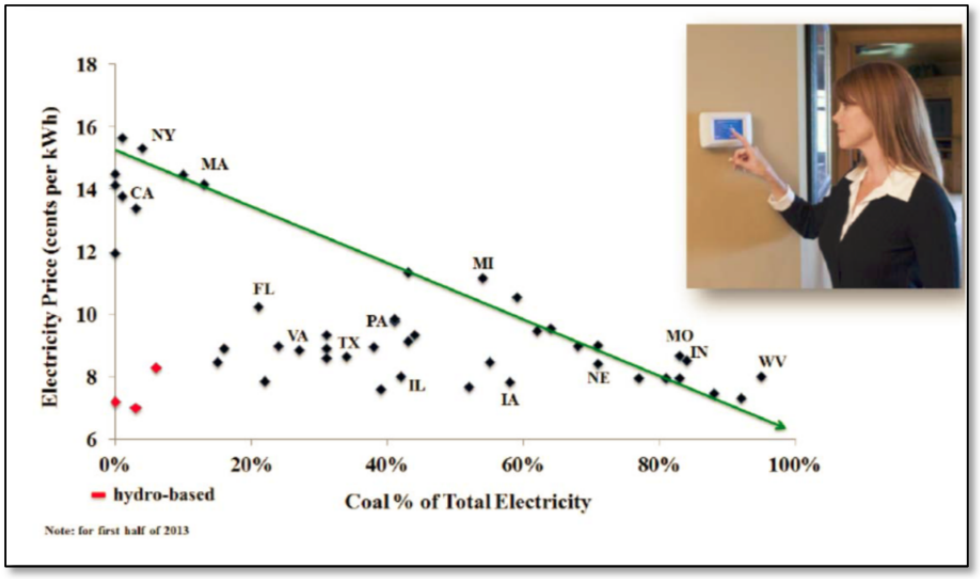


As a result, the higher percentage of coal used to generate electricity, the lower the electricity rate:[211]

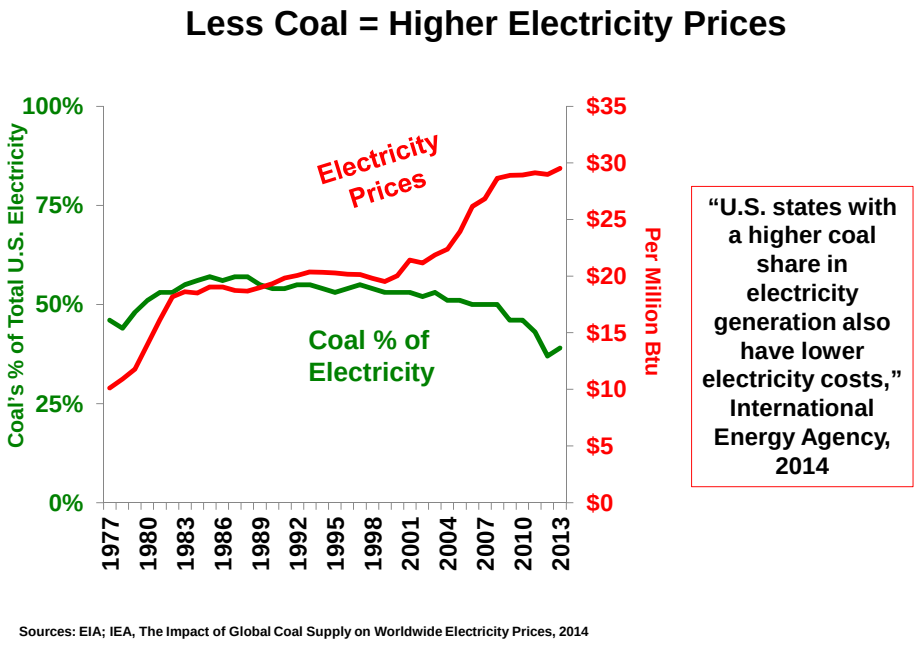
[209] Statement by Dr. S. Julio Friedmann, Dep't Asst. Secretary for Clean Coal, U.S. Dep't of Energy before the Committee on Energy and Commerce, Subcommittee on Oversight and Investigations, U.S. House of Representatives (Feb. 11, 2014).

[210] AMERICAN COALITION FOR CLEAN COAL ELECTRICITY, THE SOCIAL COSTS OF CARBON? NO, THE SOCIAL BENEFITS OF CARBON, at Fig. Ex.-10, at 9 (Jan. 2014), *available at* http://www.americaspower.org/sites/default/files/Social_Cost_of_Carbon.pdf.

[211] *Id.* Ex-11, at 10.



Conversely, the data show that less coal means high electricity prices:



Earlier this year, Dr. Julio Friedmann, the Department of Energy's Assistant Secretary for Clean Coal, admitted in testimony before the House that for so-called "first generation" technologies, there would be "something like a 70 to 80 percent increase on the wholesale price

of electricity."[212] He added that it "is, in fact, a substantial percentage increase in the cost of electricity."[213]

The Proposed Rule will thus have profound impacts not only on the regulated community, *i.e*., those who are directly responsible for compliance with the rules, but also on those who will have to fund the required changes—electric ratepayers. This burden will fall especially hard on low-income Americans who already devote substantial portions of their income on the electricity necessary for the basics like heating and cooling. A study by the Affordable Power Alliance found that the type of CO_2 restrictions implied in the EPA regulation would have serious economic, employment, and energy market impacts at the national level and for all states, but that the impacts on low-income groups, the elderly, African Americans, and Hispanics would be especially severe.[214]

States will experience an escalation in energy costs by as much as 30 percent due to EPA regulations.[215] For low-to- middle-income families, the average energy costs for heating, cooling and other energy needs represent a greater percentage of their budget than the same costs for high-income families. Households with pre-tax incomes less than $50,000 (49% of American

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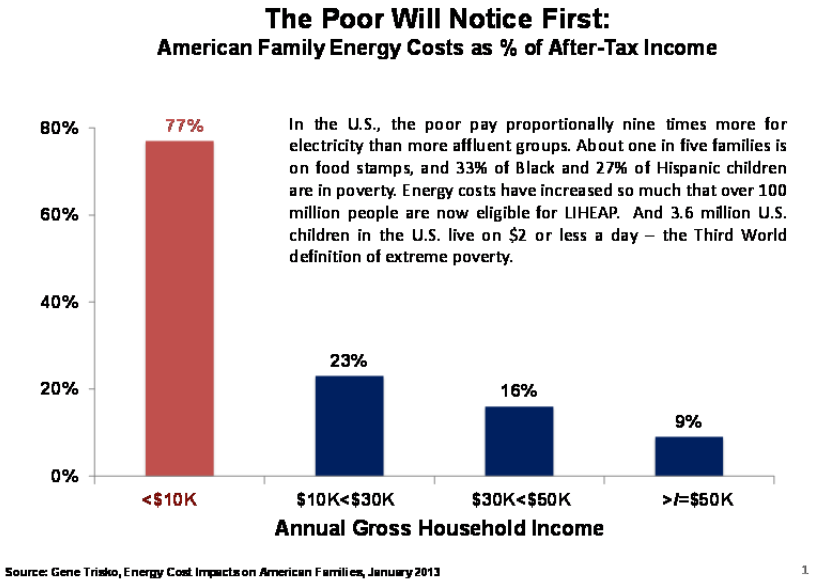
[212] Energy & Commerce Comm., DOE Official: Initiative CCS Technologies Estimates to Increase Wholesale Electricity Costs Up to "70 to 80 Percent," (Feb. 11, 2014), *available at* http://energycommerce.house.gov/press-release/doe-official-initial-ccs-technologies-estimated-increase-wholesale-electricity-costs- (last visited on Oct. 5, 2014).

[213] *Id.*

[214] THE AFFORDABLE POWER ALLIANCE, POTENTIAL IMPACT OF THE EPA ENDANGERMENT FINDING ON LOW INCOME GROUPS AND MINORITIES (March 2010); ROGER BEZDEK, POTENTIAL HARM OF REGULATIONS STEMMING FROM THE EPA ENDANGERMENT FINDING TO MINORITIES, LOW-INCOME PERSONS, THE ELDERLY, AND THOSE LIVING ON FIXED INCOMES, (report prepared for Sidley Austin as part of the "Petitioners' Motion For Partial Stay of EPA's Greenhouse Gas Regulations" and filed with the U.S. Court of Appeals For the District of Columbia Circuit) (Sept. 2010).

[215] Sandra Hochsetter Byrd, et. al., *Former and Current State Utility Regulators Express Concerns Over the EPA's Proposed Carbon Rules for Power Plants*, (Sept. 17, 2014), *available at* http://www.eenews.net/assets/2014/09/18/document_pm_04.pdf; AMERICAN COALITION FOR CLEAN COAL ELECTRICITY, RECENT ELECTRICITY PRICE INCREASES AND RELIABILITY ISSUES DUE TO COAL PLANT RETIREMENTS, (Feb. 6, 2014), *available at* http://americaspower.org/sites/default/files/Electricity-price-spikes_Feb_2014.pdf.

households) devote 20% of their after-tax budget to energy costs.[216] For households with less than $30,000 in pre-tax income (consisting of 37 million families), energy costs this year are expected to be 26% of their post-tax expenditures.[217] This fact is more alarming when considering that household incomes have not returned to their pre-recession peaks.[218] Fixed-income seniors are also especially vulnerable to the increased energy costs caused by the Proposed Rule.[219] In 2012, the median gross income of seniors fell one-third below the national average.[220]



For millions of households – especially senior citizens, single parents, and minorities – high energy costs force hard decisions about what bills to pay: housing, food, education, health care, and other necessities. Energy costs are highly regressive, since energy expenditures

[216] AMERICAN COALITION FOR CLEAN COAL ENERGY, ENERGY COST IMPACTS ON AMERICAN FAMILIES, 2001-2014, (Feb.2014).

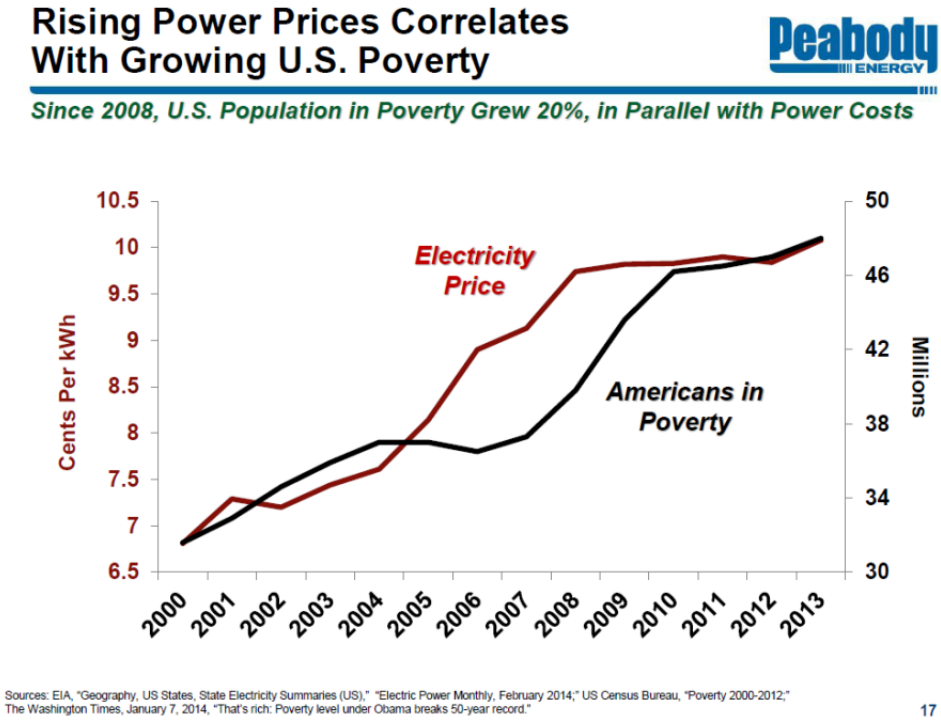
[217] *Id.*

[218] *Id.*

[219] *Id.*

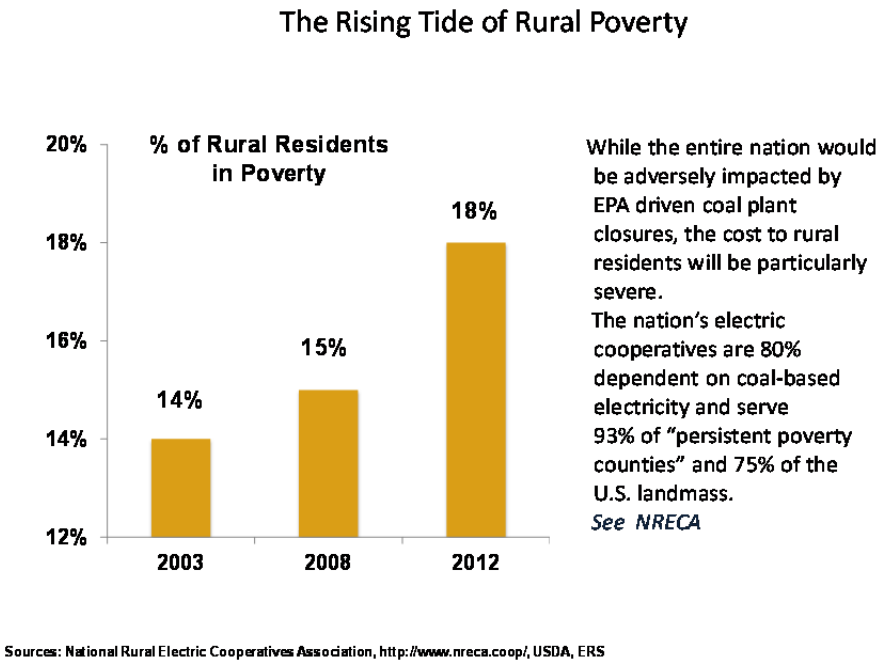
[220] *Id.*

consume larger shares of the budgets of low-income families than they do for those of higher-income families. Inability to pay utility bills is the second leading cause of homelessness in U.S., after domestic abuse.[221] It is no surprise that consumer electricity prices correlate strongly with the poverty rate:

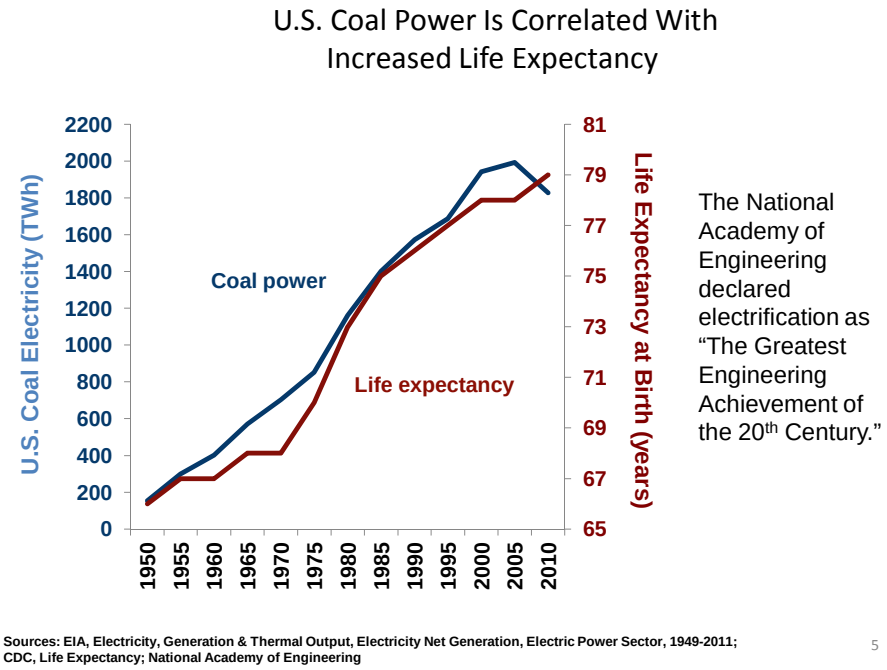


Because rural electric cooperatives are heavily coal-dependent, the Proposed Rule will have an especially severe impact on rural poverty:

[221] THE AFFORDABLE POWER ALLIANCE, POTENTIAL IMPACT OF THE EPA ENDANGERMENT FINDING ON LOW INCOME GROUPS AND MINORITIES (March 2010); Roger Bezdek, *Maximum Burden: The Electricity Price Increases From the Proposed EPA Utility MACT Will Act as a Regressive Tax on the Elderly*, PUB. UTILS. FORTNIGHTLY, (Dec. 2012); Roger Bezdek, *Florida Will be Hit Hard by MACT*, MODERN POWER SYSTEMS, 15—16. (Sept. 2012).



U.S. coal use has a strong relationship with increased life expectancy:



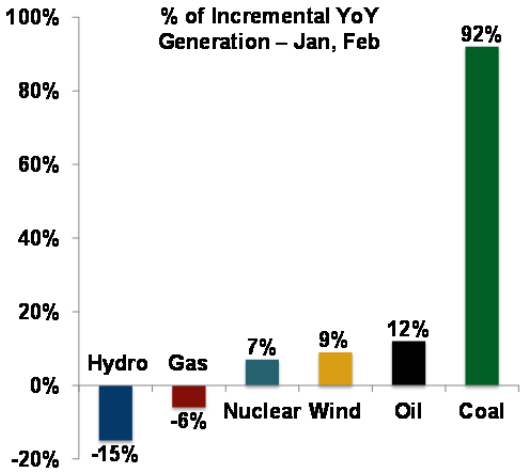
Coal is also key to reliable energy. When winter temperatures dip, the availability of coal means that consumers will have the energy they need:

The Polar Vortex Demonstrated the Value of the U.S. Coal Fleet

- 89% of AEP coal capacity slated for closure in 2015 was called upon.
- 75% of Southern Company's coal plants scheduled to close were needed.
- TVA set new records for electricity demand as many of its coal-fueled generating facilities are scheduled for closure, including two highly productive Paradise Units.
- "We really counted on [a] combination of coal and gas and nuclear and pump. storage and hydro, we needed every bit of it." *– Lynn Good, CEO, Duke Energy*
- In New England, at various times 75% of gas plants could not get fuel. PSNH resorted to burning jet fuel and generators now use more oil than coal.

"As demonstrated by cold snaps just this winter, natural gas prices are volatile and spike... This has an immediate adverse effect on consumer electric bills. Coal, and its stable price is a long-term proven hedge against natural gas volatility and is critical if we are to continue to provide affordable electricity for our members."
– John Novak, Director of Environmental Issues, National Rural Electric Cooperative Association

When the Need Was Greatest, It Was "Coal to the Rescue"*



Coal produced 92% of incremental electricity supply during the periods of greatest stress this winter. Just as importantly, the price of coal was stable while gas prices in some regions exceeded the equivalent of $500 per barrel of oil.

"There's nothing like a cold winter to remind utilities of the value of their coal fleet."

– Paul Forward, Managing Director, Stifel Financial

Sources: EIA, Electric Power Monthly, February, March, 2014; CNBC, March 20, 2014;, 2014

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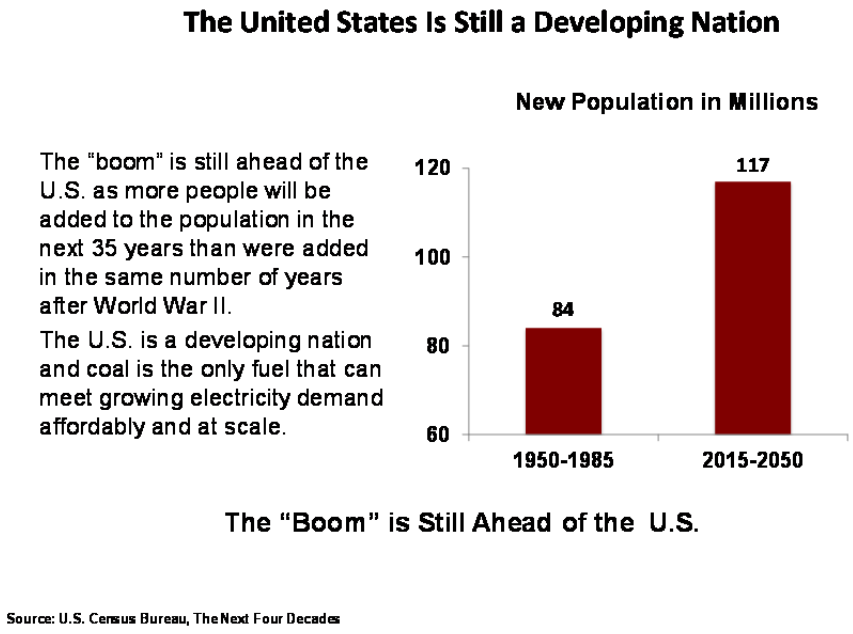
The United States is a still a "growing" nation, and its need for coal will remain acute in the years ahead:



EPA's current approach, which ignores any analysis of energy affordability and reliability, is insensitive to the needs of those most affected by the exorbitant costs. Yet EPA's governing framework requires EPA to set standards that represent the "best system of emission reduction." This standard of performance must take into consideration the cost of achieving emission reduction. *Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973) (citing the Clean Air Act § 111, 42 U.S.C. § 1857c-6(a)(1) (1970). The D.C. Circuit held that the standard should "be reasonably reliable, reasonably efficient … [and] reasonably be expected to serve the interests of pollution control without becoming exorbitantly costly in an economic or environmental way." *Id.* at 433.

EPA fails to consider the effects that the new standards will have on ratepayers, and specifically low-income communities.[222] Instead, EPA shirks its responsibility to this disparately

[222] Lee Logan, *McCarthy Rejects Advocates' Call for Equity Review of EPA Climate Rule*, INSIDEEPA.COM (Oct.1, 2014), *available at* http://insideepa.com/daily-news/mccarthy-rejects-advocates-call-equity-review-epa-climate-rule.

impacted group.[223] EPA's cost considerations are far too narrow in scope, because they fail to consider the costs and burdens imposed on ratepayers. Given that the EPA Power Plan will impose far-reaching regulations on power plants and costly burdens on rate-payers, EPA's analysis should have included these important impacts.

3. Increased Electricity Costs Kill Jobs.

Targeting coal will have dire consequences for the broader economy and thus for jobs. It cannot be disputed that "[i]ncreases in energy and electricity prices harm the economy and decreases in energy and electricity prices benefit the economy."[224]

Consequently, a shift away from coal will significantly increase the cost of electricity, and that in turn will have a very significant cascading impact on GDP. Based on a review of the studies that estimated the energy price/GDP elasticity, one inquiry has "determined that a reasonable electricity elasticity estimate is –0.1, which implies that a 10 percent increase in electricity prices will result in a one percent decrease in GDP."[225] To illustrate the significance of this:

> *An elasticity of -0.1 implies that a 10 percent increase in the electricity price will result in a one percent decrease in GDP or – in the case of a state – Gross State Product (GSP). Thus, for example, in a state such as Colorado where GSP is currently about $275 billion,143 a 10 percent increase in the electricity price will (other things being equal) likely result in about a $2.75 billion decrease in Colorado GSP.*[226]

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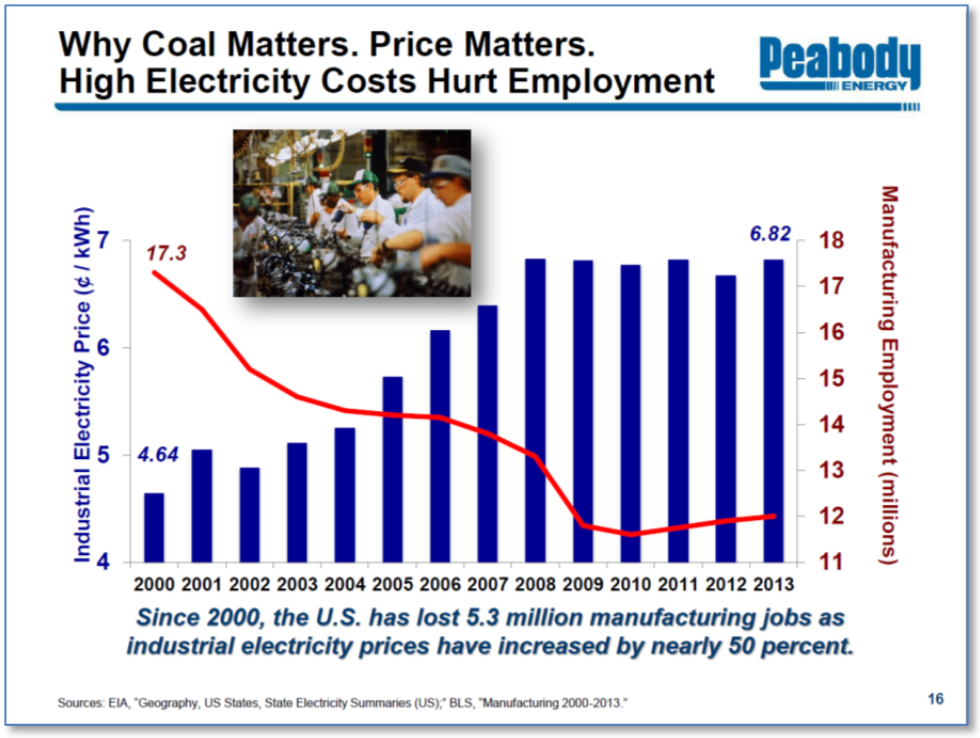
[223] *Id.*

[224] AMERICAN COALITION FOR CLEAN COAL ELECTRICITY, THE SOCIAL COSTS OF CARBON? NO, THE SOCIAL BENEFITS OF CARBON, at 9 (Jan. 2014) *available at* http://www.americaspower.org/sites/default/files/Social_Cost_of_Carbon.pdf.

[225] *Id.* at 77.

[226] *Id.* at 78.

The following chart illustrates the relationship between high electricity costs and employment for just one sector of the economy, manufacturing jobs:



There can be no question that increased costs of electricity will translate into fewer jobs for Americans in all sectors of the economy.

C. The Proposed Rule Will Kill Jobs and Harm all Sectors of the Economy.

In addition to the impact that increased energy costs will have on jobs, the Proposed Rule will have broad and devastating implications for millions of jobs and the economy generally. EPA did not consider these costs.

A 2011 study by the National Economics Research Association (NERA) developed a set of models to evaluate the potential effects of various environmental regulations on energy markets and economic activity.[227] Specifically, NERA estimated the effects over the period from

[227] NERA ECONOMIC CONSULTING, POTENTIAL IMPACTS OF EPA AIR, COAL COMBUSTION RESIDUALS, AND COOLING WATER REGULATIONS, (Sept. 2011), *available at* http://www.globalwarming.org/wp-content/uploads/2011/09/NERA_Four_Rule_Report_Sept_21.pdf.

2012 to 2020 of the four environmental regulations in three major areas: (1) coal unit retirements, (2) electricity and other energy market impacts, and (3) economic impacts.[228] With respect to their impact on employment, NERA found:

> Over the period from 2012 to 2020, about *183,000 jobs per year* are predicted to be lost on net due to the effects of the four regulations. The cumulative effects mean that over the period from 2012 to 2020, about *1.65 million job-year*s of employment would be lost.[229]

Moreover, the study estimated that U.S. disposable personal income would be reduced by $34 billion each year on average over this period (in 2010 dollars), and the average annual loss in disposable personal income per household would be $270, with a cumulative loss of $1,750 (in 2010 dollars).[230] Significantly, these net figures account for "jobs that would be created in some sectors as a result of spending on pollution controls (i.e., 'green jobs') as well as jobs lost due to higher electricity prices and other negative impacts."[231]

A Pennsylvania State University Study estimated that U.S. coal-fueled generation in 2015 would contribute $1.05 trillion (in 2005 dollars) in gross economic output, $362 billion in annual household incomes, and 6.8 million jobs.[232] Using this base, the study predicted the prospective net economic impact of displacing coal-fueled electricity generation at two different levels, 66% and 33%. For this lower displacement amount, the researchers concluded:

> *[W]e estimate the average impacts of displacing 33% of coal-based generation in 2015 at:*

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[228] *Id.* at E-2.

[229] *Id.* at 15 (emphasis added).

[230] *Id.* at 15.

[231] *Id.* at E-5.

[232] ADAM ROSE & DAN WEI, THE ECONOMIC IMPACTS OF COAL UTILIZATION AND DISPLACEMENT IN THE CONTINENTAL UNITED STATES, 2015, (report prepared for the Center for Energy and Economic Development, Inc., Alexandria, Virginia, Pennsylvania State University) (Jul. 2006) *available at* http://www.americaspower.org/sites/all/themes/americaspower/images/pdf/penn-state-study.pdf.

- *$166 billion (2005 $) reduction in gross economic output;*
- *$64 billion reduction of annual household incomes; and*
- *1.2 million job losses.*[233]

Accordingly, these scholars concluded:

> Even when we take into account the positive economic effects of capital investments and operation of alternative energy generation sources, the replacement of coal-based electricity by relatively more expensive fuels or generating technologies would have a net negative economic impact on every region and on nearly every state. In general, these results reflect the large economic benefits associated with coal's favorable price differential effect relative to alternative fuels.[234]

Another 2014 study analyzed the potential impacts of the EPA power plant rules on the electricity sector and the economy as a whole.[235] The study found that the rules would cause lower GDP – on average $51 billion every year through at least 2030, with a peak decline of nearly $104 billion in 2025, accompanied by losses in employment. On average, from 2014 to 2030, the U.S. economy would have 224,000 fewer jobs, with a peak decline in employment of 442,000 jobs in 2022. Slower economic growth, job losses, and higher energy costs mean that annual real disposable household income would decline an average of more than $200, with a peak loss of $367 in 2025. In fact, the typical household could lose a total of $3,400 in real disposable income during the years 2014 through 2030. These economic studies offer good reason to pause, especially because they have significant implications for long-term unemployment effects from regulations reducing coal use.

[233] *Id.* at 5.

[234] *Id.* at 18.

[235] IHS, ASSESSING THE IMPACT OF POTENTIAL NEW CARBON REGULATIONS IN THE UNITED STATES, (report prepared for the U.S. chamber of Commerce) (2014), *available at* http://www.energyxxi.org/epa-regs-report.

Nor is it plausible to assume that workers displaced from jobs because of EPA regulations will readily be able to find alternative employment.[236] That supposition is highly problematic. The Bureau of Labor Statistics' most recent Displaced Worker Survey found that, among the 4.3 million long-tenured displaced workers who lost their jobs between 2011 and 2013, 39% were still unemployed.[237] And among long-tenured workers who were displaced from full-time wage and salary jobs and were reemployed in such jobs in January 2014, nearly half (or 48%) had earnings that were lower than those of their lost job.[238] Decreasing the amount of electricity generated from coal will result in fewer jobs, even taking into account gains in "green job", and EPA has not shown that those jobs can be replaced elsewhere given the state of the economy.

[236] EPA has stated that it need not consider job losses because job loss will be temporary. As stated in EPA's *Guidelines*, "counting the number of jobs lost (or gained) as a result of a regulation generally has no meaning in the context of BCA as ***these are typically categorized as transitional job losses***. … The social cost of a regulation already includes the value of lost output associated with the reallocation of resources (including labor) away from production of output and towards pollution abatement." U.S. ENVIRONMENTAL PROTECTION AGENCY, GUIDELINES FOR PREPARING ECONOMIC ANALYSES, § 8.1.4 (Dec. 2010) (emphasis added) *available at* http://yosemite.epa.gov/ee/epa/eerm.nsf/vwAN/EE-0568-08.pdf/$file/EE-0568-08.pdf.

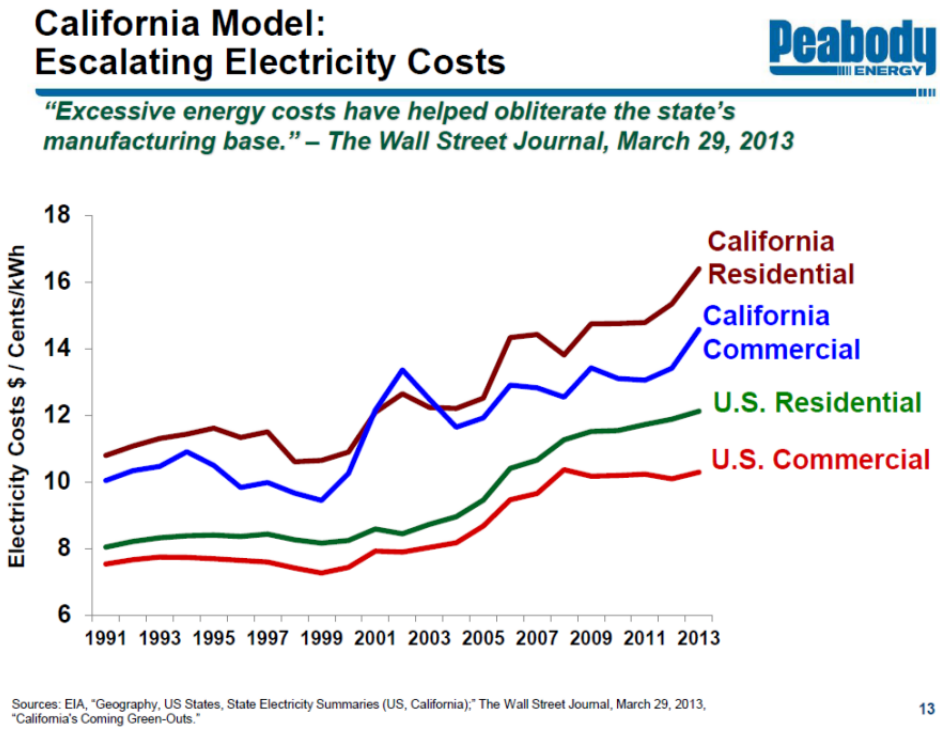
[237] U.S. BUREAU OF LABOR STATISTICS, WORKER DISPLACEMENT: 2011-2013 (Aug. 26, 2014), *available at* http://www.bls.gov/news.release/disp.htm.

[238] *Id.*

D. Experience Confirms That The Proposed Rule Will Have A Devastating Impact On Increased Electricity Rates.

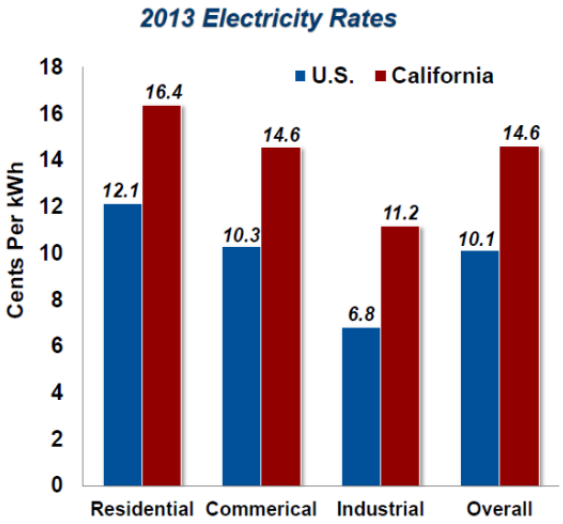
The RIA attempts to predict the impact of the Proposed Rule on electricity rates,[239] but it vastly understates the impact on consumers and the entire economy. Actual historical data and experience confirm that the Proposed Rule will have a devastating effect on the cost of electricity and on the economy generally. Similar plans have been rolled-out and tested in other states and countries and have failed miserably.

The experience of California is telling. California's cost of electricity is significantly higher than the national average, and has led to significant job losses and economic hardship, as the following charts indicate:



[239] RIA, at 3-43.

California is a Cautionary Tale: The Consequences of Forcing Out Coal



California

- Electric rates 45% > national average and 64% > Missouri
- 12 million people eligible for low income energy assistance
- More than 2 million children in poverty including 868,000 in extreme poverty
- 700,000 manufacturing jobs lost since 2000

Sources: UT San Diego, July 28, 2012, "Is California the Welfare Capital?" EIA, "Electric Power Monthly, February 2014;" BLS, "California Manufacturing;" LIHEAP Facts; Children's Defense Fund – California, "Ending Child Poverty;"

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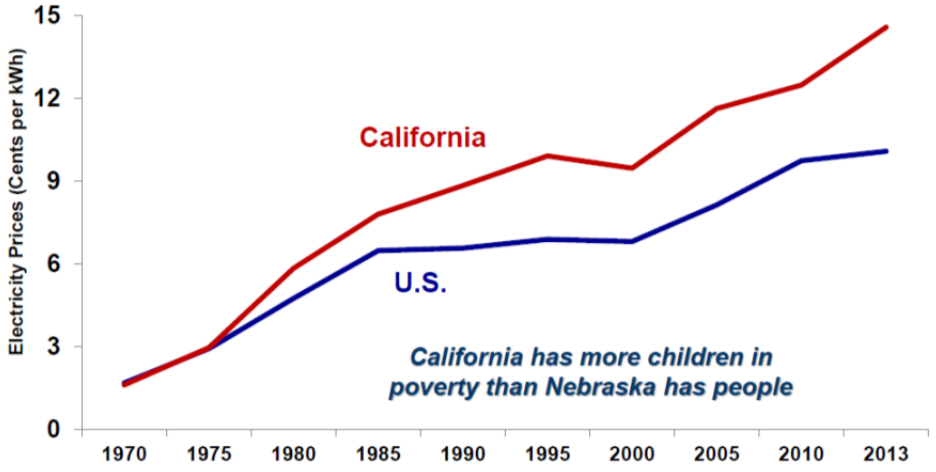
California Fault Line: Consumers Pay a Large Premium for Power vs. U.S. Avg.

"Excessive energy costs have helped obliterate the state's manufacturing base." – The Wall Street Journal, March 29, 2013



Sources: EIA, "Geography, US States, State Electricity Summaries (US, California)," "Electric Power Monthly, February 2014;" Children's Defense Fund – California, "Ending Child Poverty," The Wall Street Journal, March 29, 2013, "California's Coming Green-Outs."

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Similarly, every country that has aggressively sought to discourage coal usage has experienced large electricity price increase with no similar corresponding benefit. Comparing *existing* U.S. electricity prices to European Union electricity prices tells the story.

Figure 2. Residential Cost of Electricity in US Versus Other Developed Countries in 2012

Country	Cost per kilowatt-hour (in US dollars)
EU	$0.26
Denmark	0.41
France	0.19
Germany	0.35
Ireland	0.26
Italy	0.28
Japan	0.26
Netherlands	0.24
Spain	0.29
Sweden	0.25
Switzerland	0.22
U.K.	0.20
U.S.	**0.12**

Source: Eurostat and International Energy Agency (EA)

Between 2009 and 2013, the average energy bill for EU consumers increased by some 17 percent, while energy **costs** for individual users jumped by 21 percent.[240] Between 2005 and late 2013, the average price of residential electricity in the EU rose by 55 percent, and industrial electric rates jumped by 26 percent.[241] The average U.S household historically pays 12 cents per

[240] ROBERT BRYCE, MAINTAINING THE ADVANTAGE: WHY THE U.S. SHOULD NOT FOLLOW THE EU'S ENERGY POLICIES, (report prepared for the Manhattan Institute for Policy Research), (February 2014), *available at* http://www.manhattan-institute.org/pdf/eper_13.pdf.

[241] *Id.*

kilowatt-hour—about a third of what the same amount of electricity costs in Germany.[242] European steelmakers now pay twice as much for their electricity as do U.S. manufacturers.[243]

The global test cases for the Proposed Rule are telling. For example, no country pursued renewable energy more aggressively than Spain, and Spanish electric consumers have paid the price. Spain's electricity bills are among the highest in Europe, having risen 60 percent between 2006 and 2012. As reported by the leading Spanish newspaper *El Pais*, around four million Spaniards face difficulties paying their electricity bills. Recently, some 1.4 million homes had their electricity cut off for non-payment.[244] Australia experienced a similar soar in electricity prices because of its Renewable Energy Target and carbon tax, with household electricity costs rising 100 percent over a five year period. Lynne Chester of the University of Sydney estimated that 20 percent of households are energy poor: "Parents are going without food, families are sitting around the kitchen table using one light, putting extra clothes on and sleeping in one room to keep warm, and this is Australia 2013."[245] And North American is no different. Ontario, a victim to the Green Energy and Economy Act, faces a 33% increase in electricity rates due to an attempted shift to solar energy.[246]

In sum, the Proposed Rule will impose clear and substantial hardship on those least able to afford it. The Proposed Rule is a radical shift in policy that will deny Americans affordable and reliable electricity.

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[242] *Id.*

[243] EurActiv, *Energy CEOs Call for End to Renewable Subsidies*, (Oct.11, 2013), *available at* http://www.euractiv.com/energy/energy-ceos-call-renewable-subsi-news-531024.

[244] *The shocking price of Spanish electricity*, EL PAIS, (Jan. 1, 2014).

[245] Bjorn Lomborg, *Renewables Pave Path to Poverty*, THE AUSTRALIAN (Apr. 29, 2014).

[246] Bruce Sharp, *Blame solar for sky-high Ontario power bills*, FINANCIAL POST (October 29, 2013), *available at blame-solar-for-sky-high-ontario-power-bills*; Keith Leslie, *Ontario electricity rates to rise 33% in three years under Liberals' long-term energy plan*, FINANCIAL POST, (October 22, 2013), *available at* http://business.financialpost.com/2013/12/02/ontario-electricity-rates-to-keep-rising-as-long-term-energy-plan-released/?__lsa=4c84-f7f2.

IV. The "Benefits" Of The Proposed Rule Are Speculative And Contradicted By Scientific Evidence.

A. EPA Admits That The Proposed Rule Is "Not About Pollution Control," And The Agency Does Not Claim That The Proposed Rule Would Have An Impact On Climate.

As noted in Part II-A, *supra*, EPA's own words demonstrate that the Proposed Rule will have no effect on climate. As EPA Administrator Gina McCarthy has stated, "*This is not about pollution control*."[247] Former EPA Administrators Lisa Jackson and William Reilly have also agreed that GHG emissions cannot be solved through unilateral action.[248] Secretary of State John Kerry has acknowledged that "[e]ven if the United States somehow eliminated all of our domestic greenhouse gas emissions, it still wouldn't be enough to counteract the carbon pollution coming from China and the rest of the world."[249] Even Intergovernmental Panel on Climate Change (IPCC) Chair R.K. Pachauri has stated that "addressing climate change" "can only be achieved through cooperative responses, including international cooperation."[250] And when members of the Federal Energy Regulatory Commission were asked what "would be the most

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[247] U.S. House. Energy Commerce Comm. Press Release, Pollution vs. Energy: Lacking Proper Authority, EPA Can't Get Carbon Message Straight (Jul. 23, 2014), *available at* http://energycommerce.house.gov/press-release/pollution-vs-energy-lacking-proper-authority-epa-can%E2%80%99t-get-carbon-message-straight (emphasis added).

[248] Matt Dempsey, Press Release, S. Comm. on Env't and Public Works, *Jackson Confirms EPA Chart Showing No Effect on Climate Without China, India* (Jul. 7, 2009) (quoting Lisa Jackson (then EPA Administrator): "I believe the central parts of the [EPA] chart are that U.S. action alone will not impact world CO_2 levels"), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.PressReleases&ContentRecord_id=564ed42f-802a-23ad-4570-3399477b1393; William Reilly, Testimony, *Climate Change: The Need to Act Now*, Hearing, Comm. on Energy and Public Works, Subcomm. on Clean Air and Nuclear Safety, at 3 (June 18, 2014) ("Absent action by China, India, and other fast-growing economies, what we do alone will not suffice."), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=c2d43bbc-e60c-4a4f-b794-35bdd51e5ad3.

[249] John Kerry, *China, America and Our Warming Planet*, N.Y. TIMES, Nov. 11, 2014, *available at* http://www.nytimes.com/2014/11/12/opinion/john-kerry-our-historic-agreement-with-china-on-climate-change.html.

[250] IPCC Press Release, "*Climate change threatens irreversible and dangerous impacts, but options exist to limit its effects*," UNITED NATIONS AND CLIMATE CHANGE, *available at* http://www.un.org/climatechange/blog/2014/11/climate-change-threatens-irreversible-dangerous-impacts-options-exist-limit-effects/.

efficient way to achieve [reduced carbon emissions], the rule or some other method," *not a single FERC commissioner picked the Proposed Rule*.[251]

This is because the Proposed Rule would have at best a trivial impact on worldwide carbon emissions.[252] Even the IPCC calculates that power plants in the United States account for somewhere between 4.2 and 5.1% of GHG emissions worldwide.[253] Thus, for all of the scenarios EPA presents in terms of possible compliance with the Proposed Rule, the maximum amount of CO_2 taken out of the air is 555 million metric tons per year (= 0.555 Gt), which would constitute between 1.03 and 1.12% of GHG emissions worldwide, and likely even less.[254] Assuming perfect compliance, the Proposed Rule might affect around 1% of GHG emissions.

Even this trivial effect is overstated: EPA overestimates emissions reductions by assuming away the severe implementation and administration problems that will plague the Proposed Rule, give the numerous jurisdictional conflicts and invasions of state regulatory authority discussed in Part II-B, *infra*. EPA concedes that these issues create uncertainty,[255] yet

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[251] *See FERC Perspectives: Questions Concerning EPA's Proposed Clean Power Plan and Other Grid Reliability Challenges*, Hearing, Comm. on Energy and Commerce, Subcomm. on Energy and Power, at 59 (Jul. 29, 2014), *prelim. transcript available at* http://docs.house.gov/meetings/IF/IF03/20140729/102558/HHRG-113-IF03-Transcript-20140729.

[252] The *Wall Street Journal* reported that by EPA's own estimates its rules will address a mere 0.18% of world-wide carbon emissions. Editorial, *People's Climate Demarche*, WALL ST. J. (Sept. 22, 2014), *available at* http://online.wsj.com/articles/peoples-climate-demarche-1411339021.

[253] IPCC, MITIGATION OF CLIMATE CHANGE: CONTRIBUTION OF WORKING GROUP III TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, SUMMARY FOR POLICYMAKERS, 6 (2014). To be precise: global GHG emissions for 2010 amounted to 49 (± 4.5) Gt CO_2eq/yr (gigatonne (billion metric ton) CO_2 equivalent per year). *Id.* In the same year, emissions from energy production in the United States was 2.271 Gt CO_2eq/yr. EIA Monthly Energy Review (Feb. 2014) at 165 (table 12.6). Acknowledging that the denominator is a range, division results in attributing between 4.2 and 5.1% to power production in the United States.

[254] U.S. ENVIRONMENTAL PROTECTION AGENCY, REGULATORY IMPACT ANALYSIS FOR THE PROPOSED CARBON POLLUTION GUIDES FOR EXISTING POWER PLANTS AND EMISSION STANDARDS FOR MODIFIED AND RECONSTRUCTED POWER PLANTS, ES-6 to ES-7 9-1 (June 2014), *available at* http://www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf.

[255] RIA at 8-7 to 8-8.

it fails to account for them. EPA's approach improperly inflates the overall benefits its claims for the Proposed Rule.

EPA has not attempted to quantify the effect of the Proposed Rule on the climate. The Regulatory Impact Analysis (RIA) for the Proposed Rule states that the impact of "reduced climate effects" has been "monetized" but not "quantified."[256] In other words, EPA does not claim that the Proposed Rule would affect the climate. To be sure, EPA has quantified how much each of the reduced metric tons of pollution would be worth in dollars, albeit it with questionable assumptions (addressed in Part V, *infra*),[257] but ultimately does not even estimate how the Proposed Rule will affect the climate.

This lacuna is remarkable because EPA previously presented its estimates of impact on climate for other rulemakings. In August 2012, EPA produced an RIA for light-duty vehicle GHG emissions standards that explicitly considered the climate impact of the reduction of GHGs produced by the rule.[258] Assuming the same model would apply to the EPA Power Plan—*x* amount of emissions reduction causes *y* change in climate—the results to be produced by the Proposed Rule are unimpressive (to say the least): even under EPA's assumptions (with which Peabody Energy does not agree), atmospheric CO_2 concentrations would be reduced by less than 1% (1.52 ppm, against a projected increase of 50-150 ppm over the same time period).[259]

[256] *Id*. at ES-11 (table ES-5), 4-2 (table 4-1).

[257] *See id.* at 4-7 to 4-12.

[258] *See* U.S. ENVIRONMENTAL PROTECTION AGENCY, REGULATORY IMPACT ANALYSIS: FINAL RULEMAKING FOR 2017-2025 LIGHT-DUTY VEHICLE GREENHOUSE GAS EMISSION STANDARDS AND CORPORATE AVERAGE FUEL ECONOMY STANDARDS, at 6-105 to 6-115 (Aug. 29, 2012) ("Light-Duty RIA") (using an established assessment model (GCAM) to quantify the impact of an emissions reduction on climate), *available at* http://www.epa.gov/oms/climate/documents/420r12016.pdf.

[259] AMERICAN COALITION FOR CLEAN COAL ELECTRICITY, CLIMATE EFFECTS OF EPA'S PROPOSED CARBON REGULATIONS, at 1—3 (June 2, 2014). The paper's methodology is simple. First, the emissions reduction from the best-case scenario of the Proposed Rule is converted into the same form as that used for the Light-Duty RIA (cumulative reduction of CO_2 by 2050). Second, a ratio between the emissions reductions in the two rules is

According to EPA's own assumptions, global warming would be slowed by 0.009 °C (even though the temperature will rise 1.0-2.0 °C during the same period). And the rise in sea level would be reduced by 0.03 mm—about the thickness of three sheets of paper. (Notably, even the best-case scenario reductions end up swamped by projected increases.)

Research shows that even the entire shutdown of America's reliable coal-fueled generating fleet would have no discernible effects on the climate. An analysis by the American Coalition for Clean Coal Electricity shows that such a shutdown – which is far beyond what is being proposed here – would result in 1/20th of one degree temperature change.[260] "As one climate scientist put it to [James Fallows], 'To stabilize the CO_2 concentration in the atmosphere, the whole world on average would need to get down to the Kenya level [1 ton per person per year]'—a 96 percent reduction for the United States."[261] The "solution" EPA suggests is not even a drop in the bucket.

B. Any Projected Reductions In U.S. Emissions Would Have No Measurable Impact Given The Volume of International Emissions.

The small and diminishing role of U.S. sources is apparent when compared to the growing emissions by other nations. In 2013, CO_2 emissions worldwide rose 2.5% and hit a record high.[262] The growth is being led by China, the world's largest emitter, which this past

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calculated (according to EPA, the Proposed Rule will remove 1.52x more CO_2 (16.12 Gt of CO_2) than the light-duty rule (10.61 Gt)). Third, the EPA-projected climate effects of the light-duty rule are multiplied by the ratio.

[260] AMERICAN COALITION FOR CLEAN COAL ELECTRICITY, CLIMATE EFFECTS' OF CARBON REGULATIONS FOR THE U.S. ELECTRIC SECTOR, (May 2014), *available at* http://americaspower.org/sites/default/files/Climate%20Effects%20Issue%20Paper%20June%202014.pdf

[261] James Fallows, *Dirty Coal, Clean Future*, THE ATLANTIC (Oct. 27, 2010), *available at* http://www.theatlantic.com/magazine/archive/2010/12/dirty-coal-clean-future/308307/.

[262] *Promises Aside, Emissions Increasing*, WASHINGTON POST, A4 (Sept. 24, 2014).

year surpassed the European Union in per capita emissions.[263] India and Brazil are also substantial sources of emissions and are rapidly increasing.[264]

To put emissions in perspective, China's emissions are roughly double those of the United States.[265] Hence, China will wipe out *one year's worth* of emissions reduction under the Proposed Rule in *only 13.5 days*, using 2030 projections.[266] Other countries relying upon coal for energy also swamp the minimal reductions the Proposed Rule would cause under EPA's estimate.[267] This is because of an "insatiable demand for power from emerging markets," and the trend will continue.[268] Russia recently announced the construction of the largest coal-fired plant in the world (8,000 Mw), with plans to sell the energy to China.[269] And India's prime minister recently rejected the idea of GHG cuts, even though the country is the world's third largest carbon emitter: "What cuts? That's for more developed countries."[270] He continued:

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[263] *Id*.

[264] *Promises Aside, Emissions Increasing*, WASHINGTON POST, A4 (Sept. 24, 2014).

[265] The best estimate of emissions from China is 9.86 Gt/yr in 2012. PBL NETHERLANDS ENVT'L RSCH. AGENCY, EUR. COMM'N JOINT RSCH. CTR., TRENDS IN GLOBAL CO_2 EMISSIONS: 2013 REPORT, 16-17 (table 2.2) (Oct. 2013). Notably, this study accounts for the slightly reduced emissions as a result of the global recession, which include massive efforts on China's part to reduce GHG emissions. Even so, the United States as a whole (power plants plus all other sources) emitted about 52% of China's total emissions. *Id.*

[266] The U.S. Energy Information Administration projects that China will emit more than 14 *billion* tons of CO_2 in 2030. Source: http://www.eia.gov/forecasts/ieo/table21.cfm

[267] INTERNATIONAL ENERGY AGENCY, COAL'S SHARE OF GLOBAL ENERGY MIX TO CONTINUE RISING, WITH COAL CLOSING IN ON OIL AS WORLD'S TOP ENERGY SOURCE BY 2017, (Dec. 17, 2012), *available at* http://www.iea.org/newsroomandevents/pressreleases/2012/december/name,34441,en.html (commenting on demand for coal in China and globally and stating that "coal demand is not likely to stop growing even with more bearish economic perspectives").

[268] *Id.* (quoting International Energy Agency Executive Director Maria van der Hoeven).

[269] *Russian Firm Studying World's Largest Coal-Fired Plant to Supply China*, REUTERS (May 26, 2014), *available at* http://www.reuters.com/article/2014/05/26/russia-interrao-plant-idUSL6N0OC30R20140526.

[270] *Emissions from India Will Increase, Official Says*, N.Y. TIMES, at A5 (Sept. 25, 2014) .

"India's first task is eradication of poverty."[271] India has announced plans to double its use of domestic coal from 565 million tons in 2013 to more than a billion tons annually by 2019.[272]

In November 2014, the U.S. and China entered a non-binding and unenforceable agreement on emission, which provides merely that "China *intends* to achieve the peaking of CO_2 emissions *around* 2030."[273] A study by the Lawrence Berkeley National Laboratory found that, under current policies, Chinese CO_2 emissions would peak sometime between 2030 and 2035 anyway.[274] Thus, from China's perspective, the November 2014 agreement simply reflects the status quo. Even so, a Chinese government climate policy advisor was quick to make clear that "the timeline China has committed to is not a binding target."[275] Although the official Joint Announcement states that China "intends" to increase the share of non-fossil fuels in electricity generation, whether China would actually meet such a target seems dubious. The target envisions that China would add 800 to 1,000 gigawatts of nuclear, wind, solar and other zero-emission generating capacity by 2030, which is more than all the coal-fired power plants that exist in China today and close to the total electricity generating capacity of the United States.[276]

Nor is the U.S-China climate agreement likely to have an effect on other nations. India did not announce any reduction target for emissions cuts in response to the U.S.-China

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[271] *Id.*

[272] Gardiner Harris, *Coal Rush in India Could Tip Balance on Climate Change*, N.Y. TIMES, at A4 (Nov. 18, 2014).

[273] *China-US Joint Announcement on Climate Change*, CHINA DAILY USA (Nov. 12, 2014) , *available at* http://usa.chinadaily.com.cn/china/2014-11/12/content_18902555.htm.

[274] ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY, CHINA'S ENERGY AND CARBON EMISSIONS OUTLOOK TO 2050, at ix (April 2011), *available at* http://china.lbl.gov/sites/all/files/lbl-4472e-energy-2050april-2011.pdf.

[275] *China, US agree limits on emissions, but experts see little new*, REUTERS (Nov. 12, 2014), *available at* http://www.reuters.com/article/2014/11/12/china-usa-climatechange-idUSL3N0T21YK20141112.

[276] *China and US strike 'historic' greenhouse gas emissions deal*, THE WEEK, (Nov. 12, 2004), *available at* http://www.theweek.co.uk/world-news/61299/china-and-us-strike-historic-greenhouse-gas-emissions-deal#ixzz3IrCm4kBm.

agreement. In fact, its power minister recently announced, "India's development imperatives cannot be sacrificed at the altar of potential climate changes many years into the future. . . . The West will have to recognize we have the needs of the poor."[277] A former Indian ambassador to the EU predicted, "I doubt the Indian government is going to change anything at this time."[278]

Even developed countries such as Germany, Japan, and Canada are missing their targets for GHG reductions.[279] A recent EU agreement on greenhouse gas emissions pledged a "40% reduction" in emissions – but as measured against 1990 levels, when old and inefficient technologies meant that carbon emissions were particularly high.[280] In fact, the deal is pro-coal: it includes hundreds of millions of Euros' in free allowances to Poland to modernize coal-fired power plants.[281] In addition, the deal includes a clause to reconsider the carbon reduction target if an international treaty is not reached next year.[282] Separate targets for renewable energy and improving energy efficiency were made non-binding.[283] A news account observed that "recently there has been less enthusiasm among Europeans for a green agenda. The reasons include the stagnant economy that has depressed manufacturing, jobs, and wages, and an unwillingness to adopt new regulations that could worsen Europe's declining international competitiveness."[284]

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[277] Gardiner Harris, *Coal Rush in India Could Tip Balance on Climate Change*, N.Y. TIMES, at A4 (Nov. 18, 2014).

[278] Henry Fountain and John Schwartz, *Climate Accord Relies on Environmental Policies Now in Place*, N.Y. TIMES, at A10 (Nov. 13, 2014).

[279] *Promises Aside, Emissions Increasing*, WASHINGTON POST, A4 (Sept. 24, 2014).

[280] *See E.U. Greenhouse Gas Deal Falls Short of Expectations*, N.Y. TIMES, at A11 (Oct. 25, 2014).

[281] *See* Arthur Neslen, *EU Leaders Agree to Cut Greenhouse Gas Emissions by 40% by 2030*, THE GUARDIAN, (October 23, 2014), *available at* http://www.theguardian.com/world/2014/oct/24/eu-leaders-agree-to-cut-greenhouse-gas-emissions-by-40-by-2030.

[282] *See E.U. Greenhouse Gas Deal Falls Short of Expectations*, N.Y. TIMES, Oct. 25, 2014, at A11.

[283] *Id*.

[284] *Id*.

Because of the global need for reliable, affordable energy, much of the rest of the world will depend on coal for stable development in the twenty-first century. Any reduction made in carbon emissions from generating units will be inconsequential given the international demand for affordable, reliable electricity from coal. As Australian Prime Minister Tony Abbott recently explained, "Coal is vital for the future energy needs of the world. Energy is critical if the world is to continue to grow and prosper." "So let's have no demonization of coal." "Coal is good for humanity. Coal is good for prosperity. Coal is an essential part of our economic future here in Australia."[285] The same is true in this country.

C. The Climate Science On Which EPA Relies Is Outdated, Disproven By Actual, Real-World Data, And Fatally Flawed.

At their base, all of EPA's projections on the impacts of carbon reduction rely on crucial causal connections that lack adequate scientific basis. The Proposed Rule presumes that if GHG emissions are reduced, a climate impact will result.[286] Indeed, 96 pages of the RIA—about 25% of the document—is given over to monetizing (but not quantifying[287]) the supposed climate impact "caused" by the rule.[288] But no science supports the relevant causal links -- the connection between changes in GHG levels and any changes in climate (much less whether *x* reduction in emissions will "cause" *y* environmental impact and the resulting change in human welfare). In other words, there is no reasoned basis for accepting EPA's assessment. In fact, the best evidence indicates that it is wrong.

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[285] Jamie McKinnell, *Coal good for humanity, says Abbott*, THE WEST AUSTRALIAN, (Oct. 14, 2014), *available at* https://au.news.yahoo.com/thewest/national/a/25247625/; *see also Coal is good for humanity*, THE AUSTRALIAN, (October 15, 2014), *available at* http://www.theaustralian.com.au/opinion/editorials/coal-is-good-for-humanity/story-e6frg71x-1227090541610 ("Coal still fuels more than 40 per cent of all energy needs on the planet. So, energy is good and required; and coal is its most important source…. If bread is the stuff of life, as they say, it is not too much of a stretch to suggest coal is the stuff of civilisation.")

[286] RIA, at ES-9 to ES-10.

[287] *Id.* at (table ES-5), 4-2 (table 4-1).

[288] *Id.* at Chapters 4 & 4A.

1. False Assumptions: The Proposed Rule Rests On Old IPCC Projections Which Have Been Repeatedly Downgraded In The Intervening Years.

The Proposed Rule rests on old—and now discredited—projections that have been revised and downgraded by the very sources that initially issued them. These projections were fatally flawed in any event, for numerous reasons. But on any view, it is arbitrary and capricious to rely on a prediction that the original source has subsequently abandoned.

The Proposed Rule claims support from EPA's 2009 Endangerment Finding,[289] which spent a scant eight pages — out of 210, about 4% of the total — describing why asserted climate change should be attributed to human GHG emissions.[290] This crucial link, upon which EPA's analysis depends, relies extensively on the conclusions of the United Nations International Panel on Climate Change (IPCC).[291] The RIA continues to cite IPCC data to define its asserted climate impacts.[292]

Even if the IPCC findings were accepted (and for numerous reasons detailed below, they are fatally flawed), EPA's Endangerment Finding cannot be sustained because – after it was issued -- the IPCC has been significantly downgrading its projections of supposed warming. The IPCC now says that the temperature rise it expects as a result of man-made emissions of CO_2 is substantially lower than it thought in 2007.[293]

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[289] EPA, *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*, 74 Fed. Reg. 66496 *et seq.* (Dec. 15, 2009).

[290] *Id.* at 47-54.

[291] *Id.*

[292] RIA, at ES-11 (Table ES-5); *see also* RIA at 4-2 to 4-3, 4-5 to 4-6 (relying on IPCC data as inputs for the social cost of carbon calculation).

[293] *See* Matt Ridley, *Dialing Back the Alarm on Climate Change*, WALL ST. J. (Sep. 17, 2013), *available at* http://online.wsj.com/articles/SB10001424127887324549004579067532485712464 (repeating the findings).

In 2007, the IPCC projected that the "transient climate response" (TCR)—the actual temperature change expected from a doubling of carbon dioxide — was "very likely" to be warming of 1 to 3º C. By 2013, that number was scaled back to "likely" to be 1 to 2.5º C and "extremely unlikely" to be greater than 3º C.[294]

Prior to September 2013, the IPCC projected warming of 0.4 to 1.0º C for the 30-year period from 2016-2035 against 1986-2005.[295] But in September 2013, the IPCC cut the 30-year projection to 0.3-0.7º C, saying the warming is more likely to be at the lower end of the range, equivalent to about 0.4º C over 30 years.[296] Interestingly, this decrease, which should have been headline material, was not mentioned in the "Summary for Policymakers" section.[297]

This is not the first time that climate predictions have proven to be inaccurate. In 1980, the President's Council on Environmental Quality (CEQ) issued a report[298] asserting climate risks in a way that is comparable (if not almost identical) to EPA's current warnings – risks that observational data now refute. In 1980, CEQ predicted that if "little global action is taken to control CO2 emissions over the next several decades," the world could be "faced with a

[294] *See* Matt Ridley, *Dialing Back the Alarm on Climate Change*, WALL ST. J. (Sep. 17, 2013), *available at* http://online.wsj.com/articles/SB10001424127887324549004579067532485712464 (repeating the findings).

[295] The 2007 AR4 Synthesis Report projected a rise of 0.2º C per decade, yielding 0.6º C over the 30-year span. IPCC, *AR4 Synthesis Report* 45 (2007). The second draft of the final AR5 report gave a range of 0.4 to 0.7º C, yielding a similar median of 0.6 º C. Christopher Monckton, "IPCC Silently Slashes Its Global Warming Predictions in the AR5 Final Draft," WattsUpWithThat.com (Jan. 1, 2014), *available at* http://wattsupwiththat.com/2014/01/01/ipcc-silently-slashes-its-global-warming-predictions-in-the-ar5-final-draft/.

[296] Matt Ridley, *Whatever Happened to Global Warming?*, WALL ST. J. (Sept. 4, 2014), *available at* http://online.wsj.com/articles/matt-ridley-whatever-happened-to-global-warming-1409872855.

[297] Christopher Monckton, *IPCC Silently Slashes Its Global Warming Predictions in the AR5 Final Draft*, WATTS UP WITH THAT? ,(Jan. 1, 2014), *available at* http://wattsupwiththat.com/2014/01/01/ipcc-silently-slashes-its-global-warming-predictions-in-the-ar5-final-draft/.

[298] CEQ, *Global Energy Futures and the Carbon Dioxide Problem* (1980).

drastically altered climate sometime in the next half of the next century."[299] The CEQ described the scenario:

> In the short time span of a little more than a decade, the earth's average temperature increases several degrees Celsius, much larger increases occur in the polar regions. Precipitation patterns shift dramatically from the average of the previous several hundred years. . . . U.S. agricultural production declines sharply due to the extremely arid conditions over most of what were prime agricultural regions. Marginal agricultural areas in many arid and semi-arid regions of the world become unproductive, with particularly serious impacts on many less developed countries.[300]

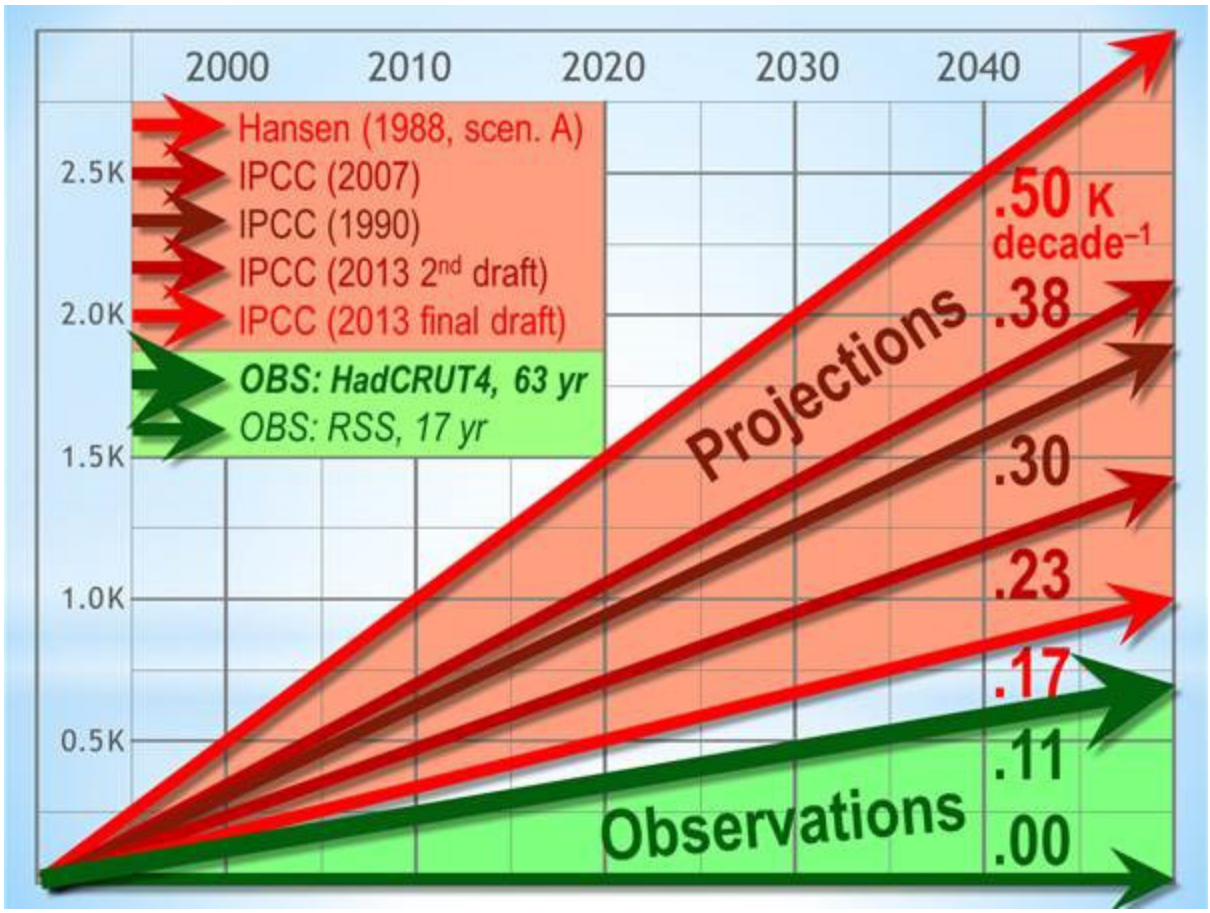
None of these predictions has come to pass. In fact, as shown in Part IV-D, *infra*, the world is *greening*, not becoming more arid, and vegetation will benefit from increased CO_2.

CEQ was not alone. In 1988, Dr. James Hansen of the Goddard Institute for Space Studies told the U.S. Congress in June 1988 the world would warm by 1 C° every 20 years until 2050.[301] Again, observational data refute that claim. In fact, the history of climate modeling reveals a persistent error in exaggerating projected warming:

[299] *Id.* at 28-29.

[300] *Id.* at 29.

[301] Christopher Monckton, *IPCC Silently Slashes Its Global Warming Predictions in the AR5 Final Draft*, WATTS UP WITH THAT , (Jan. 1, 2014), *available at* http://wattsupwiththat.com/2014/01/01/ipcc-silently-slashes-its-global-warming-predictions-in-the-ar5-final-draft/.



Source: Christopher Monckton, *IPCC Silently Slashes Its Global Warming Predictions in the AR5 Final Draft*, WATTS UP WITH THAT? (Jan. 1, 2014), *available at* http://wattsupwiththat.com/2014/01/01/ipcc-silently-slashes-its-global-warming-predictions-in-the-ar5-final-draft/.

These overreactions and IPCC downgrades are fatal to the Endangerment Finding, because the pace and magnitude of any warming are critical to any projections of harm. In fact, one of the models on which EPA relies (the Climate Framework for Uncertainty, Negotiation and Distribution (FUND)) shows "negative damage functions" – i.e., *positive net economic benefits* -- for warming below 3º C.[302] As one commentator has observed, "*[G]iven what we know now, there is almost no way that the feared large temperature rise is going to happen.*"[303] "Taking the IPCC scenario that assumes a doubling of CO_2, plus the equivalent of another 30% rise from other greenhouse gases by 2100, we are likely to experience a further rise of no more than 1ºC" – even under the IPCC assumptions.[304] *"A cumulative change of less than 2ºC by the end of the century will do no net harm. It will actually do net good – that much the IPCC scientists have already agreed upon in the last IPCC report.* Rainfall will increase slightly, growing seasons will lengthen, Greenland's ice cap will melt only very slowly, and so on."[305] "Most experts believe that warming of less than 2 degrees Celsius from preindustrial levels will result in no net economic and ecological damage. Therefore, the new report is effectively saying (based on the middle of the range of the IPCC's emissions scenarios) that *there is a better than 50-50 chance that by 2083, the benefits of climate change will still outweigh the harm.*"[306] "Warming of up to 1.2 degrees Celsius over the next 70 years (0.8 degrees have already occurred), most of which is predicted to happen in cold areas in winter and at night, would

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[302] U.S. INTERAGENCY WORKING GROUP ON THE SOCIAL COST OF CARBON, TECHNICAL SUPPORT DOCUMENT:- SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS- UNDER EXECUTIVE ORDER 12866, at 9 (Feb. 2010), *available at* http://www.epa.gov/oms/climate/regulations/scc-tsd.pdf.

[303] Matt Ridley, *Cooling Down the Fears of Climate Change*, WALL ST. J., at A19 (Dec. 19, 2012),

[304] *Id.*

[305] *Id.*

[306] *See* Matt Ridley, *Dialing Back the Alarm on Climate Change*, WALL ST. J. (Sep. 17, 2013), *available at* http://online.wsj.com/articles/SB10001424127887324549004579067532485712464 (repeating the findings).

extend the range of farming further north, improve crop yields, slightly increase rainfall (especially in arid areas), enhance forest growth and cut winter deaths (which far exceed summer deaths in most places)."[307] "Increased carbon dioxide levels also have caused and will continue to cause an increase in the growth rates of crops and the greening of the Earth—because plants grow faster and need less water when carbon dioxide concentrations are higher."[308] The IPCC's 2007 assessment projected that, under such a scenario, yields of the world's main crops—wheat, rice, maize and soybeans—would improve in temperate and cold climates, offsetting any declines elsewhere.[309]

In other words, even under the IPCC's own projections, the moderate warming that its models predict will be *net beneficial*. Even under the IPCC's own analysis (which Peabody Energy does not accept), the EPA Endangerment Finding is invalid.

2. False Information: The Proposed Rule Rests Solely On Computer Model Predictions, Which Are Disproven By Observational Data.

The IPCC's projections cannot form the basis of reasoned decisionmaking, because they have been invalidated by actual observational data. Computer models on which the IPCC depends projected that increases in CO_2 emissions would cause commensurate significant increases in average global temperatures. Most models predicted warming of approximately 0.3º C for the past 15 years due to an increase in atmospheric CO_2 concentrations from about 370 ppm to 400 ppm. Yet actual *observed* global average temperatures have not risen as predicted.[310] In fact, there has been a much-discussed "pause" or "hiatus" in warming since 1998, during

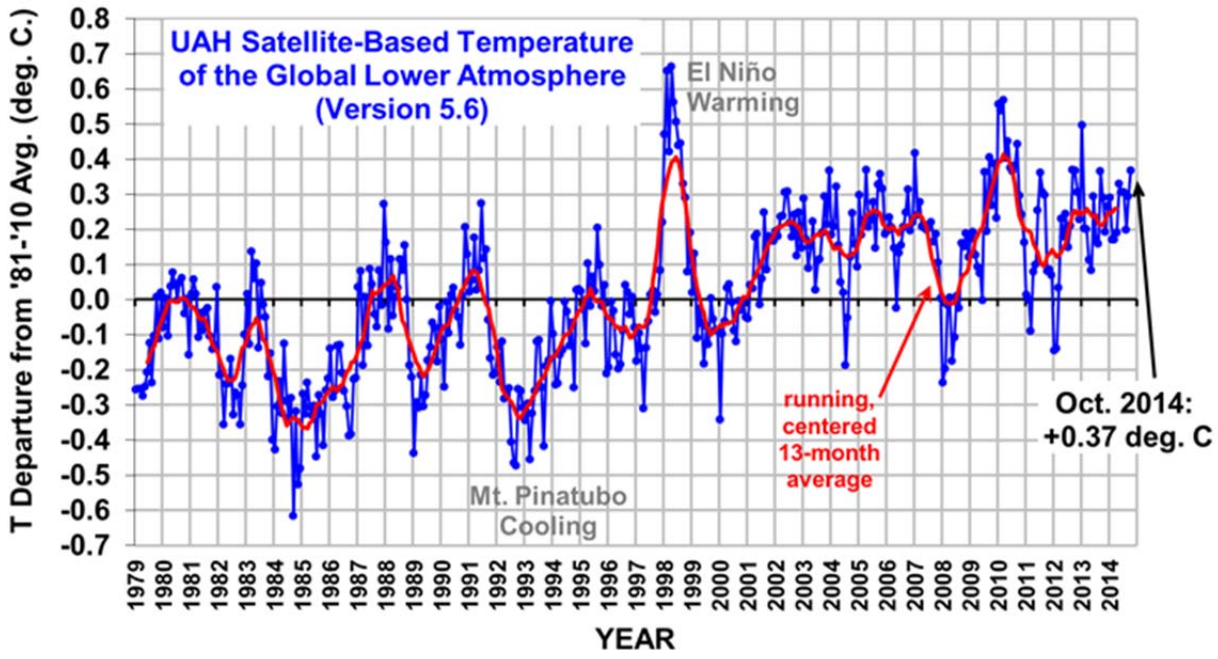
[307] *See* Matt Ridley, *Dialing Back the Alarm on Climate Change*, WALL ST. J. (Sep. 17, 2013), *available at* http://online.wsj.com/articles/SB10001424127887324549004579067532485712464 (repeating the findings).

[308] *Id.*

[309] The IPCC has subsequently retreated from that position, but its retreat contradicts the evidence showing that rising CO_2 levels have indeed stimulated the growth of vegetation. *See* Part IV-D, *supra*.

[310] Nick Cater, *Time for Cooler Heads to Prevail*, THE AUSTRALIAN, (Oct. 21, 2014), *available at* http://www.theaustralian.com.au/news/time-for-cooler-heads-to-prevail/story-e6frg6n6-1227096554835.

which global average surface temperatures have not significantly increased,[311] as the following chart shows:



Source: http://www.drroyspencer.com/latest-global-temperatures/.

In fact, the "hiatus" may now be as long as 26 years.[312] To put temperature changes in perspective: there were 30 years of slight cooling after 1940, then a burst of warming that lasted about 20 years, and then a plateau of between 17-26 years. [313] "It has been roughly two decades since there was a trend in temperature significantly different from zero."[314]

[311] Ridley, *Whatever Happened to Global Warming?*, *available at* http://online.wsj.com/articles/matt-ridley-whatever-happened-to-global-warming-1409872855.

[312] McKitrick, R., *HAC-Robust Measurement of the Duration of a Trendless Subsample in a Global Climate Time Series*, 4 OPEN JOURNAL OF STATISTICS 527—535, (Aug. 2014), *available at* http://www.scirp.org/journal/PaperInformation.aspx?PaperID=49307.

[313] Ridley, *Whatever Happened to Global Warming?*, *available at* http://online.wsj.com/articles/matt-ridley-whatever-happened-to-global-warming-1409872855.

[314] *Id.*

The computer climate models on which the IPCC's predictions rest cannot account for this phenomenon. Climate scientists have conceded that a pause of 15 years or more would invalidate current models. A 2008 report from the National Oceanic and Atmospheric Administration (NOAA) explained: "The simulations rule out (at the 95% level) zero trends for intervals of 15 yr or more."[315] Thus, there exists a "large difference of observed data from the forecasts that underlie much current policy."[316] The discrepancy between the models and observational data has led many researchers to call into question the reliability of climate models.[317] Many experts have noted the models' "systematic failure."[318] "The computer models in which so much faith was invested got it wrong."[319] Simply put, the climate models "expected much more warming to have taken place" than what actually occurred, and the models overestimated "the sensitivity of the Earth's average temperatures to increases in atmospheric greenhouse gas concentrations (such as carbon dioxide) . . ."[320] "[T]his flat period of global average temperature occurred despite that CO2 emissions from human sources continued at an increased rate. The total human-produced CO2 emissions in that period of flat temperatures

[315] Knight, J.J. Kennedy, C. Folland, G. Harris, G.S. Jones, M. Palmer, D. Parker, A. Scaife, and P. Stott, *Do Global Temperature Trends Over the Last Decade Falsify Climate Predictions?*[in *State of the Climate in 2008*] 90 BULL. AMER. METEOR. SOC. S23 (Aug. 2009).

[316] Paul Ballonoff, *A Fresh Look at Climate Change*, Cato Journal (Feb. 24, 2014), p. 113, *available at* http://www.insideronline.org/summary.cfm?id=21673.

[317] *See* Barbara Hollingsworth, *Climate Scientist: 73 UN Climate Models Wrong, No Global Warming in 17 Years*, CNS News, Sept. 30, 2013, *available at* http://www.cnsnews.com/news/article/barbara-hollingsworth/climate-scientist-73-un-climate-models-wrong-no-global-warming-17; *see also* Paul Ballonoff, *A Fresh Look at Climate Change*, Cato Journal (Feb. 24, 2014), p. 113, *available at* http://www.insideronline.org/summary.cfm?id=21673.

[318] *Id.* (citing Fyfe, Gillett & Zwiers, *Overestimated Global Warming Over the Past 20 Years*, Nature, Aug. 28, 2013; Knappenberger & Michaels, "Policy Implications of Climate Models on the Verge of Failure," Paper delivered at the American Geophysical Union Science Policy Conference, Washington, D.C., June 24–26, 2013).

[319] *Id.*

[320] Michaels & Knappenberger, *What the New IPCC Global Warming Projections Should Have Looked Like*, Cato Institute (Oct. 4, 2013), *available at* http://www.cato.org/blog/what-ipcc-global-warming-projections-should-have-looked.

represent a quarter of all such emissions *ever produced*."[321] Some researchers have even detected a cooling trend, caused by reduced solar activity, which is thought to be the primary driver of Earth's climate patterns.[322]

Attempts to resuscitate the models have failed. One theory, namely, that the "hiatus" in warming is only a short-term phenomenon because warmth is being trapped in the oceans, was recently discredited by a NASA study.[323] NASA's "latest data from satellite and direct ocean temperature measurements . . . found the ocean abyss below 1.24 miles (1,995 meters) *has not warmed measurably*."[324] A joint study by the University of Washington and NOAA, published in the *Proceedings of the National Academy of the Sciences*, examined some of the few long-term oceanic observations available (the Northeast Pacific Arc, bounded roughly by Alaska, California, and Hawai'i, going back to 1900).[325] When the time frame is extended back to such a scope, the study shows that virtually all temperature changes can be explained by shifts in circulation and pressure: "[D]ynamical forcing accounts for virtually all of the observed warming in NE Pacific Arc SST over the 1900–2012 period."[326] The study then applied a model for anthropogenic climate change and found that *it could not show any temperature impact* from human influence.[327] The largest changes in temperature and circulation occurred before 1940 –

[321] Ballonoff, *supra*, at 113 (emphasis added); *see also id*., at 114.

[322] John Casey, DARK WINTER: HOW THE SUN IS CAUSING A 30-YEAR COLD SPELL (2014).

[323] *AFP, Lack of Ocean Heat Puzzles NASA Hunt for Warming "Hiatus,"* Oct. 21, 2014, *available at* http://news.yahoo.com/lack-ocean-heat-puzzles-nasa-hunt-warming-hiatus-201944793.html.

[324] *See id.* (emphasis added, internal quotation omitted).

[325] James A. Johnstone & Nathan J. Mantua, *Atmospheric Controls on Northeast Pacific Temperature Variability and Change, 1900-2012*, Proceedings of the Nat'l Acad. of Sciences Early Edition 1 (published ahead of print) (Sept. 22, 2014), *available at* http://www.pnas.org/content/early/2014/09/16/1318371111.short (subscription required).

[326] *Id.* at 5.

[327] *Id.*

before climate modelers claim a human impact.[328] If there has been a human impact, it has been vanishingly small, prompting one commentator to note, "The man-made warming of the past 20 years has been so feeble that a shifting current in one ocean was enough to wipe it out altogether."[329] Thus, if climate modelers are right that oceans can absorb warming caused by greenhouse gases, then they have dramatically *underestimated* the ocean's capacity to store warmth.[330]

3. False Confidence: Uncertainties In Climate Models Make Them Unfit For Policymaking.

There are so many uncertainties and flaws in the data and models on which EPA is relying that they are not fit for reasoned decisionmaking. Steven Koonin, former undersecretary for science in the Department of Energy during the first Obama Administration and Director of the Center for Urban Science and Progress at New York University Department, has written that "the crucial, unsettled scientific question for policy is, 'How will the climate change over the next century under both natural and human influences?'"[331] He points to multiple gaps where current understanding is crucially sparse:

The first fundamental problem with establishing causality is the size of the problem: no matter how measured, human influences on climate are dwarfed by the scope of natural shifts over time. Koonin notes that, even under EPA's models, human additions to GHG emissions are

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[328] *Id.*

[329] Matt Ridley, *Whatever Happened to Global Warming?*, WALL ST. J. (Sep. 4, 2014), *available at* http://online.wsj.com/articles/matt-ridley-whatever-happened-to-global-warming-1409872855. The study is Xianyao Chen and Ka-Kit Tung, *Varying Planetary Heat Sink Led to Global-Warming Slowdown and Acceleration*, 345 SCIENCE 897 (Aug. 2014), *available at* http://www.sciencemag.org/content/345/6199/897 (subscription required).

[330] Eli Kintisch, *Climate Models May Have Missed Massive Ocean Warming*, SCIENCE (Oct. 5, 2014), online at http://news.sciencemag.org/climate/2014/10/climate-models-may-have-missed-massive-ocean-warming.

[331] Steven Koonin, *Climate Science is Not Settled*, WALL ST. J. (Sept. 19, 2014), available at http://online.wsj.com/articles/climate-science-is-not-settled-1411143565.

predicted to affect the climate by at most 1-2%, which is well within the natural variation in climate over time.[332] Any proposal showing that human action will have a stated impact on climate therefore faces a very high standard of proof to show that it can move climate at all.

The Proposed Rule relies on exactly such an assumption. In order to claim that the Proposed Rule is net beneficial, EPA relies on measuring certain impacts that the Proposed Rule would supposedly bring about.[333] EPA attempts to monetize the climate impacts of the Proposed Rule, but *cannot show that the Proposed Rule will bring about those impacts*. It simply takes that principle on faith, and asks the rest of the United States to do so as well.

The second problem with establishing causality is the complexity of the oceanic systems and our regrettable lack of understanding about them. As one would expect from a planet that is over 70% covered by water, the oceans have a dramatic effect on climate: "The oceans, which change over decades and centuries, hold most of the climate's heat and strongly influence the atmosphere."[334] But, as Koonin points out, our study of the oceans is immature: most records only go back several decades.[335]

The third difficulty Koonin points to in establishing a causal link between an emissions reduction program and any climate impacts is the complexity of natural feedback mechanisms, such as clouds and water vapor. Like even simpler systems, such as the human body, ecosystems adjust themselves in response to stimuli, sometimes in unpredictable manners. Climate models have dozens of parameters to try to simulate feedback mechanisms, but those

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[332] Steven Koonin, *Climate Science is Not Settled*, WALL ST. J. (Sept. 19, 2014), available at http://online.wsj.com/articles/climate-science-is-not-settled-1411143565.

[333] *See* U.S. EPA REGULATORY IMPACT ANALYSIS at ES-9 to ES-15, ES-20 (describing the monetization of climate impacts in the form of the "social cost of carbon"). The social cost of carbon (SCC) statistic is itself highly problematic, as discussed *infra*.

[334] Steven Koonin, *Climate Science is Not Settled*, WALL ST. J. (Sept. 19, 2014), available at http://online.wsj.com/articles/climate-science-is-not-settled-1411143565.

[335] *Id.*

parameters are very crude. Feedback mechanisms can be modeled only through observation: deduction from the laws of chemistry and physics alone is insufficient.[336] One of the obstacles to accurate modeling, however, is the resolution of current technology: the smallest area current models can process is 60 miles, even though the environmental effects take place on much smaller scales.[337] In essence, instruments are not powerful enough to capture the changes that are happening on any scale that would be useful to understanding these complex feedback mechanisms. And without comprehension of those mechanisms, scientists cannot predict the effects of human behavior on climate, much less draw the conclusion that *x* proposal will cause *y* climate impact.

Other confounding factors are natural processes such as agricultural plant absorption of CO_2, which neutralize increased emissions, as discussed further in Part I-D, *supra*.[338] Aerial fertilization of plants via higher CO_2 concentrations, which was recognized but discounted by the IPCC and climate scientists because they assumed that warming would inhibit plant growth, has instead caused significantly increased global biomass, "reducing deserts, turning grasslands to savannas, savannas to forests, and expanding existing forests" and "in nearly all regions and globally, the overall effect in recent decades is decidedly toward greening" which is "the opposite of what the IPCC expected."[339] "Climate trend models have not fully accounted for the ability of plants to use water more efficiently at higher CO_2 concentrations and have underrated

[336] Steven Koonin, *Climate Science is Not Settled*, WALL ST. J. (Sept. 19, 2014), available at http://online.wsj.com/articles/climate-science-is-not-settled-1411143565.

[337] *Id.*

[338] *See* Ballonoff, *supra*, at 114-15, 123.

[339] *See* Ballonoff, *supra*, at 114-15.

the capacity for aerial fertilization to sharply improve sequestration via plant growth."[340] As one scholar noted:

> The empirically demonstrated evidence on water use by plants in an enhanced CO_2 environment is the opposite of the commonly claimed effect from models that look only at assumed increased heating due to CO_2 increases. Empirically, CO_2 has recently been associated with warming only until increased green growth set in. That increased growth however continues so long as the extra CO_2 is present. Despite reluctant rhetoric, other climate modelers recently studying the process have also created models that show higher CO_2 concentration increases biomass.[341]

Climate science has documented so many uncertainties in existing models that EPA's reliance on them does not represent reasoned decisionmaking. For example, one recent study evaluated how well the models' descriptions of the past (known as "hindcasts" rather than "forecasts") compared with actual historical precipitation records and found that for the tropics and subtropics, there was a "lack of reliable and consistent estimations" that "might be connected with model deficiencies in the representation of organized convective systems."[342] Another study found a failure to predict monsoons.[343] Yet another assessment of model performance showed that not only do the models fail to match observed rainfall over China, but the "improved" model (CMIP5) fared worse than its predecessor (CMIP3).[344]

These defects only scratch the surface. There is a large (and growing) literature documenting the flaws in climate models, which is summarized in the attached Appendix. The

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[340] *See id.*, p. 124.

[341] *See id.*, p. 123 (citations omitted).

[342] Toreti, A., Naveau, P., Zampieri, M., Schindler, A., Scoccimarro, E., Xoplaki, E., Dijkstra, H.A., Gualdi, S. and Luterbacher, J. 2013. Projections of global changes in precipitation extremes from Coupled Model Intercomparison Project Phase 5 Models. 40 Geophysical Research Letters 40: 4887-4892 (Jun. 19, 2013).

[343] Geil, K.L., Serra, Y.L. and Zeng, X. 2013. Assessment of CMIP5 model simulations of the North American monsoon system. 26 JOURNAL OF CLIMATE 8787—8801 (Nov. 2013).

[344] Chen, L. and Frauenfeld, O.W., *A comprehensive evaluation of precipitation simulations over China based on CMIP5 multimodel ensemble projections.* 19 J. OF GEOPHYSICAL RESEARCH: ATMOSPHERES 5767—5786 (2014).

assumptions on which the Proposed Rule is based are inaccurate, unreliable, and unfit for reasoned decisionmaking.

4. False Process: The IPCC System Is Flawed And Does Not Support The Proposed Rule.

The defects in the IPCC's predictions are not surprising, given its deeply flawed process. The IPCC has been forced to retract some of its findings for lack of sufficiently rigorous scientific testing.[345] The IPCC's conclusions have also been drawn into question because its process abandoned the scientific method and introduced biased data and methods, including a failure to respond to an information request that violated the United Kingdom's freedom-of-information law (not to mention scholarly norms).[346]

The recently released IPCC Climate Change 2104: Synthesis Report (released November 2, 2014) is nothing new. The Fifth Synthesis report merely wraps together highlights from three earlier reports dating from September 2013, March 2014, and April 2014. It contains no new significant findings and no attempt to square the fatal flaws in the IPCC's models with actual observational data. Indeed, the Fifth Synthesis report acknowledges the long "hiatus" in warming for the past decade and a half,[347] which is contrary to the projections of its models. As two commentators have noted, "[H]ad the IPCC been more interested in reflecting the actual science rather than in preserving a quickly crumbling consensus (that human greenhouse gas emissions

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[345] IPCC, Statement on the Melting of Himalayan Glaciers (Jan. 20, 2010), *available at* http://www.ipcc.ch/pdf/presentations /himalaya-statement-20january2010.pdf.

[346] *See* Peabody Energy Co., Petition for Reconsideration of Endangerment Finding, Docket No. EPA-HQ-OAR-2009-0171, at ES-1 to ES-5, ES-8 to ES-21, Chapters III, IV, VI, VII, VIII (Feb. 11, 2010) (describing manipulation of peer review, exclusion of scientists for illegitimate reasons, reliance on summaries prepared by advocates rather than peer-reviewed literature, and illegal failure to response to information requests). *See also Climate E-mails row university "breached data laws*," BBC NEWS (Jan. 28, 2010), *available at* http://news.bbc.co.uk/2/hi/uk_news/8484385.stm. Peabody respectfully reasserts its argument that the foundations for this entire rulemaking process are fatally flawed.

[347] Climate Change 2014: Synthesis Report, Summary for Policymakers, SPM-3 through SPM 4 (released Nov. 1, 2014).

are leading to dangerous climate change that requires urgent action), its Fifth Assessment Report would have been a much kindler and gentler document—as it well should have been."[348]

Even former IPCC author John Christy of the University of Alabama has remarked: "Something needs to change as these reports are biased and out-of-date by the time they are released. The system now gives almost complete control of the text to authors who have been selected by their politically-aware governments to write it and who do not reflect the enormous ignorance we still have of the climate system."[349] Steve Rayner of Oxford University, a former IPCC author on three previous assessment reports, observed that "[a] look at the author lists over the years indicates that the working groups operate as self-perpetuating clubs. They are fairly tight networks of individuals who go on from one report to the next and cite each other's work. I decided to discontinue participation in the IPCC . . . ."[350] John Coleman, a founder of the Weather Channel, explained that "governments pay scientists to study the issue and researchers reach expected conclusions in order to continue to receive funding" and suggested that the consensus seen in the IPCC report is a "manipulated figure."[351] Thus, the "Summary for Policymakers" section of IPCC reports is subject to line-by-line agreement by representatives of the 195 government members.

The politicized nature of the IPCC process is illustrated by its conflicting statements on the benefits of moderate warming. In 2014, a draft report by the Working Group on Impacts, Adaptation and Vulnerability contained a section documenting the net benefits of warming less

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[348] Michaels & Knappenberger, *What the New IPCC Global Warming Projections Should Have Looked Like*, *supra*.

[349] Assoc. Press, *UN Climate Change Report: Do We Need Another One?*," CHRISTIAN SCIENCE MONITOR (Nov. 3, 2014), online at http://www.csmonitor.com/Environment/Latest-News-Wires/2014/1103/UN-climate-change-report-Do-we-need-another-one-video.

[350] *Id.*

[351] Steve Almasy, *Invest Now or Face 'Irreversible' Effects of Climate Change, U.N. Panel Warns*, CNN ,(Nov. 2, 2014), *available at* http://www.cnn.com/2014/11/02/world/ipcc-climate-change-report/.

than 3ºC – precisely the range of warming now predicted by the IPCC's own models. The final draft of the chapter featured a section on the aggregate economic impacts of climate change, containing the statement: "Climate change may be beneficial for moderate climate change but turn negative for greater warming."[352]

That section attracted a great of deal of attention. It was removed before publication, with the asserted justification that the section was based on inaccuracies in a 2013 paper by the economist Richard Tol of the University of Sussex, who has been active in the IPCC since 1994, serving in various roles in all its three working groups, most recently as a convening lead author for the fifth assessment report of a working group.[353] The record does not support the assertion that the removed section was inaccurate; rather, it indicates that political factors within the IPCC were responsible for the deletion.

Professor Tol's 2013 paper showed positive effects on Gross Domestic Product (GDP) from temperature increases below a point somewhere between 2º and 2.5º C.[354] The paper explained that "[t]here are 16 studies and 17 estimates of the global welfare impacts of climate change. . . . There is broad agreement between these studies . . . [that] the initial benefits of a modest increase in temperature are probably positive, followed by losses as temperatures increase further. . . . The initial benefits arise partly from CO_2 fertilization, and partly from reduced heating costs and cold-related health problems in temperate zones."[355] After

[352] IPCC Working Group II, Climate Change 2014: Impacts, Adaptation, and Vulnerability, Section 10.9.2, p. 34 (draft of Oct. 28, 2013).

[353] Richard S. J. Tol, *The claim of a 97% consensus on global warming does not stand up*, THE GUARDIAN, (June 6, 2014), *available at* http://www.theguardian.com/environment/blog/2014/jun/06/97-consensus-global-warming.

[354] Richard S.J. Tol, *Targets for global climate policy: An overview*, 37 Journal of Economic Dynamics & Control 911–928, (2013).

[355] *Id.* at 912.

commenters argued that his paper misconstrued one of the 33 sources it referenced, Professor Tol issued a corrigendum for the 2013 paper that corrected one figure but did not revise its conclusion.[356] Even as modified, the paper still showed positive effects on GDP from temperature increases below about 2.2º C. In other words, the IPCC's decision to remove from its draft report the statement that "[c]limate change may be beneficial for moderate climate change but turn negative for greater warming," together with the supporting discussion, could not be supported by the revisions to Professor Tol's paper. The IPCC's decision was political.

Even scientists who previously warned of global warming have criticized the IPCC and have called into question the reliability of climate models:

- **Lennart Bengtsson**—Professor Lennart Bengtsson is a Swedish meteorologist who has conducted extensive and prize-winning research on climate. He was previously the Head of Research at the European Centre for Medium-Range Weather Forecasts from 1975 to 1981 and then Director until 1990, Director of the Max Planck Institute for Meteorology in Hamburg, and he is now a Senior Research Fellow at the Environmental Systems Science Centre in the University of Reading. He became a member of the Academic Advisory Council of the Global Warming Policy Foundation ("GWPF"). Quoted as stating that the "whole concept behind IPCC is basically wrong," Bengtsson objected to the premise that the science is settled on questions regarding global warming. Indeed, Bengtsson stated in an interview in May 2014 that

  > I have increasingly been disturbed by the strong tendencies to politization that has taken place in climate research in recent years. I believe most serious scientists are sceptics and are particularly frustrated that we are not able to properly validate climate change simulations. I have always tried to follow the philosophy of Karl Popper that I believe is particularly

[356] Richard S.J. Tol,, (corrigendum) *Targets for global climate policy: An overview*, 42 J. OF ECON. DYNAMICS & CONTROL 121 (2014).

> important when you are dealing with complex systems of which the climate system is a primary example. For this reason empirical evidence is absolutely essential. The warming of the climate system since the end of the 19th century has been very modest by some ¾°C in spite of the simultaneous increase in greenhouse gas forcing by 2.5-3 W/m2.
>
> I am concerned that this as well as the lack of ocean surface warming in some 17 years has not been properly recognized by IPCC. Nor have the cooling and increase in sea ice around Antarctica been properly recognized.[357]

Bengtsson's affiliation with the GWPF created such discord within the scientific community that he experienced pressure both professionally and personally that he feared for his safety and was compelled to resign from his membership on May 14, 2014, at which time he referenced "McCarthy"-like persecution.[358]

- **Claude Allegre**—Claude Allegre is a French scientist who has worked on global warming issues for decades.[359] Dr. Allegre received a PhD in physics in 1962 from the University of Paris, became the Director of the geochemistry and cosmochemistry program at the French National Scientific Research Centre in 1967, in 1971 was appointed Director of the University of Paris's Department of Earth Sciences, in 1976 became Director of the Paris Institut de Physique du Globe, has authored more than 100 scientific articles and 11 books, many of them seminal studies on the evolution of the Earth using isotopic evidence, and is a member of the U.S. National Academy of

[357] *See* Hans von Storch, Interview with Lennart Bengtsson, DIE KLIMAZWIEBEL, (May 3, 2014), *available at* http://klimazwiebel.blogspot.com.au/2014/05/interview-with-lennart-bengtsson.html?spref=tw.

[358] *See* GWPF Press Release, Lennart Bengtsson Resigns: GWPF Voices Shock and Concern at the Extent of Intolerance Within the Climate Science Community, May 14, 2014, *available at* http://www.thegwpf.org/lennart-bengtsson-resigns-gwpf-voices-shock-and-concern-at-the-extent-of-intolerance-within-the-climate-science-community; *see also* Peter Foster, *Eminent Swedish Scientist Latest Victim of Climate McCarthyism*, FIN. POST, (May 15, 2014), *available at* http://business.financialpost.com/2014/05/15/eminent-swedish-scientist-latest-victim-of-climate-mccarthyism/

[359] *See* Lawrence Solomon, *Allegre's Second Thoughts*, NATIONAL POST, (Mar. 6, 2007), *available at* http://www.nationalpost.com/news/story.html?id=2f4cc62e-5b0d-4b59-8705-fc28f14da388

Sciences and the French Academy of Science.[360] Twenty years ago, he expressed his position that human causes had raised global mean temperature by half a degree in the last century, and fifteen years ago Dr. Allegre signed the "World Scientists' Warning to Humanity" about global warming.[361] As more data accumulated, however, Dr. Allegre switched sides. In his view, climate models do not establish man-made warming and significant evidence indicates that warming is in fact a natural phenomenon.[362] Dr. Allegre points in part to evidence that Antarctica is gaining ice and that other, retreating snow caps are retreating naturally. In his more recent words, "The cause of this climate change is unknown," and the science is not "settled."[363]

- **Fritz Vahrenholt**—Fritz Vahrenholt is a German professor and environmental activist who was an early supporter of the German green movement.[364] He holds a PhD in chemistry and is Honorary Professor at the Department of Chemistry at the University of Hamburg. From 1976 until 1997 he served in several public positions with environmental agencies such as the Federal Environment Agency, the Hessian Ministry of Environment, and as Deputy Environment Minister and Senator of the City of Hamburg. He then held top management positions in the renewable energy industry.[365] In 2013, he changed his views and published a book entitled Die Kalte Sonne, in which

[360] *Id.*

[361] *See id.*

[362] *See id.*

[363] *See id.*

[364] *See* GWPF Press Release, *Professor Fritz Vahrenholt Joins GWPF Academic Advisory Council*, (July 14, 2014), *available at* http://www.thegwpf.org/professor-fritz-vahrenholt-joins-gwpf-academic-advisory-council/.

[365] *Id.*

he argued in part that the sun rather than greenhouse gases driving climate change and that anthropomorphic impact was overstated.[366]

- **Hans H.J. Labohm**—Once a believer in man-made global warming, Labohm switched his view after conducting research and reviewing both an IPCC Summary for Policymakers and other research. He then coauthored a book skeptical of man-made global warming with chemical engineer Dick Thoenes, former chairman of the Royal Netherlands Chemical Society.[367]
- **Bruno Wiskel**—A Canadian geologist, Mr. Wiskel reversed his view on man-made climate change and wrote a book entitled "The Emperor's New Climate: Debunking the Myth of Global Warming."[368]
- And there are many others.[369]

The scientific debate demonstrates that the data on which the Proposed Rule is based is not fit for policymaking. Rather than base its policy on scientific analysis, EPA has instead chosen to rely on data that are synthesized and interpreted without due regard to scientific principles.

D. EPA Ignores The Environmental *Benefits* of Carbon, Which Invalidate Its Projections and Its Models.

A critical weakness in the Proposed Rule is its failure properly to consider the documented and well established benefits of increased atmospheric concentrations of CO_2. The

[366] *See* Delingpole, *supra*.

[367] *See id.*

[368] *See* Marc Morano, *Climate Momentum Shifting: Prominent Scientists Reverse Belief in Man-made Global Warming—Now Skeptics*, U.S. SENATE COMM. ON ENV'T & PUBLIC WORKS, (May 15, 2007), *available at* http://www.epw.senate.gov/public/index.cfm?FuseAction=Minority.Blogs&ContentRecord_id=927b9303-802a-23ad-494b-dccb00b51a12.

[369] For example, Nir Shaviv, Zbigniew Jaworowski, David Evans, Tad Murty, Denis Rancourt, David Bellamy, Chris de Freitas, and Reid Bryson. *See* Morano, *supra*.

real-world data demonstrating the environmental benefits of CO_2 invalidate the projections on which EPA relies. These gains in biomass productivity also invalidate EPA's cost-benefit analysis, because EPA essentially ignores them. The RIA mentions "net changes in agricultural productivity" as a factor but never attempts to quantify it.[370] In fact, the RIA relies on a Social Cost of Carbon ("SCC") statistic (addressed in Part III, *infra*) that severely underestimates -- if it does not completely exclude – the "greening" effect. Only one of the three models included in the SCC even addresses it, meaning that it will be overwhelmed or "averaged out" by other factors.

EPA's failure adequately to consider the "greening" effect is a fatal flaw. Put simply: CO_2 is plant food. Plants are nourished by CO_2 in the atmosphere, which they absorb and turn into fuel for growth. CO_2 is not a pollutant: It is the basis of life on Earth. If the world will be able to grow crops in more geographic areas for longer growing seasons that absorb more CO_2, the net effect will be better and more crops with higher yields.

According to Robert Mendelsohn of Yale's School of Forestry and Environmental Studies and Department of Economics, "projections suggest that global warming may be slightly beneficial to American agriculture."[371]

The Pew Center on Global Climate Change has noted that, if warming occurs, it would mean temperatures extends growing seasons, allowing agricultural activity for a larger part of the year.[372] "Clearly, the cold northern parts of the country could benefit from longer growing seasons and warmer temperatures, which would allow these areas to grow high-yielding crops

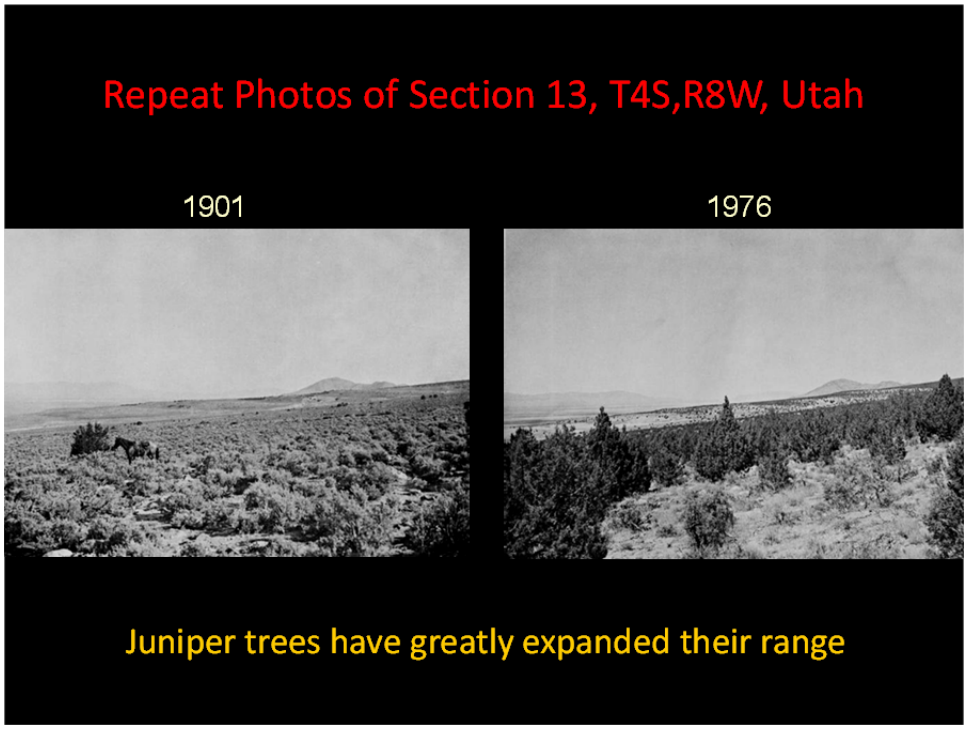
[370] RIA at 4-7.

[371] Mendelsohn et al., *The Impact of Global Warming on Agriculture: A Ricardian Analysis*, 84 AM. ECON. REV. 753, 769 (1994).

[372] *See* PEW CENTER ON GLOBAL CLIMATE CHANGE, A REVIEW OF IMPACTS TO U.S. AGRICULTURAL RESOURCES, at 11, (1999), *available at* http://www.c2es.org/docUploads/env_argiculture.pdf.

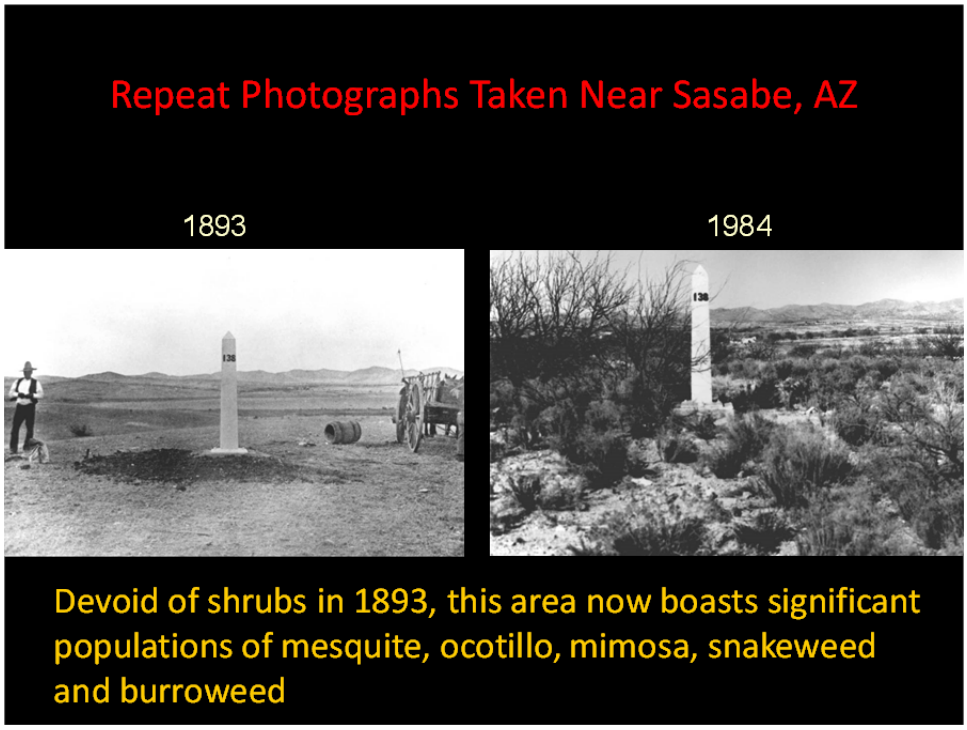
and crop varieties consistent with soil resources. In addition, a reduced incidence of killing frosts could benefit southern regions growing heat tolerant crops such as citrus."[373] Warmer temperatures could also create agricultural potential in many areas of the United States that have previously been unsuitable for that purpose.[374]

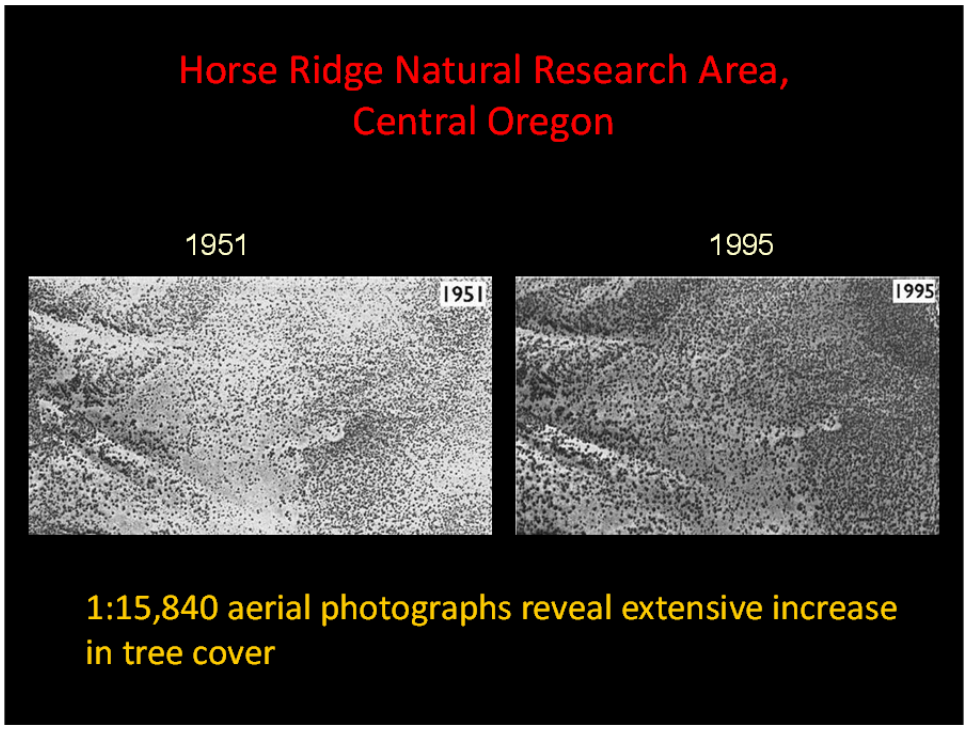
Comparison photos confirm the "greening" effect, on an observational basis:



[373] *Id.*

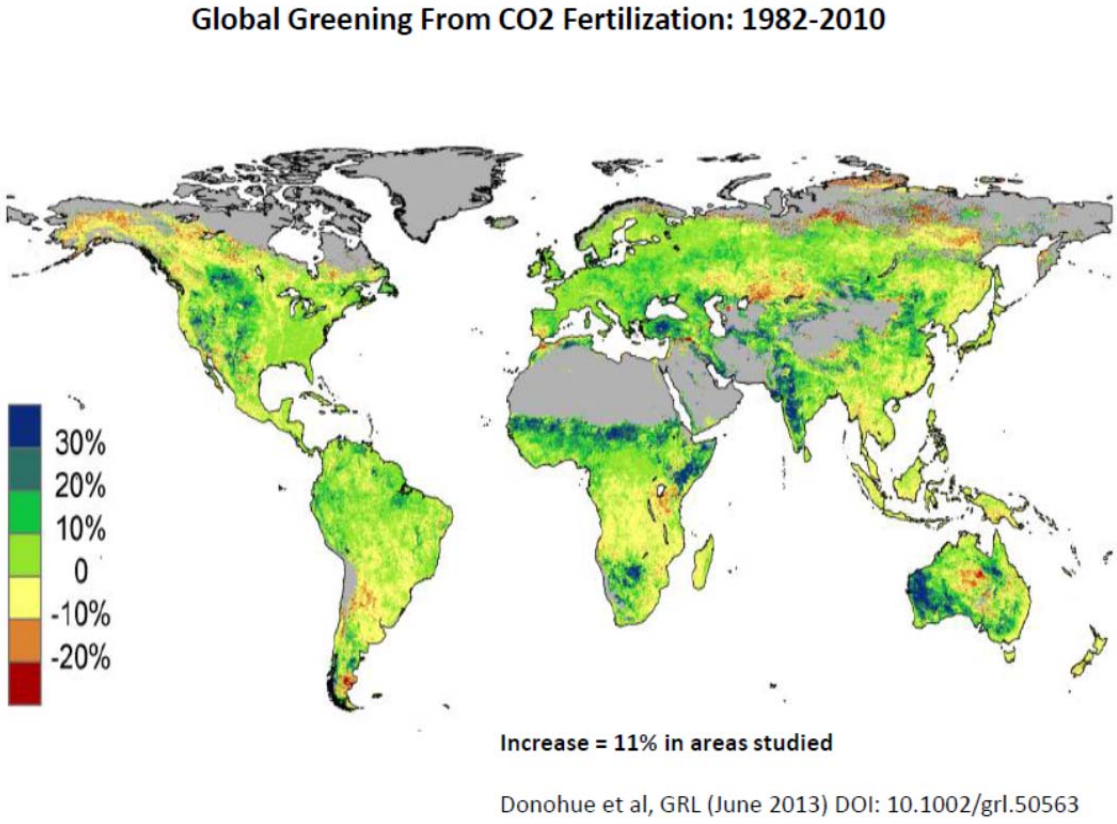
[374] *Id.*





"Greening" is true outside the United States as well. One recent investigation of satellite photos concluded that "from this remarkable 30-year archive of satellite imagery, we thus see

evidence of a greening trend."[375] Another recent study -- by the Commonwealth Scientific and Industrial Research Organisation (Australia's national science agency), in collaboration with the Australian National University -- found that higher levels of CO_2 have helped increase green foliage across the world's arid regions over the past 30 years. The study found an 11 percent increase in foliage cover from 1982-2010 across Australia, North America, the Middle East and Africa.[376]



Stefan Kröpelin, a climate scientist at the University of Cologne's Africa Research Unit

[375] EASTMAN, J.R., SANGERMANO, F., MACHADO, E.A., ROGAN, J. & ANYAMBA, A., GLOBAL TRENDS IN SEASONALITY OF NORMALIZED DIFFERENCE VEGETATION INDEX (NDVI), 1982-2011, (2013), *available at* http://www.mdpi.com/2072-4292/5/10/4799.

[376] CSIRO, DESERTS "GREENING" FROM RISING CO2, (July 3, 2013), *available at* http://www.csiro.au/Portals/Media/Deserts-greening-from-rising-CO2.aspx (summarizing recent study by Donohue, et al.)

in Germany, has reported that the desert is turning green in the eastern Sahara area of southwestern Egypt and northern Sudan.[377] "Shrubs are coming up and growing into big shrubs. This is completely different from having a bit more tiny grass," said Kröpelin, who has studied the region for two decades.[378] "The nomads there told me there was never as much rainfall as in the past few years. They have never seen so much grazing land. Before, there was not a single scorpion, not a single blade of grass. Now you have people grazing their camels in areas which may not have been used for hundreds or even thousands of years. You see birds, ostriches, gazelles coming back, even sorts of amphibians coming back."[379] "The trend has continued for more than 20 years. It is indisputable."[380]

Another recent study confirmed that the Sahel could become suitable for significant vegetation:[381]

> In spite of the gloomy predictions of even more frequent and severe droughts and famines caused by global warming, vegetation in the Sahel has significantly increased in the last three decades. This has been a very welcome and very beneficial development for the people living in the Sahel. The increase in rainfall, which was probably caused by rising temperatures, and rising CO_2 concentrations might even - if sustained for a few more decades - green the Sahara. This would be a truly tremendous prospect.[382]

CO_2 fertilization has been proven to increase crop yields.[383] "In greenhouse studies involving single-potted agricultural species, grown under well-watered conditions with adequate

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[377] *Sahara Desert Greening Due to Climate Change?*, NATIONAL GEOGRAPHIC NEWS, (July 31, 2009), *available at* http://news.nationalgeographic.com/news/2009/07/090731-green-sahara.html.

[378] *Id.*

[379] *Id.*

[380] *Id.*

[381] *See* PHILIPP MUELLER, THE SAHEL IS GREENING, GLOBAL WARMING POLICY FOUNDATION, (2011), *available at* http://www.thegwpf.org/images/stories/gwpf-reports/mueller-sahel.pdf.

[382] *Id.*

[383] *See* Prigg, *supra*; *see also generally*, Donohue, et al., *Impact of CO2 Fertilization on Maximum Foliage Cover Across the Globe's Warm, Arid Environments*, 40 GEOPHYSICAL RESEARCH LETTERS 3031-3035, (June 19, 2013), *available at*

nutrients and light and with an ambient CO_2 concentration (about 660 parts per million or double the current CO_2 concentration), plant growth increases about 40% across a variety of young plants and about 26% for tree seedlings and mature plants."[384] This impact has been recognized worldwide, particularly in areas with tropical forests.[385] A recent review of recent studies concluded that "forest productivity has been growing ever greater with the passing of time, rising hand-in-hand with the increasing CO2 content of the air."[386]

In another study, "scientists artificially elevated CO_2 levels in a US prairie grasslands ecosystem for eight years. They found that the added carbon had increased the overall volume of the plants and promoted the ecosystem's stability by reducing the growth of normally dominant plant species."[387] A recent meta-analysis of 90 studies involving wheat found that the beneficial effects of increased CO_2 concentrations would outweigh any harm on growth from higher temperatures or decreased precipitation.[388] Other studies have confirmed that plants have accelerated growth patterns when higher concentrations of CO_2 are present in the atmosphere.[389]

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http://www.readcube.com/articles/10.1002%2Fgrl.50563?r3_referer=wol&tracking_action=preview_click&show_checkout=1; Reem Khondakar, *CO2 Fertilization and Climate Change*, THE CORNELL DAILY SUN, (Oct. 24, 2013), *available at* http://cornellsun.com/blog/2013/10/24/co2-fertilization-and-climate-change/; Sedjo & Sohngen, *supra*, at 97-98; Pew Center on Global Climate Change, *supra*, at 12.

[384] *See* Sedjo & Sohngen, *supra*, at 98.

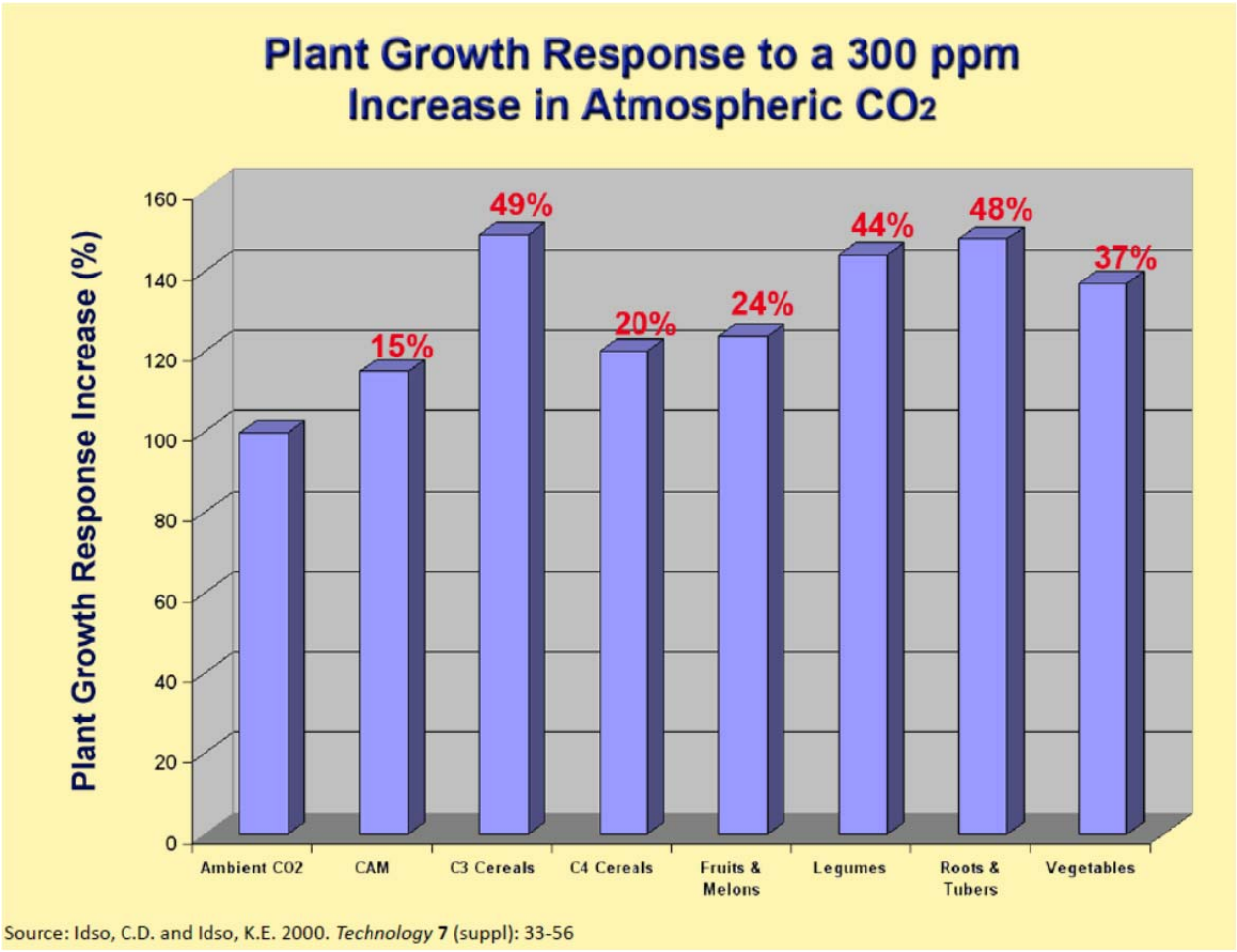
[385] *See* CENTER FOR THE STUDY OF CARBON DIOXIDE AND GLOBAL CHANGE, *BIOSPHERIC PRODUCTIVITY IN SOUTH AMERICA*, (Mar. 5, 2014), *available at* http://www.co2science.org/subject/g/summaries/samergreen.php.

[386] *Id.*

[387] *See* Prigg, *supra*.

[388] Wilcox, J. and Makowski, D. 2014. A meta-analysis of the predicted effects of climate change on wheat yields using simulation studies. Field Crops Research 156: 180-190.

[389] *See generally* CSIRO, DESERTS "GREENING" FROM RISING CO2, (July 3, 2013), *available at* http://www.csiro.au/Portals/Media/Deserts-greening-from-rising-CO2.aspx (summarizing recent study by Donohue, et al.); *see also* Ballonoff, *supra*, p. 117; Sedjo & Sohngen, *supra*, at 98.



In fact, the principle is so well established that the EPA's failure properly to consider it is arbitrary and capricious. As one study explained, "the recent increase in plant productivity has been attributed to the CO_2 fertilization effect," citing a wealth of studies that have come to this conclusion, including those of Amthor (1995), Lloyd and Farquhar (1996), Cao et al. (2001), Lewis et al. (2004), Friedlingstein et al. (2006), Stephens et al. (2007), Ciais et al. (2009), Lewis et al. (2009), Malhi (2010), Ballantyne et al. (2012) and Higgins and Scheiter (2012).[390] And the study notes that African researchers similarly "found that gross primary production increased

[390] Fisher, J.B., Sikka, M., Sitch, S., Ciais, P., Poulter, B., Galbraith, D., Lee, J.-E., Huntingford, C., Viovy, N., Zeng, N., Ahistrom, A., Lomas, M.R., Levy, P.E., Frankenberg, C., Saatchi, S. and Malhi, Y. 2013. African tropical rainforest net carbon dioxide fluxes in the twentieth century. Philosophical Transactions of the Royal Society B 368: 10.1098/rstb.2012.0376.

over the past 30 years even though soil moisture decreased."[391] "[P]eer-reviewed scientific literature" indicates that "the ongoing rise in the air's CO2 content will likely lead to substantial increases in plant photosynthetic rates and biomass production, even in the face of stressful environmental conditions imposed by less-than-optimum soil moisture conditions."[392] For this reason,

> evidence to date implies that the view that global temperature is far less sensitive to CO_2 than many fear, is likely correct. Simultaneously, demonstrated experimental evidence on plant growth predicted exactly what the now extensive empirical literature shows: Enhanced CO_2 is associated with greatly increased biomass production, even in dry climates. The extent of increased CO_2 sequestration both in soil and in biomass associated with increased atmospheric concentration has also been documented.[393]

Plants also utilize hydration more efficiently in an atmosphere containing increased amounts of CO_2.[394] Enhanced photosynthesis occurs because when there is "more CO_2 in the air outside the leaf, then the diffusion of water molecules inward appears to be greater."[395] The conclusion regarding plant growth is telling, because increased atmospheric carbon dioxide would offset negative effects even if precipitation decreased:[396]

> The empirically demonstrated evidence on water use by plants in an enhanced CO_2 environment is the opposite of the commonly claimed effect from models that look only at assumed increased heating due to CO_2 increases. Empirically, CO_2 has recently been associated with warming only until increased green growth set in. That increased growth however continues so long as the extra CO_2 is present. Despite reluctant rhetoric, other climate modelers recently studying the

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[391] *Id.*

[392] CENTER FOR THE STUDY OF CARBON DIOXIDE AND GLOBAL CHANGE, GROWTH RESPONSE OF GRASSLAND SPECIES TO ELEVATED CO2 WHEN WATER STRESSED, (Jul. 9, 2013), *available at*. http://www.co2science.org/subject/g/summaries/growthwatergrass.php.

[393] *See* Paul Ballonoff, *A Fresh Look at Climate Change*, 34 CATO J. 117, (Feb. 24, 2014), *available at* http://www.insideronline.org/summary.cfm?id=21673 (citation omitted).

[394] *See* Paul Ballonoff, *A Fresh Look at Climate Change*, 34 CATO J. 115—16, (Feb. 24, 2014), *available at* http://www.insideronline.org/summary.cfm?id=21673 (citation omitted).

[395] *See* Roger A. Sedjo & Brent Sohngen, *What are the Impacts of Global Warming on U.S. Forests, Regions, and the U.S. Timber Industry?*, 12 PENN ST. ENVTL. L. REV. 95, 97 (2004).

[396] *Id.*

process have also created models that show higher CO_2 concentration increases biomass.[397]

Greater concentrations of CO2 "generally result in higher net photosynthetic rates and may also reduce transpiration losses from plants (i.e. water loss). The photosynthetic rate is enhanced as additional carbon is available for assimilation; thus, productivity and yields generally rise."[398] Many studies have demonstrated this effect, and although different crops respond differently, "the overall effect was certainly found to be favorable."[399]

A recent study shows that these processes help explain why the predominant warming CO_2 models have been incorrect, with plant absorption of CO_2 being much higher than expected or integrated into such models.[400] According to that study, "a 16 per cent 'correction' would be 'large enough to explain the persistent overestimation of growth rates of historical atmospheric CO_2 by earth system models.'"[401] Indeed, the research shows that "[p]revious climate models have not fully accounted for how much carbon dioxide plants actually absorb."[402] For this reason, Lianhong Gu, of the Climate Change Institute at Oak Ridge National Laboratory, has said "most carbon-cycle models had over-predicted the growth rate" of CO_2.[403] Plants not only

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[397] Ballonoff, *supra*, at 123 (citations omitted).

[398] *See* Michael Bastasch, *Studies: Increased CO2 Emissions are Greening the Planet*, DAILY CALLER, (Mar. 14, 2014), *available at* http://dailycaller.com/2014/03/14/studies-increased-co2-emissions-are-greening-the-planet/; *see also* Pew Center on Global Climate Change, *supra*, at 12.

[399] Ballonoff, *supra*, at 116; *see also id.*, at 116-17.

[400] *See* Mark Prigg, *Climate Change Is Being Slowed by Plants Far More than Expected, Researchers Reveal*, MAIL ONLINE, (Oct. 13, 2014), *available at* http://www.dailymail.co.uk/sciencetech/article-2791771/climate-change-slowed-plants-far-expected-researchers-reveal.html.

[401] *Id.*

[402] Paul Fiddian, *Plant CO2 Absorption Levels Underestimated*, ENVIRO NEWS, (October 14, 2014), *available at* http://www.enviro-news.com/news/plant-co2-absorption-levels-underestimated.html.

[403] Mark Prigg, *Climate Change Is Being Slowed by Plants Far More than Expected, Researchers Reveal*, Mail Online, Oct. 13, 2014, *available at* http://www.dailymail.co.uk/sciencetech/article-2791771/climate-change-slowed-plants-far-expected-researchers-reveal.html.

perform the function of stripping the CO_2 out of the atmosphere, which impacts warming directly by decreasing net CO_2, but the CO_2 that they take in and the warmer temperatures both actually help the plants grow.

All of this helps explain why global climate models have been incorrect for almost two decades:

> A distinct kind of greenhouse effect is also predicted from increased CO_2 concentration—namely, the aerial fertilization effect, which is that plants grow better in an atmosphere of higher CO_2. Many analysts, *such as the IPCC*, clearly thought the greater effect would be from heating, not plant growth. One must assume this was *an intentional judgment*, as the IPCC was aware of the CO_2 aerial fertilization effect from its 1995 Second Assessment Report, which contained empirical evidence of increased greening in enhanced CO_2 environments (Reilly 2002: 19). In contrast, climate analysts such as those with the Cato Center for the Study of Science have argued since 1999 that atmospheric temperature is much less sensitive to increased concentration of CO_2 (Michaels 1999b).
>
> *While in fact heating has not occurred as the IPCC forecasted, greatly increased global biomass is indeed demonstrated.* Well documented evidence shows that concurrently with the increased CO_2 levels, extensive, large, and continuing increase in biomass is taking place globally—reducing deserts, turning grasslands to savannas, savannas to forests, and expanding existing forests (Idso 2012). That survey covered 400 peer-reviewed empirical studies, many of which included surveys of dozens to hundreds of sources. Comprehensive study of global and regional relative greening and browning using NOAA data showed that shorter-term trends in specific locations may reflect either greening or browning, and also noted that the rapid pace of greening of the Sahel is due in part to the end of the drought in that region. Nevertheless, in nearly all regions and globally, the overall effect in recent decades is decidedly toward greening (de Jong et al. 2012). *This result is also the opposite of what the IPCC expected.*[404]

At the same time, even more CO_2 emissions could help agriculture even further.

> [A] doubling of the air's CO_2 concentration likely would lead to a 50% increase in photosynthesis in C3 plants, a doubling of water use efficiency in both C3 and C4 plants, significant increases in biological nitrogen fixation in almost all biological systems, and an increase in the ability of plants to adapt to a variety of environmental stresses. . . . *[M]any other studies have been conducted on hundreds of different plant species, repeatedly confirming the growth-enhancing,*

[404] Ballonoff, *supra*, at 114—15 (emphasis added).

water-saving, and stress-alleviating advantages that elevated atmospheric CO_2 concentrations bestow upon Earth's plants and soils.[405]

There is an extensive literature documenting the environmental benefits of increased CO_2, which is summarized in the attached Appendix. The literature included in the Appendix also addresses arguments about ocean acidification, other asserted impacts to sea life, levels of Antarctic ice, extreme weather effects, and other asserted impacts of global warming. The scientific literature does not support those asserted impacts.

[405] Idso, et al., CLIMATE CHANGE RECONSIDERED II: BIOLOGICAL IMPACTS, NONGOVERNMENTAL INTERNATIONAL PANEL ON CLIMATE CHANGE, (2014), *available at* http://heartland.org/media-library/pdfs/CCR-IIb/Summary-for-Policymakers.pdf (citations omitted).

V. EPA Cannot Avoid A Proper Cost-Benefit Analysis By Relying On The "Social Cost of Carbon" Statistic, Which Is Fatally Flawed And Produces A Politically-Driven, Biased Decision-Making Process.

EPA has failed to conform its rulemaking to proper cost/benefit methodology and instead has created an outcome-determinative and biased decision-making process. The agency cannot avoid a proper analysis of the costs and benefits of the Proposed Rule by relying on the "Social Cost of Carbon" statistic (SCC). As a matter of both the Administrative Procedure Act and constitutional law,[406] EPA has an ongoing obligation to use relevant and robust statistical measures in explaining the costs and benefits of its policies. The requirements of reasoned decisionmaking require that EPA consider *all* relevant evidence and arguments about the likely impacts of its proposed rule. The SCC, on which EPA depends extensively to justify these Proposed Rules, is a meaningless statistic that serves as a shortcut to shirk the duty of reasoned decisionmaking. It reflects more about the brazen assumptions put into it than any underlying data.

It would be impermissible to rely on the "social cost of carbon" for several reasons: (i) it is inherently flawed, ultimately a meaningless metric; (ii) it ascribes undue certainty and reliability to the scientific evidence; (iii) it ignores the social *benefits* of carbon; and (iv) it ignores the problematic aspects of carbon-reduction policies.

The SCC is a metric that reflects more about the assumptions fed into it than what it is purporting to measure. The SCC is an attempt to monetize a difficult concept to grasp, let alone measure: the impact of an additional amount of carbon (in the form of CO_2) in the air.[407] In

[406] *See United States v. Carolene Prods. Co.*, 304 U.S. 144, 153 (1938) ("the constitutionality of a [law] predicated upon the existence of a particular state of facts may be challenged by showing to the court that those facts have ceased to exist").

[407] RIA at 4-7.

essence, the SCC uses three different Integrated Assessment Models (IAMs)[408] to compute impacts such as "net changes in agricultural productivity and human health, property damage from increased flood risk, and changes in energy system costs, such as reduced costs for heating and increased costs for air conditioning" and converts them into a dollar figure that can be compared with other dollar figures.[409]

These models are a classic case of "garbage in, garbage out." The models rest on the fatally flawed climate science discussed in Part I, *supra.* For example, the SCC assumes "a two-third probability that climate sensitivity is between 2.0°C and 4.5°C."[410] But as noted in Part II-C, *supra*, real-world data disprove those estimated sensitivity values. The SCC's assumptions cannot be squared with observational data showing that global average surface temperatures have not significantly increased since 1998. And, as noted in Part II, there are many other flaws in climate models. For example, DICE relies on a model of climate change (rising emissions creates "radiative forcing," which raises temperatures and lowers economic output) that has already been disproven by scientific data.[411]

The SCC's models then compound their error by adding arbitrary and unproven assumptions regarding impacts on human welfare from climate change, without any theoretical

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[408] Dynamic Integrated Climate and Economy Model (DICE), Framework for Uncertainty, Negotiation, and Distribution Model (FUND), and Policy Analysis of Greenhouse Gas Effect Model (PAGE); RIA, at xxi-xxiv.

[409] *Id.*

[410] Frank Ackerman & Elizabeth A. Stanton, *Climate Risks and Carbon Prices: Revising the Social Cost of Carbon*, ECONOMICS: THE OPEN-ACCESS, OPEN-ASSESSMENT E-JOURNAL, (Apr. 4, 2012), *available at* http://www.economics-ejournal.org/economics/journalarticles/2012-10.

[411] *Compare* Frank Ackerman and Ian J. Finlayson, *The Economics of Inaction on Climate Change: A Sensitivity Analysis* 2(Global Dev. & Env. Inst., Working Paper No. 06-07, 2006) (explaining the climate portion of the DICE model, including radiative forcing) *with* James A. Johnstone and Nathan J. Mantua, *Atmospheric Controls on Northeast Pacific Temperature Variability and Change, 1900-2012*, Proceedings of the Nat'l Acad. of Sciences Early Edition 5 (published ahead of print, Sept. 22, 2014), *available at* http://www.pnas.org/content/early/2014/09/16/1318371111.short (subscription required) (demonstrating that changes in ocean and air temperatures are *not* the result of anthropogenic radiative forcing).

or empirically sound justifications.[412] For example, none of the models adequately accounts for the documented changes in agricultural productivity and environmental *benefits* from "greening" discussed in Part I-D, *supra*. Two of the models (DICE and PAGE) do not even permit consideration of "negative damages" – i.e., social benefits from CO_2 emissions – even though the third model (FUND) shows *positive net benefits* for warming below 3º C.[413] Thus, DICE and PAGE skew the analysis from the very beginning. Further, the models only assume human adaptation and fail to include evolutionary adaptation by plants or animals.

In addition, the SCC's models make assumptions about the vulnerability of society to climate change, which is primarily driven by levels of economic development. Ironically, the economic damage inflicted by the Proposed Rule would increase society's vulnerability to the very impacts that EPA claims it wishes to avoid. A richer, more productive world will be able to withstand challenges of all kinds.

In short, the SCC is fatally flawed. It is based on speculative assumptions (disproven by the actual evidence) and much-criticized integrated assessment model simulations. The SCC assumes that climate science is settled and uncontroversial, when in fact the opposite is true. The SCC lacks theoretical and empirical foundation for the impacts of asserted climate change that form the key parts of its analysis. It is entirely unsuitable for regulatory policy.

As MIT economist Robert S. Pindyck has written, the SCC contains "crucial flaws" and *ad hoc* assumptions that make it "close to useless as [one of the] tools for policy analysis."[414] In

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[412] Stephanie Waldhoff, et al., *The Marginal Costs of Different Greenhouse Gases: An Application of FUND*, ECONOMICS: THE OPEN-ACCESS, OPEN-ASSESSMENT E-JOURNAL, (Oct. 1, 2014), *available at* http://www.economics-ejournal.org/economics/journalarticles/2014-31.

[413] U.S. INTERAGENCY WORKING GROUP ON THE SOCIAL COST OF CARBON, TECHNICAL SUPPORT DOCUMENT:- SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS- UNDER EXECUTIVE ORDER 12866, at 9 (Feb. 2010), *available at* http://www.epa.gov/oms/climate/regulations/scc-tsd.pdf.

[414] Robert S. Pindyck, *Climate Change Policy: What Do the Models Tell Us?*, (NBER, Working Paper No. 19244, 2013).

Professor Pindyck's words, the SCC creates "a perception of knowledge and precision, but that perception is illusory and misleading."[415] Other economists have cited the shortcomings of the SCC for policymaking purposes.[416] "There is no fact-of-the-matter concerning the social cost of carbon that can provide an objective and value-free guide for policy evaluation."[417]

Even Cass Sunstein, the former Administrator of the Office of Information and Regulatory Affairs for the Obama Administration, has acknowledged that "[m]any people believe that the [SCC's technical supporting data] relies on unreliable integrated assessment models."[418]

A study by the National Academies of Science (NAS) found that the SCC suffers from uncertainty, speculation, and lack of information about:

- future emissions of greenhouse gases,
- the effects of past and future emissions on the climate system,
- the impact of changes in climate on the physical and biological environment, and
- the translation of these environmental impacts into economic damages.

NAS concluded: "As a result, any effort to quantify and monetize the harms associated with climate change will raise serious questions of science, economics, and ethics and should be viewed as provisional." [419]

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[415] *Id.*

[416] *E.g.*, Richard B. Howarth, et al., *Risk Mitigation and the Social Cost of Carbon*, 24 GLOBAL ENVT'L CHANGE 123 (2014).

[417] *Id.* at 130; *see also* Gary D. Libecap, *Addressing Global Environmental Externalities: Transaction Costs Considerations*, 52 J. ECON. LIT. 424 (2014) (discussing difficulty of applying SCC to global externalities of environmental policy, given debates over SCC and inherent scientific uncertainty).

[418] Cass R. Sunstein, *On Not Revisiting Official Discount Rates: Institutional Inertia and the Social Cost of Carbon*, 104 AM. ECON. REV.: PAPERS & PROCEEDINGS 547, 548 (2014).

[419] *Id.*

Further, the SCC is predicated upon an assumption of *global* rather than domestic benefits, which a recent GAO report indicated was contrary to guidance requiring domestic estimates, and the EPA's "use of global benefit estimate creates inconsistency with the remainder of the economic analysis, thus undermining EPA's conclusions."[420]

The federal Interagency Working Group that helped create the SCC acknowledged that "[t]he limited amount of research linking climate impacts to economic damages makes this modeling exercise even more difficult" and that the exercise is subject to "simplifying assumptions and judgments reflecting the various modelers' best attempts to synthesize the available scientific and economic research characterizing these relationships."[421]

But even taking the SCC at face value, it is clear that it is deeply flawed conceptually. Because the SCC counts only the *cost* of carbon, it is a one-sided statistic.[422] It ignores the other side of the equation: the benefit of carbon. Only if both the *cost* of carbon and the *benefit* of carbon are considered, could a balanced equation result.[423] And it is both contrary to agency guidance[424] and the familiar "arbitrary and capricious" standard of administrative law[425] to quantify only one side of the analysis.

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[420] Congressional Committee on Oversight & Government Reform, Press Release, *supra*.

[421] U.S. INTERAGENCY WORKING GROUP ON THE SOCIAL COST OF CARBON, TECHNICAL SUPPORT DOCUMENT:- SOCIAL COST OF CARBON FOR REGULATORY IMPACT ANALYSIS- UNDER EXECUTIVE ORDER 12866, at 9 (Feb. 2010), *available at* http://www.epa.gov/oms/climate/regulations/scc-tsd.pdf.

[422] *Id.* ("It is typically used to assess the avoided damages as a result of regulatory actions (i.e., benefits of rulemakings that have an incremental impact on cumulative global CO_2 emissions).")

[423] *See* Paul Driessen & Lawrence Kogan, *Breaking EPA's Climate Science Secrecy Barrier*, Townhall, (Jul. 1, 2014), *available at* http://townhall.com/columnists/pauldriessen/2014/07/01/breaking-epas-climate-science-secrecy-barrier-n1857403/page/full.

[424] Congressional Committee on Oversight & Government Reform, Press Release, Issa, Vitter: GAO Report Confirms EPA Fudges Costs of Regulations, (Aug. 11, 2014), *available at* http:// http://oversight.house.gov/release/issa-vitter-gao-report-confirms-epa-fudges-costs-regulations/.

[425] *See, e.g.*, *High Country Conservation Advocates v. United States Forest Serv.*, No. 13-CV-01723-RBJ, 2014 WL 2922751, at *10 (D. Colo. June 27, 2014) ("it was nonetheless arbitrary and capricious to quantify the benefits of the lease modifications and then explain that a similar analysis of the costs was impossible when such an analysis was in fact possible").

Any comparison between carbon benefits and EPA's asserted "costs" reveals that the benefits are *orders of magnitude* larger. CO2 "is not a pollutant: It is the basis of life on Earth. It facilitates plant growth and enhances agricultural productivity. It is the primary raw material utilized by plants to produce the organic matter out of which they construct their tissues, which subsequently become the food source for animals and humans. The more CO2 there is in the air, the better plants grow."[426] Using GDP figures to compare CO_2 "costs" and "benefits" (on a per ton basis) based on EPA's own SCC estimates demonstrates that the proven, documented benefits of CO_2 overwhelmingly outweigh EPA's conjectural CO_2 costs—regardless of what assumptions, models, or discount rates are used.[427] Notably, this comparison takes EPA's SCC estimates *on their face*—despite the many uncertainties and criticisms surrounding them—and contrasts them with the simple, straightforward benefits of CO_2 based on over two centuries of historical fact. The comparison shows that any of the SCC estimates of CO2 costs "are relatively so small as to be in the statistical noise of the CO_2 benefits."[428]

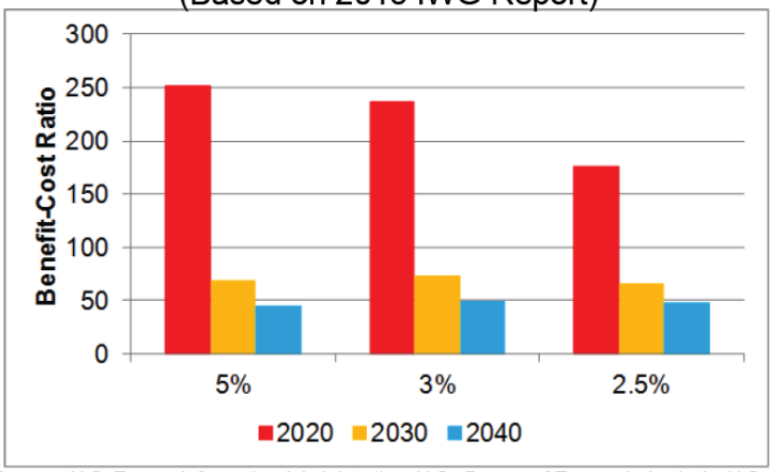
[426] Roger Bedzek, *Benefits of Carbon Use Far Outweigh its Costs*, THE HILL, (Sept. 25, 2014), *available at* http://thehill.com/blogs/congress-blog/energy-environment/218795-benefits-of-carbon-use-far-outweigh-its-costs.

[427] *See id.*

[428] *Id.*; *see also* Presentation by Roger Bezdek on Social Cost of Carbon for George C. Marshall Institute, (Feb. 26, 2014), *available at* http://marshall.org/climate-change/presentation-by-roger-bezdek-on-social-cost-of-carbon/.

CO_2 BENEFITS FORECAST TO CONTINUE TO GREATLY EXCEED SCC

Forecast Reference Case CO_2 Benefit-Cost Ratios
(Based on 2013 IWG Report)



Source: U.S. Energy Information Administration, U.S. Bureau of Economic Analysis, U.S. Interagency Working Group, and Management Information Services, Inc.

Using 2013 IWG report, forecast CO_2 benefits > forecast SCC by 70-to-1 to 250-to-1.

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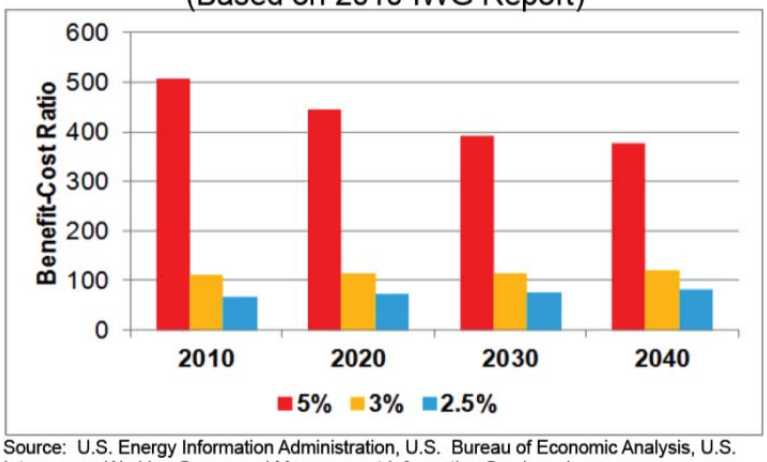
CO_2 BENEFITS FORECAST TO CONTINUE TO GREATLY EXCEED SCC

2010 and Forecast Reference Case CO_2 Benefit-Cost Ratios
(Based on 2010 IWG Report)



Source: U.S. Energy Information Administration, U.S. Bureau of Economic Analysis, U.S. Interagency Working Group, and Management Information Services, Inc.

Using 2010 IWG report, forecast CO_2 benefits > forecast SCC by 100-to-1 to 500-to-1.

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Other studies have confirmed that "[t]he inclusion of the benefits of carbon dioxide fertilization on agriculture and forestry . . . substantially reduces the social cost of carbon dioxide."[429] When looking at the entire picture,

> CO_2 benefits outweigh the costs by, literally, orders of magnitude: Anywhere from 50-to-1 to 220-to-1. Normally, [benefit-cost] ratios in the range of 2-to-1 or 3-to-1 are considered very favorable. In other words, the benefits of CO_2 overwhelmingly outweigh the estimated CO_2 costs. In fact, the CO_2 costs are relatively so small as to be in the statistical noise of the CO_2 benefits.[430]

Even EPA has admitted that "[t]he limited amount of research linking climate impacts to economic damages makes the modeling exercise even more difficult."[431] Further, it acknowledges that the SCC will need to be revised over time: "The U.S. government has committed to updating the current estimates as the science and economic understanding of climate change and its impacts on society improves over time."[432] EPA has acknowledged that the SCC is highly sensitive to inputs like the discount rate[433] and that the choice of discount rate applied is arbitrary, "because no consensus exists on the appropriate rate to use in an intergenerational context."[434] This arbitrariness results in a statistic that can be manipulated to say whatever the agency wants it to say. EPA selected 2.5%, 3%, and 5% for the range of discount rates it would examine, plus a fourth rate chosen specifically to represent "less likely, but potentially catastrophic, outcomes."[435] The selections EPA made are not consistent with the

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[429] Waldhoff, et al., *supra*, at 26.

[430] Bedzek, THE HILL, *supra*; *see also generally* AMERICAN COALITION FOR CLEAN COAL ELECTRICITY, THE SOCIAL COSTS OF CARBON? NO, THE SOCIAL BENEFITS OF CARBON, Jan. 2014, *available at* http://www.americaspower.org/sites/default/files/Social_Cost_of_Carbon.pdf.

[431] RIA, at 8-10.

[432] U.S. ENVT'L. PROT. AGENCY, *FACT SHEET: Social Cost of Carbon*, *available at* http://www.epa.gov/climatechange/Downloads/EPAactivities/scc-fact-sheet.pdf (last visited Oct. 16, 2014).

[433] RIA, at 4-10.

[434] *Id.*

[435] *Id.* at 4-10 to 4-11. Notably, EPA set these discount rates in its first SCC calculation in 2010 and did not revisit them when it revised the SCC calculation in 2013. *Id.* at 4-9. Also, EPA *did* use the 3%/7% discount rates

range the Office of Management and Budget (OMB) has prescribed for administrative agencies, which are rates of 3% and 7%.[436] EPA selected discount rate values that are biased toward the low end of the acceptable range given by the OMB, and slanted the measure even further by specifically adding a "catastrophic" scenario without a corresponding "optimistic" scenario. While such details may seem like a technical matter, they have dramatic effects on the SCC analysis. When the models on which the SCC draws are recalculated using the 7% discount rate EPA left out, the SCC goes to zero or even negative—showing a *net benefit* to increased emissions *under EPA's own analysis*.[437]

The SCC is deeply flawed. "Without standards to cabin agency discretion, cost-benefit analysis may become mere window dressing, providing a veneer of scientific backing for agencies' arbitrary choices."[438] Given that even EPA admits that the SCC measure is highly sensitive to the (arbitrary) choice of discount rate, and given the many other flaws in the SCC, the statistic becomes meaningless. It will say whatever EPA wants it to say and cannot provide any sort of objective measure of relevant evidence. Reasoned decision-making cannot be premised on such a capricious metric.

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elsewhere in the RIA. *See, e.g.*, RIA, at 4-26 to 4-27, 4-31 to 4-33 (Tables 4-7 to 4-9, 4-13 to 4-15) (giving 3%/7% discount rates for health co-benefits).

[436] OFFICE OF MGMT. AND BUDGET, REGULATORY ANALYSIS, CIRCULAR A-4, (Sep. 17, 2003), *available at* http://www.whitehouse.gov/omb/circulars_a004_a-4/.

[437] Kevin Dayaratna and David Kreutzer, *Unfounded FUND: Yet Another EPA Model Not Ready For The Big Game*, HERITAGE FOUNDATION (Apr. 29, 2014), *available at* http://www.heritage.org/research/reports/2014/04/unfounded-fund-yet-another-epa-model-not-ready-for-the-big-game.

[438] Edward R. Morrison, Comment, *Judicial Review of Discount Rates Used in Regulatory Cost-Benefit Analysis*, 65 U. CHI. L. REV. 1333, 1351 (1998). Morrison quotes one EPA official as stating that "many discounting procedures are subject to manipulation. . . . This can lead to manipulation of the outcomes by some clever (or perhaps ignorant) analyst." *Id.* at 1351 n.92 (quoting Joel D. Scheraga, *Perspectives on Government Discounting Policies*, 18 J ENVT'L ECON & MGMT S-65, S-66 (1990)).

VI. There is a Better Way—21st Century Coal.

The Proposed Rule commits the United States to a dangerous austerity-based approach: in the near term, it will have a punitive impact on lower-income individuals and will drive up energy prices. In the long term, it will reduce economic growth, social progress, and human development. Yet EPA commits the nation to this path without giving due consideration to a reasoned alternative: 21st Century Coal, including low-carbon technologies.

U.S. policy—including under the current Administration[439]—has always strongly endorsed advanced coal technologies. EPA has acknowledged that "[c]lean coal is an important part of our energy future."[440] Indeed, EPA has included low-carbon coal technologies among its environmental initiatives. DOE's research on low-carbon technologies is listed in EPA's *Catalog of Environmental Programs 2012*.[441] The Federal Government's investment in pursuing low carbon technologies has been substantial. The National Energy Technology Laboratory (NETL), under the auspices of the DOE, has funded research into clean-coal technology, including demonstrations of its viability as an energy source, for over 25 years.[442] NETL has funded over 1,800 projects totaling over $9 billion, plus a further $5 billion in cost-sharing with industry.[443]

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[439] The President voiced his continued support for clean coal technology in his 2010 State of the Union Address. President Barack Obama state of the Union Address (Jan. 27, 2010), *available at* http://www.whitehouse.gov/the-press-office/remarks-president-state-union-address.

[440] (Then) Administrator, U.S. Environmental Protection Agency Lisa Jackson, Statement on the Issuance on Further Guidance on Mountaintop Mining, (Apr. 1, 2010), *available at* http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/7bcedbd7dd6e34ec852576f800630fcf!opendocument.

[441] U.S. ENVIRONMENTAL PROTECTION AGENCY, CATALOG OF ENVIRONMENTAL PROGRAMS 2012, (2012), *available at* http://www.epa.gov/oig/catalog/programs/22.html.

[442] NETL, "Coal," *available at* http://www.netl.doe.gov/research/coal/. *See also* Office of Fossil Energy, Dep't of Energy, *Major Demonstration Programs: Program Update 2013* (Sep. 2013) ("DOE Program Update 2013") (outlining the current status of the major programs funded by DOE), online at http://www.netl.doe.gov/File%20Library/Research/Coal/Reference%20Shelf/DemoPrograms-CCTUpdate2013.pdf.

[443] NETL, "Mission/Overview," *available at* http://www.netl.doe.gov/about/mission-and-overview (last viewed Oct. 15, 2014).

EPA is required, by executive order, to weigh the costs and benefits of alternative rules, including no regulation at all.[444] Yet neither the Proposed Rule nor the Regulatory Impact Analysis assesses the costs and benefits of further investment in 21st Century Coal.

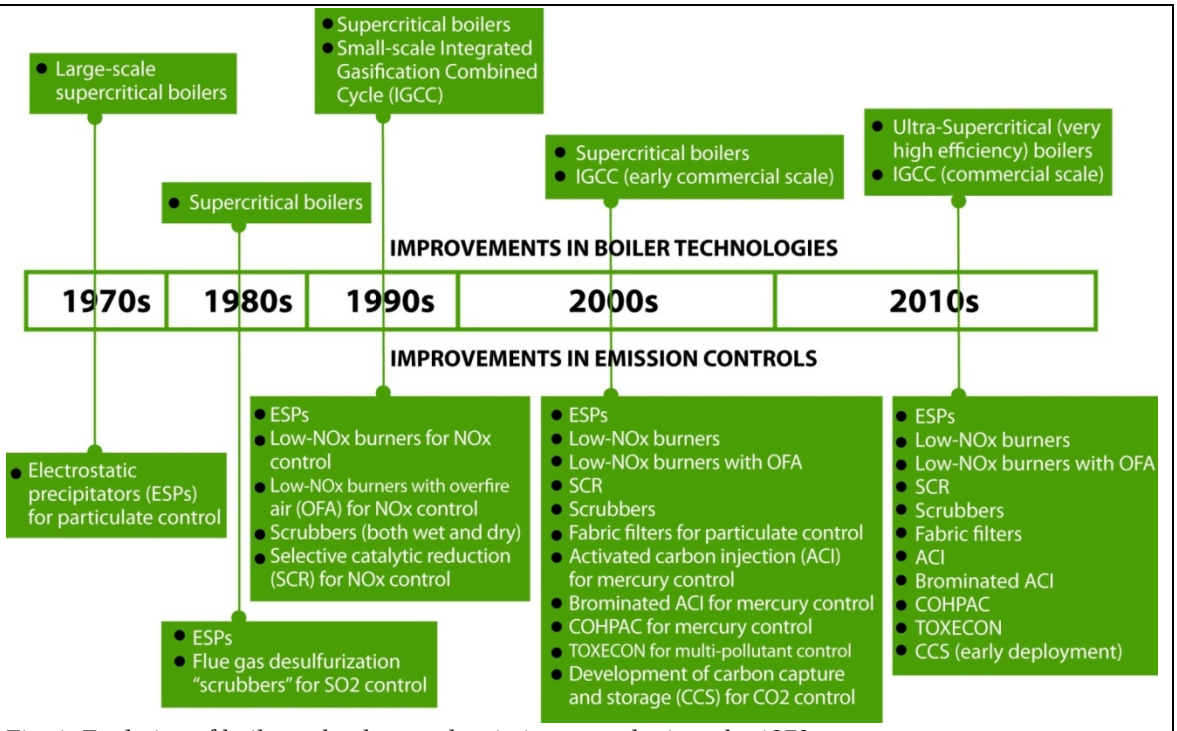

Fig. 1: Evolution of boiler technology and emission controls since the 1970s.

Coal production is cleaner and more efficient at every stage of the process than it ever has been, from mining to combustion.[445] Even though coal use has *tripled* since the 1970s, regulated emissions have *fallen* 90%.[446] One component of this dramatic shift is changing the way coal is burned in such a way that more energy is generated per unit of coal, meaning fewer emissions per unit of energy.[447] Improvements in boiler design have allowed the emission control process

[444] Exec. Order No. 12,866, 58 FR 51735 § 1(a) (Sept. 30, 1993).

[445] Peter S. Glaser, *et al.*, *Managing Coal: How to Achieve Minimal Risk With an Essential Resource*, 13 VT. ENVT'L L. REV. 1, Fig. 1 (2011).

[446] Energy Information Administration 2013; U.S. EPA Air Trends Data, 2013.

[447] *Id.*

to become part of the combustion stage, which has decreased emissions of sulfur oxides (SO_x) and nitrogen oxides (NO_x).[448] Even after the coal has been burned, improved scrubber technology has helped to remove increasingly large percentages of pollutants before the gases leave the plant.[449]

U.S. investment in low carbon technologies is beginning to bear fruit[450] and is already deployed in operational facilities.[451] These advanced plants promise significant impacts: according to the Executive Director of the International Energy Agency, each one can be the equivalent of *taking one million cars off the road*.[452]

Increased efficiencies at U.S. coal plants will provide major benefits to the U.S. economy and provide a large increment of new, low-cost, coal-based electricity generation.[453] Even moderate increases in coal plant efficiencies would increase total U.S. coal electricity generation by about 11%, reduce CO_2 emissions by 250 million tons, and create 250,000 jobs.[454]

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[448] *Id.*

[449] *Id.* at 36.

[450] *See id.* at 36-37 (discussing the "game changer" Trailblazer plant near Sweetwater, Texas).

[451] *Id.* at 36.

[452] Maria van der Hoeven, Exec. Dir., Int'l Energy Agency, *How to Fix the 21 Century's Dirty Engine of Growth*, HUFFINGTON POST (Dec. 18, 2012), *available at* http://www.huffingtonpost.com/maria-van-der-hoeven/how-to-fix-the-21st-centu_b_2320254.html.

[453] *See* Roger Bezdek and Robert Wendling, *Economic, Environmental, and Job Impacts of Increased Efficiency in Existing Coal-Fired Power Plants*, 52 JOURNAL OF FUSION ENERGY 215—220 (April 2013); MANAGEMENT INFORMATION SERVICES, INC., ECONOMIC AND EMPLOYMENT IMPACTS OF INCREASED EFFICIENCY IN EXISTING COAL-FIRED POWER PLANTS, (June 2009), (report prepared for the U.S. Department of Energy, National Energy Technology Laboratory).

[454] *Id.*

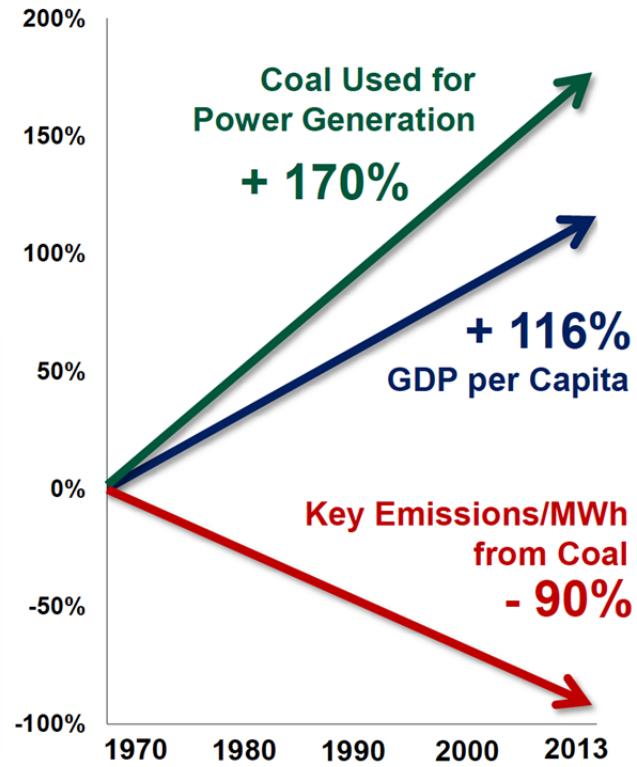

Fig. 2: Coal use and GDP versus emissions per MWh, 1970 to present. (Source: USDA 2011; Energy Information Administration 2013; U.S. EPA Air Trends Data, 2013.)

While the United States has made incredible strides in improving coal technologies, it is in danger of losing its position at the forefront of emission-reduction technologies. This is an important concern because the U.S. currently exports about $2 billion (and growing) in clean coal equipment, and this represents a technology in which the U.S. still has an important competitive advantage.[455] As far back as 2010, commentators warned that pride-of-place increasingly belongs to China.[456] While the United States is bringing "supercritical" coal plants on line (that use superheated steam),[457] Japan, Denmark, and Germany are working on

[455] *See* Roger Bezdek and Robert Wendling, *The Return on Investment of the Clean Coal Technology Program in the USA*," 54 ENERGY POLICY 104—12 (March 2013).

[456] James Fallows, *Dirty Coal, Clean Future*, THE ATLANTIC (Oct. 27, 2010, 3:30 PM), *available at* http://www.theatlantic.com/magazine/archive/2010/12/dirty-coal-clean-future/308307/.

[457] Peter S. Glaser, *et al.*, *Managing Coal: How to Achieve Minimal Risk With an Essential Resource*, 13 VT. ENVT'L L. REV. 1, 35 (2011).

"ultrasupercritical" plants.[458] "These and other similar efforts developed abroad can be imported to the United States if they prove to be successful and worthwhile."[459]

Now is not the time for the U.S. to abandon leadership in 21st Century Coal. Yet the Proposed Rule threatens to do exactly that, by directing investment away from coal. Indeed, the Proposed Rule does not even analyze investing in low-carbon technology as a regulatory alternative at all. A more rational approach would use 21st Century Coal technologies to ensure prosperity and economic growth around the world.

[458] *Id.* at 39.

[459] *Id.* at 40.

CONCLUSION

The Proposed Rule should be withdrawn.

Dated: December 1, 2014

Respectfully submitted,

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