The National Anxiety Center

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Docket ID No. EPA–HQ–OAR–2013–0602

Via electronic delivery to: A-and-R-Docket@EPA.gov

Thank you for the opportunity to comment on EPA's Clean Power Plan.[1] The individuals listed above respectfully present our views in this joint letter. Please direct inquiries about ideas and information discussed herein to Marlo Lewis, Senior Fellow, Competitive Enterprise Institute, 1899 L Street, NW, Washington, D.C. 20036, 202-331-2267, marlo.lewis@cei.org.

[1] EPA, *Carbon Pollution Emission Guidelines for Existing Sources: Electric Utility Generating Units; Proposed Rule*, 79 FR 34830-34958, June 18, 2014, http://www.gpo.gov/fdsys/pkg/FR-2014-06-18/pdf/2014-13726.pdf

I. Background

EPA's Clean Power Plan (CPP) requires states to adopt existing source performance standards (ESPS) for carbon dioxide (CO_2) emissions from their electric power sectors. Section 111(a) of the Clean Air Act (CAA) defines a "standard of performance" as:

> a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.

CPP standards are calibrated in lbs. CO_2/MWh and translate into statewide emission-reduction mandates. In other words, the CPP establishes statewide electric-sector CO_2 emission *caps*. Each state (except Vermont) has its own EPA-imposed cap. On average, states must reduce their electric-sector CO_2 emissions 30% below 2005 levels by 2030.[2]

EPA's ostensible authority for the CPP is CAA §111(d). The provision requires EPA to promulgate regulations requiring states to adopt performance standards for existing sources if EPA has already established performance standards for new facilities of the same type. In September 2013, EPA proposed to establish CO_2 performance standards for new coal and natural gas combined cycle power plants. EPA is expected to finalize the new source rule in 2014 and the CPP in June 2015.

II. Executive Summary

The CPP is illegitimate and unlawful. Its implementation costs are likely much greater than EPA estimates. It will increase electricity prices and raises reliability concerns. Its putative climate benefits are illusory. The regulation should be withdrawn.

<u>The CPP is illegitimate:</u>

- **The CPP violates the separation of powers**. The CPP stretches CAA §111(d) beyond all recognition. The provision does not authorize EPA to restructure state electricity markets, revise state electricity policies, or establish statewide caps for CO_2. EPA is making law, not implementing it.
- **The CPP is elitist and based on political deception**. In a democracy, policy is supposed to derive from statutes, which in turn are supposed to derive from elections. In the 2012 election cycle, President Obama did not mention, much less campaign for, the sweeping national energy transformation EPA now plans to impose through regulatory fiat.
- **The CPP undermines competitive federalism and citizen choice**. Despite its vaunted "flexibility," the CPP will force all states to de-carbonize their power sectors, and by more or less the same means. This cartelization of state energy policies will limit interstate competition for

[2] 79 FR 34832

human and financial capital, making it harder for citizens to "vote with their feet" against regulatory excess.

The CPP Is Unlawful:

- **EPA's Carbon Pollution Standard rule – the legal prerequisite for the CPP – is itself unlawful.** It establishes a new source performance standard (NSPS) for coal power plants (1,100 lbs. CO_2/MWh) that can be met only through a system of emission reduction – carbon capture and storage (CCS) – that is not "adequately demonstrated."
- **Section 111(d) prohibits EPA from requiring ESPS for sources already regulated under §112.** EPA has been regulating power plants under §112 since December 2011, when the agency finalized the Mercury Air Toxics Standards (MATS) rule.
- **A state's electric-power sector is not a "source" to which a performance standard may lawfully be assigned.** Section 111(a)(3) defines "stationary source" (whether new or existing) as "any building, structure, facility, or installation which emits or may emit any air pollutant." Obviously, a state's power sector is not any such individual physical object.
- **A "best system of emission reduction" (BSER) is a technology or set of technology options "adequately demonstrated" for "designated facilities," not a green wish-list of market-restructuring energy policies**. Nothing in the statutory text, EPA's implementing regulations, or past practice gives any indication that §111(d) authorizes EPA to control state policies regarding renewable energy, electricity dispatch, or demand management.
- **A BSER for CO_2 emissions from existing power plants does not exist.** Commercial technology to capture or filter CO_2 emissions from existing power plants has not yet been developed. Hence there is no "best system of emission reduction" on the basis of which EPA or states could set CO_2 performance standards for existing power plants.
- **Congress intended for §111(d) to regulate "highly localized" pollutants, not ubiquitous air pollutants like those regulated under the NAAQS program.** Carbon dioxide emissions are the most ubiquitous byproduct of industrial civilization.
- **Curbing production is not a "best system of emission reduction."** A performance standard calibrated in lbs. CO_2/MWh is intended to improve sources' performance by reducing emissions per unit of output. The CPP's core strategy, however, is to reduce emissions by *decreasing output* (electric generation) from coal power plants. Decreasing output does not improve a source's performance and, thus, is not a BSER.
- **An ESPS cannot be more stringent than the corresponding NSPS, nor can it regulate entities not covered by the NSPS.** The CPP requires many states to adopt CO_2 standards for existing power plants that are more stringent than EPA's proposed standards for new coal and NGCC power plants. The CPP also requires states to regulate power plants (nuclear, renewable) that are not sources, as well as households and firms that don't produce power. This defies the logic and intent of §111(d), which is to use the experience gained from regulating new sources to develop performance standards appropriate for the corresponding existing sources.
- **EPA may not command states to do what it has no power to do.** CAA §111(d)(2)(A) requires EPA to impose a federal plan to regulate existing sources when a state fails to adopt an EPA-

approved plan. By clear implication, EPA may only require standards that it can administer if a state can't or won't submit a satisfactory plan. EPA has no authority to enact state renewable energy mandates, fleet dispatch policies, or rebates for programmable thermostats. Hence ordering states to adopt or revise such policies is beyond EPA's authority as well.

- **The CPP conflicts with EPA's 1975 implementing regulation.** The regulation authorizes EPA to subdivide source categories initially promulgated for new sources to better match the more varied and limited performance capabilities of existing sources. The CPP aggregates sources from different categories and mixes in non-sources outside of any category to maintain the fiction that a state's electric-power sector is an existing source.
- **EPA's top-down approach conflicts with Congress's intent that states use local knowledge to propose standards they consider achievable.** EPA, for example, attempts to determine how much renewable generation Virginia can achieve by simply averaging the future (not achieved) renewable energy targets in the RPS programs of six other states.

<u>The CPP Will Cost More than EPA Estimates.</u>

- EPA's estimated nationwide compliance cost of $7.3 billion to $8.8 billion in 2030 is implausibly low. Virginia State Corporation Commission staff estimate that one utility – Dominion Power – will have to spend an additional $5.5 billion to $6 billion to meet the State's CPP emission reduction target.
- NERA Economic Consulting estimates the CPP will cost states $41 billion in 2030 and $336 billion over 15 years.

<u>The CPP Will Increase Electricity Costs for Consumers and Raises Reliability Concerns</u>.

- A plan that gives low-carbon generation priority over low-cost generation and forces states to replace economical coal capacity with more costly renewable and nuclear generation will increase consumer electric bills.
- A plan that prematurely retires large quantities of reliable coal-based power while pushing intermittent renewable sources higher in the "merit order of dispatch" could complicate the task of balancing loads and ensuring grid reliability.

<u>The CPP's Climate Benefits Are Illusory.</u>

- EPA claims the CPP will deliver $31 billion in climate benefits to the American people in 2030. That is impossible.
- Even assuming EPA climate sensitivity estimates, the CPP will avert less than 0.02°C of global warming by 2100 – too small an amount to have any discernible impact on sea-level rise, weather patterns, polar bear populations, or any other climate-related variable people care about.
- The CPP's climate impact in 2030 will be even more miniscule and undetectable.

III. The CPP Is Illegitimate

(a) The CPP Undermines the Separation of Powers.

EPA is promulgating the CPP under CAA §111(d). Even assuming for the sake of argument that the CAA authorizes EPA to regulate CO_2 as an "air pollutant," EPA stretches §111(d) beyond all recognition.

States cannot meet their CPP emission-reduction requirements by applying demonstrated emission-control technology to existing power plants. Rather, they must, in varying degrees, transform their electric power sectors. There is no evidence in the text of §111(d), EPA's implementing regulations,[3] or legislative history that Congress authorized EPA to restructure state electricity markets, revise state electricity policies, or set CO_2 emission caps for state electric-power sectors. EPA is making law rather than implementing it.

When striking down EPA's Timing[4] and Tailoring[5] Rules, the Supreme Court cautioned the agency not to interpret the CAA in ways that "would bring about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization."[6] Those words apply with at least equal force to the CPP. The CPP runs afoul of the Supreme Court's admonition that "Congress does not hide elephants in mouse holes."[7]

Congress, after all, debated and declined to approve similar policies during the first Obama administration. The CPP sets CO_2 emission reduction requirements that states can meet only by enacting (or tightening) three of the four main climate policies contained in H.R. 2454, the American Clean Energy and Security Act of 2009, commonly known as the Waxman-Markey bill.[8] Those policies are: CO_2 emission caps, [9] renewable energy quota,[10] and demand-side reduction mandates.[11]

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[3] 39 FR 36102-36105, October 7, 1974; 40 FR 53340-53345, November 17, 1975; both documents are available at http://www.globalwarming.org/2014/05/23/primary-document-dump-fridays-deep-background-into-epas-impending-climate-plan-for-existing-power-plants/

[4] EPA, *Reconsideration of Interpretation of Regulations That Determine Pollutants Covered by Clean Air Act Permitting Programs*, 75 FR 17004-17023, April 2, 2010, http://www.gpo.gov/fdsys/pkg/FR-2010-04-02/pdf/2010-7536.pdf

[5] EPA, *Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule*, 75 FR 31514-31608, June 3, 2010, http://www.gpo.gov/fdsys/pkg/FR-2010-06-03/pdf/2010-11974.pdf

[6] *Utility Air Regulatory Group v. EPA*, June 23, 2014, slip op. p. 19, http://www.globalwarming.org/wp-content/uploads/2014/07/UARG-v-EPA-Supreme-Court-June-23-2014.pdf

[7] *Whitman v. American Trucking Association*, 531 U.S. 457, 468 (2001)

[8] The text of H.R. 2454 as passed by the House and placed on the Senate calendar is available at http://www.gpo.gov/fdsys/pkg/BILLS-111hr2454pcs/pdf/BILLS-111hr2454pcs.pdf

[9] The lion's share of CPP-mandated CO_2 reductions will come from changes in fleet dispatch rules. EPA assumes NGCC plants will achieve annual utilization rates of 70% and displace coal as a source of base load power. This is "Building Block 2" of a four-part strategy EPA defines as BSER. 74 FR 34857-34858. Although the Waxman-Markey bill did not include an explicit, low-carbon generation dispatch policy, fuel-switching from coal to gas was a key objective of the bill's cap-and-trade program (Title III).

[10] H.R. 2454, Title I

[11] H.R. 2454, Sec. 144

The fourth major Waxman-Markey policy – new source performance standards (NSPS) requiring new coal power plants to install carbon capture and storage (CCS) technology[12] – is the centerpiece of EPA's Carbon Pollution Standard (CPS) rule.[13] EPA anticipates no CO_2 emission reductions or climate benefits from the CPS rule, since the agency assumes no new coal power plants would be built anyway.[14] So what is the point? The CPS rule is a regulatory stepping stone to the CPP. Under the CAA, EPA must promulgate performance standards for new sources before it can promulgate performance standards for existing sources.[15]

From a citizens' perspective, what matters is that both rules together would enact the core policies of a controversial bill that Congress ultimately rejected because the public turned against it.

	CCS Mandate	Renewable Quota	Demand Reduction	Emission Caps
HR 2454	✓	✓	✓	✓
Carbon Pollution Standard Rule	✓			
Clean Power Plan		✓	✓	✓

(b) The CCP is elitist and deceptive.

Cap-and-trade was a critical issue in the November 2010 elections. In the House, "virtually every close race was lost by a Democrat" who voted for Waxman-Markey, observes Cato Institute scientist Patrick Michaels. In contrast, "every close Senate race was won by a Democrat," chiefly because Senate leaders pulled the plug on cap-and-trade.[16]

In a democracy, policy is supposed to derive from statutes, which in turn are supposed to derive from elections. Carbon dioxide emission caps remain in such bad odor that neither President Obama nor other Democratic leaders advocated capping CO_2 emissions in the 2012 election cycle. Indeed, President

[12] H.R. 2454, Sec. 812
[13] EPA, *Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units; Proposed Rule*, 79 FR 1430-1519, January 8, 2014, http://www.globalwarming.org/wp-content/uploads/2014/04/Carbon-Pollution-Standard-as-Proposed-in-Federal-Register-2014.pdf
[14] 79 FR 1496
[15] §111(d)(1)(A)(ii)
[16] Patrick Michaels, "IPCC Political Suicide Pill: Politicians who legislated based on the IPCC's increasingly flawed findings lose their jobs," *National Review*, September 26, 2013, http://www.nationalreview.com/article/359556/ipcc-political-suicide-pill-patrick-j-michaels#!

Obama ran to right of Mitt Romney on energy issues, accusing his rival of being anti-coal.[17] Yet EPA now acts as if it has a legislative and popular mandate to implement the failed Waxman-Markey agenda.

If any lawmaker during the past six years had introduced legislation authorizing EPA to do exactly what it is doing now – set targets and timetables for the de-carbonization of state electric power sectors via a CAA §111(d) rulemaking – the bill would have been dead on arrival. If the President had campaigned on the CPP in 2012, he and his party would have taken serious hits at the polls. Like MIT professor and Affordable Care Act strategist Jonathan Gruber,[18] CPP architects act as if American politics is a game of fool the voter. The CPP is an attempt to circumvent the democratic process.

(c) The CPP Undermines Competitive Federalism and Citizen Choice.

Federalism is a structural pillar of our republic. From a citizen's perspective, federalism's chief value is to safeguard economic opportunity and check abuses of power.[19] Federalism enables Americans to 'vote with their feet' for or against policy regimes they like or dislike. When a state's tax and regulatory policies make it too hard to find gainful employment, start a business, or compete in the global marketplace, citizens and firms can relocate to states with more efficient policies. In so doing, they punish the anti-growth state with a brain drain, loss of tax revenue, and even loss of seats in the House of Representatives. They simultaneously reward the pro-growth states to which they move with an increase in human and financial capital, a bigger tax base, and additional House seats.[20]

By penalizing excessive taxation and overregulation, interstate competition for the talents, assets, and allegiances of citizens may also restrain politicians in states with poorly performing economies, because, as former Council of Economic Advisors Chairman Herb Stein said, "If something can't go on forever, it will stop."

In *Poor States, Rich States*, Arthur B. Laffer, Stephen Moore, and Jonathan Williams report that from 1992 to 2011, roughly 62 million taxpayers representing $2.2 trillion in (reported) adjusted gross income migrated from one state to another.[21]

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[17] William Yeatman, "On Energy Policy, Debate Obama Bears No Resemblance to Real-Life Obama," GlobalWarming.Org, October 17, 2012, http://www.globalwarming.org/2012/10/17/on-energy-policy-debate-obama-bears-no-resemblance-to-real-life-obama/

[18] M. Paul, "New Term: 'Grubering' and how it applies to climate alarmism," Watts Up With That, November 16, 2014, http://wattsupwiththat.com/2014/11/16/new-term-grubering-and-how-it-applies-to-climate-alarmism/

[19] Michael S. Greve, *The Upside-Down Constitution* (Cambridge: Harvard University Press, 2012)

[20] Arthur B. Laffer, Stephen Moore, Jonathan Williams, *Rich States, Poor States: ALEC-Laffer State Economic Competitiveness Index*, 7th Edition, American Legislative Exchange Council, 2014, pp. 24, 30, http://alec.org/docs/RSPS_7th_Edition.pdf

[21] Ibid., p. 22

Table 3 | **State Migration Winners and Losers**

The Ten States with the Greatest Net In-Migration Net Domestic Migration (Cumulative 2003-2012)			The Ten States with the Greatest Net Out-Migration Net Domestic Migration (Cumulative 2003-2012)		
State	**Net Domestic Migration**	**Rank**	**State**	**Net Domestic Migration**	**Rank**
Texas	1,041,977	1	Connecticut	-117,924	41
Florida	1,027,561	2	Maryland	-123,674	42
North Carolina	642,378	3	Massachusetts	-239,960	43
Arizona	618,037	4	Louisiana	-253,511	44
Georgia	485,993	5	Ohio	-365,002	45
South Carolina	318,593	6	New Jersey	-491,479	46
Tennessee	282,763	7	Michigan	-573,817	47
Nevada	273,594	8	Illinois	-623,467	48
Washington	249,650	9	California	-1,429,475	49
Colorado	206,484	10	New York	-1,527,359	50

Source: U.S. Census Bureau

Because so many retirees move from the Northeast and Midwest to the Southeast and Southwest, it is tempting to attribute migration patterns to differences in weather and climate. In fact, the economic effects of policy differences are more important. As Laffer et al. point out: "Despite all of the natural geographical advantages that California has — its gorgeous weather, idyllic beaches and iconic cultural standing — 1,429,475 Californians escaped from the state" during 2003-2012.[22]

Laffer et al. rank states in terms of "15 policy variables that have a proven impact on the migration of capital – both investment and human – into and out of states."[23] Most of the variables have to do with tax burdens (heavy vs. light) and labor policy (restrictive vs. right-to-work). We note, however, that the 10 states with the greatest cumulative net in-migration also have electricity prices at or below the national average, whereas seven of the 10 states with the greatest cumulative net out-migration have higher-than-average electricity rates, and five of those states (New York, California, New Jersey, Massachusetts, and Connecticut) have substantially higher-than-average rates.[24] Our point is that energy policies also affect economic growth and living costs and, consequently, migration patterns.[25]

[22] Ibid., p. 24
[23] Ibid., pp. 120-121
[24] Energy Information Administration, *Electric Power Monthly*, Table 5.6.B. Average Retail Price of Electricity to Ultimate Consumers by End Use Sector, November 25, 2014, http://www.eia.gov/electricity/monthly/epm_table_grapher.cfm?t=epmt_5_06_b
[25] Chuck DeVore, "Texas vs. California: The Real Facts Behind the Lone Star State's Miracle," *Forbes*, July 3, 2013, http://www.forbes.com/sites/realspin/2013/07/03/texas-v-california-the-real-facts-behind-the-lone-star-states-miracle/; Mike Patton, "The Most (And Least) Business Friendly States," *Forbes*, March 31, 2013, http://www.forbes.com/sites/mikepatton/2013/03/31/the-most-and-least-business-friendly-states/

Federalism, however, disciplines politics only if states compete for human and financial capital based on different bundles of policy choices. Federalism ceases to safeguard liberty when political elites collude to replace policy competition with 'cooperative' cartel-like arrangements.[26]

The CPP would establish an EPA-managed energy-policy cartel. Its predictable consequence – and, therefore, perhaps, one of its purposes – is to shield states like California, New York, and Massachusetts from political costs they incur due to their anti-growth energy policies. A regulatory plan that sabotages the "Texas Model" and coerces all states to evolve towards the "California Model"[27] is toxic to competitive federalism. The CPP endangers both liberty and prosperity.

The CPP purports to be "flexible," but, unlike competitive federalism, the CPP allows flexibility only in the choice of means, not ends. The CPP requires all states, regardless of policy preferences and priorities, to pursue one goal: electric-sector de-carbonization.

Actually, states don't have much flexibility in the selection of means either. The available options are largely pre-determined by the stringency of the targets EPA has set. Texas provides a stunning example.

In 2012 (the CPP baseline year), Texas had an electric-sector emission rate of 1,284 lbs. CO_2/MWh. The CPP requires Texas to achieve an interim (2020-2029) rate of 853 lbs. CO_2/MWh and a final (2030) rate of 791 lbs. CO_2/MWh.[28] To meet its 2030 target, Texas will have to replace more than half its current coal generation with gas generation, and it will have to make a deeper reduction in coal generation than the other nine top coal-generating states combined.[29]

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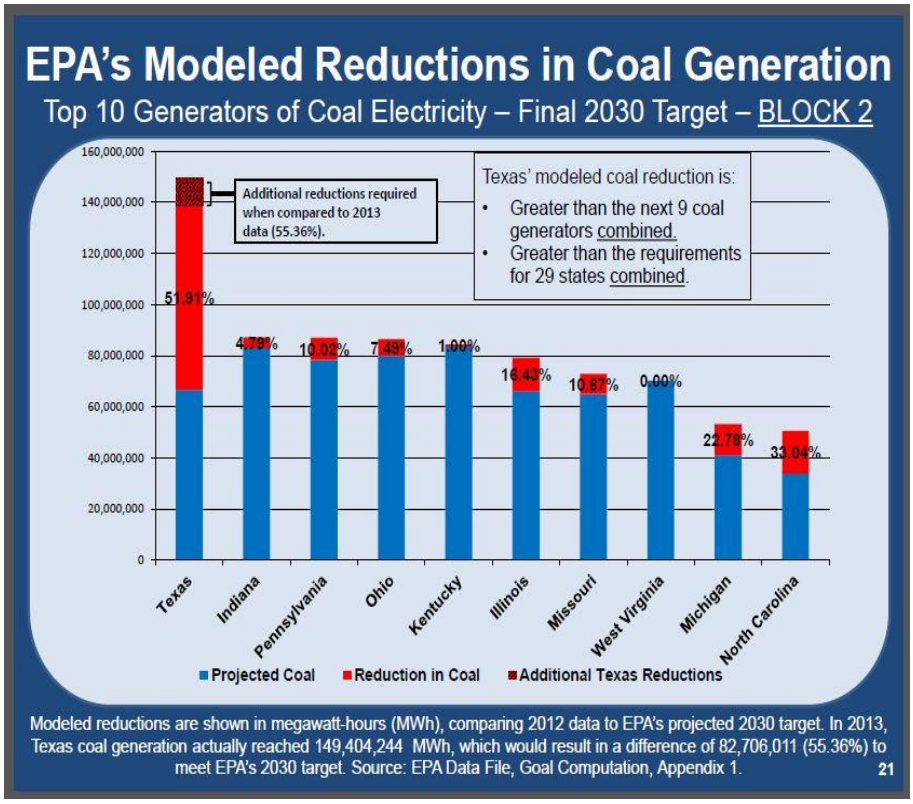
[26] Michael S. Greve, "Federalism's Hope," Library of Law & Liberty, April 2, 2014, http://www.libertylawsite.org/2012/04/02/federalisms-hope/

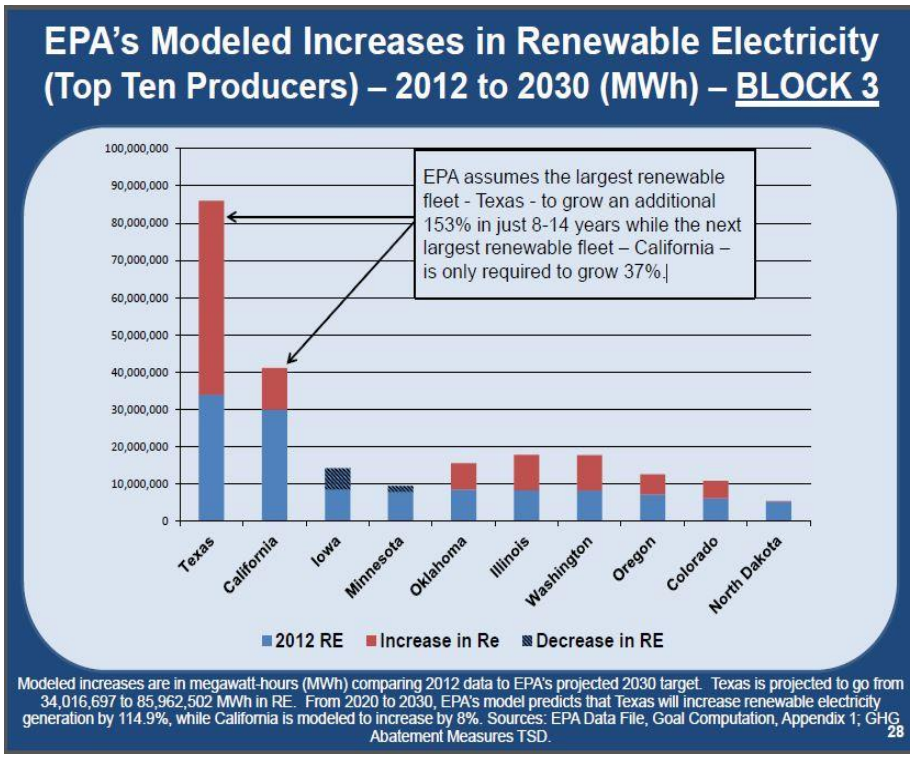
[27] DeVore, Op Cit.

[28] EPA, *Goal Computation Technical Support Document for the CAA Section 111(d) Emission Guidelines for Existing Power Plants*, Docket ID No. EPA-HQ-OAR-2013-0602, pp. 22, 27, http://www2.epa.gov/sites/production/files/2014-06/documents/20140602tsd-goal-computation.pdf

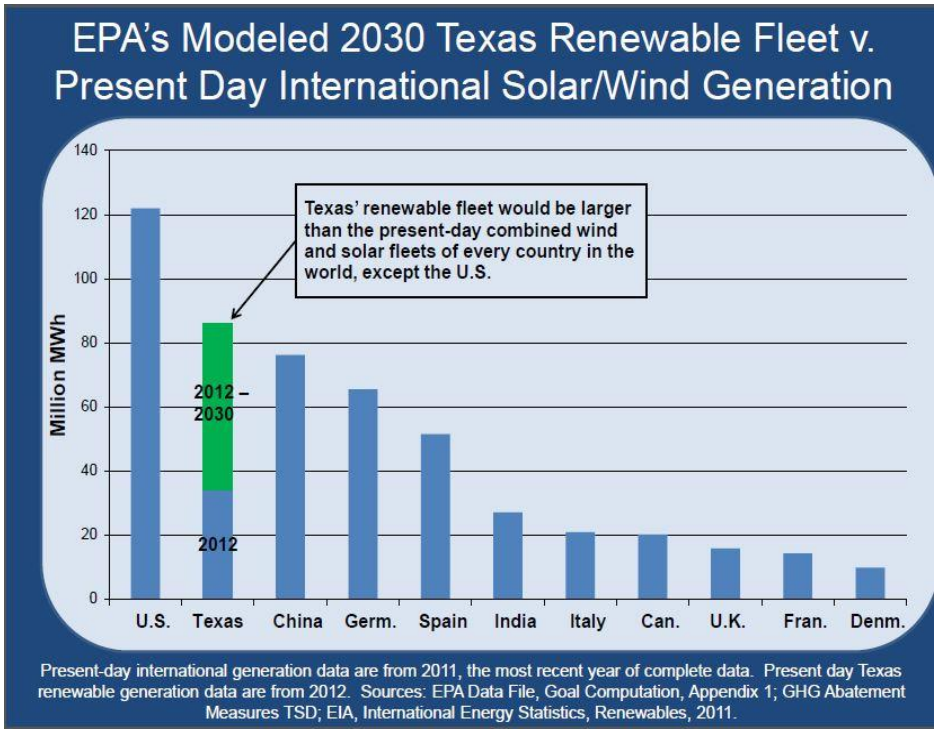
[29] The following slides are from Mike Nasi, Jackson Walker, LLP, *An Assessment of the Impact of EPA's 111(d) Rule (a.k.a. "Clean Power Plan") on Texas*, August 15, 2014, http://www.globalwarming.org/wp-content/uploads/2014/10/Nasi-Graphs-8_14PUCT1.pdf



Although Texas already has more installed wind capacity than any other state, the CPP assumes Texas will grow its renewable fleet by an additional 153% in just 14 years while the next largest renewable fleet – California's – grows by only 37%.



Astonishingly, by 2030 Texas will have more installed wind and solar capacity than any other nation in the world today except the United States.



For Texas, the CPP is a recipe for economic and political decline. A more costly, less reliable electric supply system will make the State's energy-intensive industries — manufacturing and oil & gas production — less competitive, less profitable, and less attractive to investors. A weakened economy means fewer jobs, slower population growth, and less influence in national politics. At the same time, Texas's energy policies will increasingly resemble those of California. Those are not 'choices' Texans would make if given a real choice.

In general, to meet their CPP targets, some states without renewable energy mandates will have to adopt them; some with renewable energy quota or tax incentives will have to increase them. In many states, grid operators will have to replace traditional "economic dispatch" with "low-carbon dispatch," giving priority to generating units with the lowest emissions rather than those with the lowest cost. In many states, policymakers will have to adopt new or more aggressive electricity demand-reduction programs. EPA helpfully observes that cap-and-trade programs, especially if administered through multi-state compacts, can facilitate compliance.[30]

Equally troubling, once EPA approves a state's plan to achieve its CPP targets, the state would not be able to change course without violating federal law (assuming for the moment the CPP is legal). States that commit to adopt (or tighten) emission caps, renewable energy quota, low-carbon dispatch rules, or

[30] 79 FR 34834

demand-reduction incentives, could not lawfully repeal those policies even if future legislatures want to.[31]

The CPP's vaunted "flexibility" allows only new regulation, not de-regulation. Through this lock-in of EPA-approved policies, the CPP empowers today's legislature to bind future legislatures – contrary to democratic principle.[32] More accurately, the CPP empowers today's EPA to bind the policy choices of tomorrow's electorates.

We have no inside information on EPA's thought process, but it does seem obvious that if EPA can cartelize state energy *policies*, it can also transform national energy *politics*. If, with EPA's encouragement, state and regional cap-and-trade programs sprout like mushrooms, and all states adopt renewable energy quota, opinion would almost certainly shift on Capitol Hill. What's more, over the next 15 years, many House and Senate candidates will come from state governments that are 'cooperating' with EPA.

Thus, the CPP appears to be more than just another power grab.[33] It is potentially an Archimedean Lever. The CPP could empower EPA not only to bypass Congress, but also to transform American politics.

For the CPP to be a vehicle of political transformation, of course, courts must find it to be legal. We doubt they will.

IV. The CPP Is Unlawful

(a) The Carbon Pollution Standard Rule – the CCP's Prerequisite – Is Invalid.

Under CAA §111(d), EPA must promulgate performance standards for new sources before it can promulgate performance standards for existing sources. The Carbon Pollution Standard (CPS) rule is the prerequisite for the CPP. The CPP cannot stand if the CPS rule falls. The CPS rule is unlawful in several ways.

1. CCS Is Not Adequately Demonstrated.

[31] Written Testimony of Commissioner Tony Clark, Federal Energy Regulatory Commission, Before the Committee on Energy and Commerce, Subcommittee on Energy and Power, *Hearing on FERC Perspective: Questions Concerning EPA's Clean Power Plan and other Grid Reliability Challenges*, July 29, 2014, http://docs.house.gov/meetings/IF/IF03/20140729/102558/HHRG-113-IF03-Wstate-ClarkT-20140729.pdf

[32] *United States v. Winstar Corp. et al.* (95-865), 518 U.S. 839 (1996), quoting Blackstone: "Acts of parliament derogatory from the power of subsequent parliaments bind not. . . . Because the legislature, being in truth the sovereign power, is always of equal, always of absolute authority: it acknowledges no superior upon earth, which the prior legislature must have been, if its ordinances could bind the present parliament." 1 W. Blackstone, *Commentaries on the Laws of England* 90 (1765); http://www.law.cornell.edu/supct/html/95-865.ZO.html

[33] Marlo Lewis, "EPA Regulation of Fuel Economy: Congressional Intent or Climate Coup?" *Engage* Volume 12, Issue 3, January 2012, http://www.fed-soc.org/publications/detail/epa-regulation-of-fuel-economy-congressional-intent-or-climate-coup

The CPS rule sets an NSPS of 1,100 lbs. CO_2/MWh for new coal power plants. Since even state-of-the-art coal power plants emit 1,800 lbs. CO_2/MWh,[34] the rule is a de-facto fuel-switching mandate and ban on investment in new coal generation.

Congress, of course, never intended for the CAA to prohibit construction of coal power plants. EPA, however, claims new coal plants can affordably meet the standard by installing "partial" carbon capture and storage (CCS) technology. Thus, for new coal power plants, EPA defines partial CCS as the "adequately demonstrated" "best system of emission reduction" (BSER), taking "cost" into account.

CCS, however, is not adequately demonstrated, and obviously so. No commercial, utility-scale CCS power plant is currently operating. Several are under construction but all depend on generous subsidies for their development.

Current CCS technologies are even less adequately demonstrated today than dry scrubbers were as a sulfur dioxide (SO_2) control technology in 1979, when EPA and courts deemed the technology not commercially viable. The chart below is from an analysis by William Yeatman of the Competitive Enterprise Institute.[35]

Table 1: Comparison of Control Technologies in U.S., Scrubbers Then vs. CCS Now

	Wet Scrubbers (1971)	Dry Scrubbers (1979)	CCS (2013)
Operational	3 power plants (695 MW)	0 power plants (0 MW)	0 power plants (0 MW)
Financing Complete/ Construction Underway	17 power plants (3300 MW)	3 power plants (1350 MW)	1 power plant (540 MW)
Subsidy Recipient? (Y/N)	NO	NO	YES
Deemed Commercially Viable by EPA/Courts? (Y/N)	YES	NO	???

2. The CCS Mandate Is Exorbitant

When setting a performance standard, EPA is to take "cost" into account. The D.C. Circuit Court of Appeals has interpreted that requirement to mean that a performance standard may not be "exorbitantly" expensive (*Essex Chemical Corp. v. Ruckelshaus*, 486 F. 2d 427 at 433, D.C. Cir. 1973).[36]

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[34] 79 FR 1488

[35] William Yeatman, "Debunking the False Link between EPA's Carbon Pollution Standard and Requirements in the 1970s for Sulfur Scrubbers," GlobalWarming.Org, December 5, 2013, http://www.globalwarming.org/2013/12/05/debunking-the-false-link-between-epas-carbon-pollution-standard-and-requirements-in-the-1970s-for-sulfur-scrubbers/

[36] Available at http://openjurist.org/486/f2d/427

EPA claims "partial" CCS is comparable in cost to other non-NGCC options.[37] However, the utility-scale partial CCS plant nearest to completion is the Kemper Project in Mississippi. The facility's cost has increased from an initial estimate of $2.2 billion to $6.1 billion.[38] Based on Energy Information Administration (EIA) data, the Kemper Project is 88% to 107% more expensive than advanced pulverized coal plants and 496% more expensive than advanced NGCC power plants.

Table 1. Updated estimates of power plant capital and operating costs

	Plant Characteristics		Plant Costs (2012$)			
	Nominal Capacity (MW)	Heat Rate (Btu/kWh)	Overnight Capital Cost ($/kW)	Fixed O&M Cost ($/kW-yr)	Variable O&M Cost ($/MWh)	NEMS Input
Coal						
Single Unit Advanced PC	650	8,800	$3,246	$37.80	$4.47	N
Dual Unit Advanced PC	1,300	8,800	$2,934	$31.18	$4.47	Y
Single Unit Advanced PC with CCS	650	12,000	$5,227	$80.53	$9.51	Y
Dual Unit Advanced PC with CCS	1,300	12,000	$4,724	$66.43	$9.51	N
Single Unit IGCC	600	8,700	$4,400	$62.25	$7.22	N
Dual Unit IGCC	1,200	8,700	$3,784	$51.39	$7.22	Y
Single Unit IGCC with CCS	520	10,700	$6,599	$72.83	$8.45	N
Natural Gas						
Conventional CC	620	7,050	$917	$13.17	$3.60	Y
Advanced CC	400	6,430	$1,023	$15.37	$3.27	Y

Source: EIA (2013)[39]

Even with subsidies, a utility building a coal CCS power plant exposes its investors to considerable financial risk. Bloomberg reports:

> The increased Kemper County costs will crimp third-quarter profit by $258 million, the company said today. The project has already surged past the $2.88 billion limit that can be billed to customers under an agreement with Mississippi regulators. Today's charge adds to $963 million shareholders have already shouldered from project cost overruns in four of the prior six quarters.[40]

And any future CCS plants, particularly if constructed without subsidies, would likely impose greater costs on ratepayers, as well.

3. The Standard Is Not Achievable.

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[37] 79 FR 1436

[38] Jim Polson and Mark Chediak, "Southern Clean Coal Project Cost Almost Triple on Delays," Bloomberg, October 28, 2014, http://www.bloomberg.com/news/2014-10-28/southern-clean-coal-project-cost-almost-triple-on-delays.html

[39] Energy Information Administration, *Capital Cost Estimates for Utility Scale Electric Generating Plants*, Table 1, p. 6, April 2013, http://www.eia.gov/forecasts/capitalcost/pdf/updated_capcost.pdf

[40] Polson and Chediak, Op Cit.

EPA claims partial CCS costs "are comparable to costs of other non-NGCC technologies," whether or not opportunities exist to sell the captured CO_2 to oil companies for use in enhanced oil recovery (EOR) operations.[41] That assessment conflicts with the track record of the Kemper Project discussed above. More broadly, since no utility-scale CCS power plants are currently being built without subsidies, EOR-related revenues are likely essential to the commercial viability of non-subsidized plants.

As EPA acknowledges, "The use of CO_2 for EOR can significantly lower the net cost of implementing CCS. The opportunity to sell the captured CO_2 for EOR, rather than paying directly for its long-term storage, improves the overall economics of the new generating unit." [42] EPA also reports that, "According to the International Energy Agency (IEA), of the CCS projects under construction or at an advanced stage of planning, 70 percent intend to use captured CO_2 to improve recovery of oil in mature fields."[43]

Based on the foregoing information, it is reasonable to assume that few if any CCS plants financed solely with private capital will be built in states where the geology is unsuitable for EOR operations.

CAA §111(a) requires that performance standards be "achievable." The D.C. Circuit Court of Appeals has interpreted the term to mean *achievable for the industry as a whole* (*National Lime Association V. EPA*, 627 F. 2d 416 at 443). EPA identifies only 12 states with significant EOR operations.[44] Coal power plants not located in relative proximity to oil fields would not have a market for their captured CO_2. Hence, the proposed standard is not achievable.

4. The Standard Conflicts with the 2005 Energy Policy Act.

EPA features four CCS projects (at varying stages of development) to make the case that the technology is "adequately demonstrated." However, the 2005 Energy Policy Act[45] prohibits EPA from basing an "adequately demonstrated" determination on CCS projects that received subsidies under the Act.[46] As it happens, three of the projects EPA cites did receive such subsidies. The fourth project is also subsidized, albeit by the Canadian government. Subsidized projects are an inappropriate basis for deeming CCS to be adequately demonstrated.

That is not just our opinion. It is also the viewpoint of Southern Company, which received a $270 million Department of Energy (DOE) grant[47] for its Kemper, Mississippi, CCS project. Southern Company spokesman Tim Lejedal stated in March: "The Kemper County Energy Facility should not serve as a

[41] 79 FR 1436
[42] 79 FR 1474
[43] Ibid.
[44] 79 FR 1474
[45] 42 U.S.C. 15962(i), http://www.gpo.gov/fdsys/pkg/USCODE-2009-title42/pdf/USCODE-2009-title42-chap149-subchapIV-partA-sec15962.pdf
[46] Reps. Fred Upton, Ed Whitfield, Joe Barton, and Steve Scalise, Letter to the Honorable Gina McCarthy, November 25, 2013, http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/letters/20131115EPA.pdf
[47] MIT CCS Project Database, Kemper County IGCC Fact Sheet: Carbon Dioxide Capture and Storage Project, (accessed 11/20/2014) https://sequestration.mit.edu/tools/projects/kemper.html

primary basis for new emissions standards impacting on all new coal-fired power plants."[48] He also cautioned: "The revised new source performance standards would essentially eliminate coal as a future generation option."

5. Any CCS Power Plants Actually Built Will Likely Increase Net Emissions.

As explained above, most CCS power plants (if any are built at all) will offset their costs by selling captured CO_2 to EOR operations. EPA, however, does not perform a life-cycle analysis to net out the CO_2 injected underground to increase oil production against the additional CO_2 emitted when the recovered oil is combusted. Fortunately, a DOE National Energy Technology Laboratory (NETL) analysis allows us to make a ballpark estimate.

According to NETL:

> Nearly 20 billion metric tons of CO_2 will need to be purchased by CO_2-EOR operators to recover the 67 billion barrels of economically recoverable oil. Of this, about 2 billion metric tons would be from natural sources and currently operating natural gas processing plants. The remainder of the CO_2 demand (18 billion metric tons) would need to be provided by anthropogenic CO_2 captured from coal-fired power plants and other industrial sources.[49]

According to EPA, combusting one barrel of oil emits, on average, 0.43 metric tons of CO_2.[50] Combining that conversion factor with NETL's analysis, we get the following results.

- Injecting 20 billion metric tons of CO_2 underground in EOR operations produces 67 billion gallons of oil that, when combusted, emits 28.81 billion metric tons of CO_2.
- Even assuming no leakage from fugitive emissions, EOR produces 1.41 tons of CO_2 emissions for every ton sequestered.

The most economical (or least uneconomical) CCS power plants – those generating revenue from EOR operations – would be *counter-productive as an emission-control strategy*. A technology that, in commercial practice, increases rather than reduces emissions is, by definition, not a "best system of emission reductions." Consequently, EPA may not lawfully base a CO_2 performance standard on partial CCS.

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[48] Suzanne Goldenberg and Tim McDonnell, "Can This Coal Plant Save the Planet?" *Mother Jones*, March 12, 2014, http://www.motherjones.com/environment/2014/03/carbon-capture-coal-plant-EPA-mississippi

[49] National Energy Technology Laboratory, *Improving Domestic Energy Security and Lowering CO2 Emissions with "Next Generation" CO_2-Enhanced Oil Recovery (CO_2-EOR)*, June 20, 2011, DOE/NETL-2011/1504 Activity 04001.420.02.03, http://netl.doe.gov/File%20Library/Research/Energy%20Analysis/Publications/DOE-NETL-2011-1504-NextGen_CO2_EOR_06142011.pdf

[50] EPA, Calculations and References: Barrels of Oil Consumed (accessed November 24, 2014), http://www.epa.gov/cleanenergy/energy-resources/refs.html.

Until and unless EPA promulgates valid CO_2 performance standards for new power plants, it may not promulgate CO_2 performance standards for existing power plants. The legal prerequisite for the CPP does not exist.

(b) CAA §111(d) Prohibits EPA from Establishing Existing Source Performance Standards for Sources Already Regulated under §112.

The very provision under which EPA is promulgating the CPP, CAA §111(d), prohibits EPA from requiring ESPS for source categories regulated under §112. Power plants have been regulated under §112 since December 2011, when EPA finalized the Mercury Air Toxics Standards (MATS) rule.[51] EPA therefore lacks authority to require states to establish ESPS for power plants.

To sidestep that prohibition, EPA's legal memorandum[52] makes the following argument:

1. The House and Senate passed different "versions" of §111(d) in the 1990 CAA Amendments. The House-passed version is the one included in the U.S. Code, but both versions are in the Statutes at Large and, thus, both are valid law.
2. While the House-passed version prohibits 111(d) regulation of any pollutant "emitted from a source category" regulated under §112, the Senate-passed version prohibits 111(d) regulation of "any air pollutant" listed as a hazardous air pollutant (HAP) under §112(b), whether or not EPA is actually regulating sources of those pollutants under §112.
3. Since CO_2 is not a HAP, the Senate-passed version authorizes 111(d) regulation of CO_2 emissions from existing power plants.
4. Because the two versions "conflict," the law is "ambiguous," so EPA must use its judgment to determine what the provision means.
5. In EPA's judgment, elements of the two versions should be combined such that §111(d) may not regulate any HAP from a source category actually regulated under §112.

EPA's argument is incorrect. There are not two "versions" of §111(d), because the Senate entry in the Statutes at Large is a drafting error. And even if both amendments were valid, their prohibitions are complementary rather than conflicting, so EPA is still barred from regulating existing power plants under §111(d).

EPA's legal memorandum is based on the legal analysis the agency conducted for its 2005 Clean Air Mercury Rule. As EPA acknowledges in that analysis, the Senate entry in the Statutes at Large is a "conforming amendment" (a clerical revision); in contrast, the House-passed version is a "substantive"

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[51] EPA, *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; Final Rule*, 77 FR 9304-9513, February 16, 2012, http://www.gpo.gov/fdsys/pkg/FR-2012-02-16/pdf/2012-806.pdf

[52] EPA, *Legal Memorandum for Proposed Carbon Emission Guidelines for Existing Electric Utility Generating Units*, pp. 20-27 (hereafter Legal Memorandum), http://www2.epa.gov/sites/production/files/2014-06/documents/20140602-legal-memorandum.pdf

amendment.[53] A conforming amendment, which is not intended to change the law, should not be given equal weight with a substantive amendment, which is intended to effect a change in legislative policy. In any event, EPA acknowledges that the Senate-passed version "appears" to be a "drafting error and should not be considered." EPA comments: "It is hard to conceive that Congress would have adopted section 112(n)(1)(A), yet retained the Senate amendment to section 111(d)."[54]

EPA offers no further explanation, but we too find retention of the Senate amendment "hard to conceive." CAA §112(n)(1)(A) requires EPA to regulate power plants as a *HAP source category* only if the Administrator determines, through a multi-year study, that such regulation is "appropriate and necessary" after "imposition" of other CAA "requirements." The Administrator might determine, for example, that regulations promulgated under the Title IV acid deposition program supplemented by §111 performance standards would adequately control HAP emissions from power plants. The Senate's conforming amendment, which prohibits 111(d) regulation of HAPs, would prejudge the issue and preclude that option.

More tellingly, as nine state attorneys general argue in a recent amicus brief, the Senate's conforming amendment is "clearly" a drafting error "because it sought to make a clerical correction to Section 111(d) rendered unnecessary by a superseding substantive amendment."[55] Specifically, the Senate amendment attempts to update a cross reference to "§112(b)(1)(A)" in the pre-1990 §111(d) by replacing it with "§112(b)." However, the AGs point out, other substantive amendments already eliminated §112(b)(1)(A), rendering the Senate's amendment unnecessary and inapplicable:

> But this clerical entry was clearly included by mistake and cannot possibly cast any doubt on the plain terms of Section 111(d) in the U.S. Code. When this conforming amendment is applied after all the substantive amendments, as is required by basic legislative drafting rules, it is no longer necessary. The cross-reference to subsection 112(b)(1)(A) that this second, non-substantive entry is designed to conform has already been removed by the first, substantive entry — and replaced, as discussed above, by the language that now appears in the U.S. Code. That is why the U.S. Code includes the notation that the clerical entry here "could not be executed." Revisor's Note, 42 U.S.C. § 7411.[56]

Moreover, even if the Senate amendment were not a drafting error, there is no conflict between prohibiting regulation of *pollutants* and prohibiting regulation of *sources*. As one commentator has

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[53]EPA, *Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants from Electric Utility Steam Generating Units and the Removal of Coal- and Oil-fired Electric Utility Steam Generating Units from the Section 112(c) List*, 6560-50-P, pp. 187, 192, http://www.epa.gov/camr/pdfs/camr_final_regfinding.pdf

[54] Ibid., p. 193

[55] In Re: Murray Energy Corporation, BRIEF OF THE STATES OF WEST VIRGINIA, ALABAMA, ALASKA,KENTUCKY, NEBRASKA, OHIO, OKLAHOMA, SOUTH CAROLINA, AND WYOMING AS *AMICI CURIAE* IN SUPPORT OF THE PETITIONER, June 25, 2014, p. 9, available at William Yeatman, "Primer: The Ongoing Controversy over Whether Clean Air Act §111(d) Authorizes EPA's Clean Power Plan," GlobalWarming.Org, July 2, 2014, http://www.globalwarming.org/2014/07/02/primer-the-ongoing-controversy-over-whether-clean-air-act-%C2%A7111d-authorizes-epas-clean-power-plan/

[56] Ibid., p. 15

explained, the substantive amendment originating in the House is a deregulatory provision that precludes existing sources from being hit by the double-punch of §112 and §111(d). To the extent the Senate amendment were purposeful, it would unambiguously have been intended to preserve §112 as the exclusive mechanism for regulating hazardous air pollutants under the Act.[57] Hence there would be no ambiguity authorizing EPA to tamper with the U.S. Code. If both entries are valid, then EPA must give effect to both prohibitions. In other words, EPA may apply §111(d) neither to HAPs listed under §112(b) nor to source categories regulated under §112.

(*c) Congress Did Not Intend for EPA to Regulate Ubiquitous Air Pollutants under §111(d).*

Over the past 40 years, EPA has used §111(d) to regulate a total four pollutants from five source categories. As EPA's 1975 implementing regulation explains,[58] the provision was intended as a backstop to catch whatever pollutants fall between the cracks of the §§108-110 national ambient air quality standards (NAAQS) program and the §112 hazardous air pollutants (HAPs) program. That is, §111(d) was designed to cover pollutants that were neither emitted by "numerous or diverse mobile or stationary sources" nor hazardous enough to require application of maximum achievable control technology (MACT).

Carbon dioxide is obviously not a HAP, but it, more than any other substance regulated under the CAA, is emitted by numerous *and* diverse mobile *and* stationary sources. So why doesn't EPA instead propose to establish NAAQS for CO_2? In December 2009, the Center for Biological Diversity and 350.Org petitioned EPA to establish NAAQS for CO_2 and other greenhouse gases.[59] Attorney Eric Groten reasonably opines that, for political reasons, neither EPA nor petitioners want to pursue the issue:

> No doubt both sides of that transaction fear reaping the whirlwind, and perhaps even the overruling of *Massachusetts v. EPA*, 494 U.S. 497 (2007), as embarking on a GHG NAAQS no doubt would expose the error in Justice Stevens' assumption that "EPA jurisdiction [over GHG] would lead to no such extreme measures" as had precipitated earlier Supreme Court rulings rejecting grand agency claims of authority absent clear Congressional delegation.[60]

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[57] William J. Haun, *The Clean Air Act as an Obstacle to the Environmental Protection Agency's Anticipated Attempt to Regulate Greenhouse Gas Emission from Existing Power Plants*, http://www.usclimatepartnership.org/documents/03.2013_CleanAirActasanObstacle_FederalistSociety.pdf

[58] 40 FR 53340

[59] Center for Biological Diversity, 350.Org, *Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act*, December 2, 2009, http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf

[60] Eric Groten, "Here Be Dragons: Legal Threats to the ESPS Proposal," *Vinson & Elkins Climate Change Report*, September 2014 Issue 22, p. 9, fn. 64, http://www.velaw.com/uploadedFiles/VEsite/Resources/ClimateChangeReportESPSSpecialIssueSeptember2014.pdf#Art2

It is because EPA does not want to follow the logic of *Mass. v. EPA* to its politically-explosive conclusion that it now attempts to misuse §111(d) to impose broad, NAAQS-like implementation plans on state electric power sectors.

Carbon dioxide is the most pervasive byproduct of industrial civilization, making it a complete mismatch for §111(d) regulation. EPA's 1975 implementing rule states that 111(d) pollutants are "highly localized and thus an extensive procedure, such as the [NAAQS] SIPs require, is not justified."[61] Section 111(d), Groten observes, was "intended to pick up isolated, industry-specific pollution issues (e.g., fluorides from phosphate fertilizer plants, of which there are fewer than 35 scattered around the U.S.)." It was not intended to cover emissions from a "source category" as "broad and well-populated" as the complex, grid-linked network that comprises a state's electric sector.

(d) BSER for CO_2 from Existing Power Plants Does Not Exist.

As noted, CAA §111(a) defines "performance standard" as a standard that "reflects the best system of emission reduction" (BSER) that has been "adequately demonstrated," taking "cost" into account. Per §111(d), states are to adopt ESPS for "particular sources." Per EPA's 1974 and 1975 procedural regulations, ESPS apply to "designated pollutants" from "designated facilities."[62] EPA has promulgated only five 111(d) ESPS rules since Congress amended the CAA in 1970.[63] In each case, following the Act's plain language and the implementing regulations, EPA required states to adopt ESPS for "designated air pollutants" from "designated facilities" (e.g. acid mist from sulfuric acid production plants). And in each case, BSER consisted of one or more facility-specific technologies.

From those elementary facts alone, the unlawfulness of the CPP is evident. Economical technologies to capture or filter CO_2 emissions from existing power plants do not exist. EPA claims partial CCS is the adequately demonstrated BSER for new coal power plants — a highly dubious proposition, as explained above. But EPA acknowledges that retrofitting existing coal power plants with CCS is too costly to pass muster as "adequately demonstrated."[64] EPA also states that CCS is not an economic technology for NGCC power plants.[65]

EPA, however, refuses to face the obvious implication of those assessments: *There is no "adequately demonstrated" BSER for CO_2 emissions from existing power plants*. Hence, the agency may not lawfully regulate CO_2 emissions from existing power plants under §111(d).

(e) The CPP Unlawfully Treats State Power Sectors as Existing Sources.

To get around the fact that affordable technologies to control CO_2 emissions from existing sources are not available, the CPP proposes to require CO_2-emission rate standards for entire state power sectors

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[61] 40 FR 53342
[62] 39 FR 36102; 40 FR 53340
[63] Available at: William Yeatman, "Primary Document Dump Fridays: Deep Background into EPA's Impending Climate Plan for Existing Power Plants," May 23, 2014, http://www.globalwarming.org/2014/05/23/primary-document-dump-fridays-deep-background-into-epas-impending-climate-plan-for-existing-power-plants/
[64] 79 FR 34876
[65] Ibid.

rather than for specific designated facilities. In other words, the CPP *treats each state's power sector as an existing source*. That is contrary to the text of §111(d), EPA's 1974-1975 implementing regulations, and historical practice, all of which leave no doubt that an "existing source" is a "particular source,"[66] i.e., a "designated facility," not an entire economic sector or interconnected marketplace.

Under §111, an "existing source" is a "stationary source," which §111(a)(3) defines as "any building, structure, facility, or installation which emits or may emit any air pollutant." Obviously, a state's electric power sector is not any such individual physical object.

CAA §111(d)(a)(ii) requires states to adopt performance standards for any existing source "to which a standard of performance under this section would apply if such existing source were a new source." The question leaps to mind: If a state's entire power sector is an existing source, what is the corresponding new source to which a standard of performance already applies? Obviously, there isn't any! No state has a brand new power sector and, barring some Sci-Fi catastrophe that compels a state to rebuild its electric supply system from scratch, none ever will.

Granted, EPA has proposed CO_2 performance standards for new coal and new NGCC power plants. But even if, contrary to our analysis, the CPS rule is legal, that would still only authorize EPA to require performance standards for existing coal and NGCC power plants, not for a state's entire electric power sector.

The CPP flouts directly relevant case law. In *ASARCO Inc. v EPA* 578 F.2d 319 (1978),[67] the D.C. Circuit Court of Appeals struck down an NSPS rule in which EPA claimed flexibility to define a stationary source as "either an individual facility or combination of facilities" comprising an "entire plant." Agreeing with Sierra Club, the court ruled that a source is a "single building, structure, facility, or installation," and EPA "has no authority to rewrite the statute in this fashion." Groten comments: "And so EPA may not even define the 'stationary source' for section 111 purposes as an entire plant, much less as an entire state."[68]

(f) The CPP Conflicts with EPA's Implementing Regulation.

The CPP deviates from EPA's 1975 implementing regulation in two main ways. First, as discussed above, whereas the implementing rule interprets §111(d) as authority to control "highly localized" pollutants from "designated facilities," the CPP interprets §111(d) as authority to control the world's most ubiquitous emission byproduct from an entire economic sector.

Second, whereas the implementing rule authorizes the division of new-source categories into existing-source subcategories in order to match designated facilities to appropriate pollution control standards, the CPP aggregates sources from different categories and mixes in non-sources outside of any category to maintain the fiction that a state power sector is an existing source.

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[66] CAA §111(d)(1)(B)
[67] Available at http://openjurist.org/578/f2d/319
[68] Groten, Op Cit., p. 15

The 1975 implementing regulation argues that numerous time- and place-specific circumstances constrain the performance capabilities of existing sources, which therefore should be sub-categorized for the purpose of setting standards:

> In addition, the regulations have been amended to make clear that the Administrator will specify different emission guidelines for different sizes, types, and classes of designated facilities when costs of control, physical limitations, geographical location, and similar factors make sub-categorization appropriate [§60.22(b)(5)]. Thus, while there may be only one standard of performance for new sources of designated pollutants, there may be several emission guidelines for designated facilities based on plant configuration, size, and other factors peculiar to existing facilities.[69]

Lest anyone doubt the appropriateness of sub-categorizing existing sources, the regulation later states:

> Finally, as discussed elsewhere in the preamble, EPA's emission guidelines will reflect sub-categorization within source categories where appropriate, taking into account differences in sizes and types of facilities and similar considerations, including differences in control costs that may be involved for sources located in different parts of the country. Thus, EPA's emission guidelines will in effect be tailored to what is reasonably achievable by particular classes of existing sources . . .[70]

The CPP pursues an opposite approach. It aggregates coal power plants, NGCC power plants, nuclear power plants, wind and solar power plants, grid managers, and even retail consumers into a vast, unnamed grab-bag category for the purpose of setting a 'performance standard' (actually an emissions cap) for an entire state.

This won't fly. Courts will compare the CPP to EPA's implementing regulation and wonder how the same agency could read §111(d) so differently. Courts will have no difficulty seeing the CCP for what it is: an extreme case of agenda-driven regulation.

(g) The CPP Unlawfully Defines BSER as a Wish-List of 'Green' Energy Policies.

Again, to improvise around the fact that "demonstrated" technologies to control CO_2 emissions from existing sources are not available, the CPP proposes to define BSER as a mix of *policies* for changing how electricity is produced, managed, and consumed in each state.

Specifically, the Plan defines BSER as four "Building Block" strategies for reducing CO_2 emissions:

1. Improve heat rates (Btus/KWh) at coal-fired power plants.
2. Substitute NGCC generation for coal generation to supply base load power.
3. Substitute renewable generation and nuclear power for both coal and NGCC.
4. Reduce industrial, commercial, and residential electricity demand.

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[69] 40 FR 53341
[70] 40 FR 53343

Building Block 1 is a technology-based, facility-specific compliance option. In that respect, it resembles previous §111(d) rules. Yet even Building Block 1 deviates from previous 111(d) rules, which base ESPS on particular control technologies,[71] not on incremental efficiencies achieved through best practices. Moreover, as the North American Electric Reliability Corporation observes, "in many states plant efficiencies have already been realized and economic heat-rate improvements have been achieved."[72] In those states, achieving additional improvement in thermal efficiency would be infeasible or uneconomical and, thus, should not be considered BSER.

But at least Building Block 1 is "inside-the-fence-line," like previous BSER policies. So why isn't it the sum and substance of the CPP? Because improved thermal efficiency alone would at most reduce CO_2 emissions by only a few percentage points.[73] And EPA wants BIG reductions (big in terms of market impact, although negligible in climate impact, as explained below). To de-carbonize electric-power sectors, EPA must require states to regulate numerous entities and activities "beyond-the-fence-line," up to and including retail electricity consumers.

Again, nothing in the statutory text, EPA's implementing regulations, or past practice gives any indication Congress authorized EPA to control state policies regarding renewable energy, electricity dispatch, or demand management. As the Virginia State Corporation Commission (VSCC) staff observe in their comment letter, "existing sources" under §111(d) cannot include "homeowners and retail customers that neither generate any power nor produce emissions." EPA has no authority to control state regulation of such persons and entities "simply because there is a relationship between customer load and the level of generation needed to serve that load." [74]

(h) Curbing Production Is Not a "Best System of Emission Reductions."

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[71] The five previous §111(d) rules used the following technologies to determine BSER: scrubbers (EPA, *Final Guideline Document: Control of Fluoride Emissions from Phosphate Fertilizer Plants*, EPA-450/2-77-005, March 1977, http://www.globalwarming.org/wp-content/uploads/2014/05/Phosphate-fertilizer.pdf); particle absorbers, mist eliminators (EPA, *Final Guideline Document: Control of Sulfuric Acid Mist Emissions from Existing Sulfuric Acid Production Units*, EPA-450/2-77-019, September 1977, http://www.globalwarming.org/wp-content/uploads/2014/05/Sulfuric-Acid-mist.pdf); scrubbers, incinerators, washers (EPA, *Kraft Pulping: Control of TRS [Total Reduced Sulfur] Emissions from Existing Mills*, EPA-450-2-78-003b, March 1979, http://www.globalwarming.org/wp-content/uploads/2014/05/Kraft-pulping-mills.pdf); gas collection hoods (EPA, Primary Aluminum Draft Guidelines for Control of Fluoride Emissions from Existing Primary Aluminum Plants, EPA-450-2-78-049a, February 1979, http://www.globalwarming.org/wp-content/uploads/2014/05/aluminum.pdf); gas collection systems, combustors, open flare systems (EPA, *Standards of Performance for New Stationary Sources and Guidelines for Control of Existing Sources: Municipal Solid Waste Landfills*, 61 FR 9905-9944, March 12, 1996, http://www.gpo.gov/fdsys/pkg/FR-1996-03-12/pdf/96-5529.pdf).

[72] North American Electric Reliability Corporation, *Potential Reliability Impacts of EPA's Proposed Clean Power Plan: Initial Reliability Review,* November 2014, p. 2, http://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/Potential_Reliability_Impacts_of_EPA_Proposed_CPP_Final.pdf

[73] 79 FR 1435

[74] State Corporation Commission, Re: Proposed Clean Power Plan (EPA-HQ-OAR-2013-0602), October 14, 2014, pp. 9, 37, https://gallery.mailchimp.com/a8970db37d2569f1a2b65e59d/files/Virginia_SCC_Staff_Comments_on_Clean_Power_Plan.pdf

Building Block strategies 2-4 aim to reduce generation from coal. Historically, BSER "calls for emission reduction, not production reduction."[75] EPA identifies no precedent for defining 'use it less' as BSER under §111(d). EPA often claims its regulations benefit the economy, but here the rule would deliberately suppress output. The proposal's 'logic' leads to bizarre results. Groten explains:

> Yet no matter the source category, it always has been and forever will be true that not running a source of air pollution will reduce its emissions. Wouldn't running it less or not at all then be the BSER for a phosphate fertilizer plant? Or a Kraft pulp mill? Or any of the other categories for which EPA has developed ESPS? In fact, given that BSER is the objective of NSPS, as well, shouldn't EPA explore "you don't need to build that" as the BSER for all of these categories? Unless EPA is willing to claim that the CAA authorizes or perhaps even compels it—in the guise of BSER—to prepare Five-Year Plans for all U.S. industries, it cannot defend the notion that the statute authorizes it to do so here.[76]

A performance standard calibrated in lbs. CO_2/MWh is intended to improve a designated facility's *performance* by reducing emissions per unit of output. The CCP's core strategy, however, is to reduce emissions by decreasing the output (electric generation) of coal power plants. Decreasing output does not improve a source's performance and, thus, cannot qualify as BSER.

(i) The ESPS cannot be more stringent than, or regulate sources not covered by, the corresponding NSPS.

The CPP nationwide average emission performance goal for existing power plants in 2030 is 990 lbs. CO_2/MWH (our calculation based on EPA state-by-state targets).[77] That is below EPA's proposed NSPS for both new coal power plants (1,100 lbs. CO_2/MWh) and new NGCC power plants (1,000 lbs. CO_2/MWh). Roughly half the states' existing-source CO_2 performance targets are more stringent than the corresponding new source standards for either new coal or new NGCC.[78]

An ESPS that is more stringent than the corresponding NSPS is unheard of in the history of the CAA. It defies the logic and intent of §111(d), which is to use the experience gained from NSPS regulation to develop performance standards appropriate for the corresponding existing sources.[79]

Section 111(d) regulations "will ordinarily be less stringent than those required by standards of performance for new sources because the costs of controlling existing facilities will ordinarily be greater than those for controlling new sources," EPA's 1975 implementing regulation states.[80] The regulation implies that in infrequent cases, ESPS may be as stringent as NSPS. It clearly does not contemplate that ESPS will be more stringent.

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[75] Groten, Op Cit., p. 15
[76] Groten, Ibid., p. 16
[77] *Wall Street Journal*, "EPA Climate Rule, By the States," June 5, 2014, http://online.wsj.com/public/resources/documents/st_EPARULE20140605.html
[78] Groten, Op Cit., p. 18
[79] Ibid.
[80] 40 FR 53341

Indeed, ESPS that are more stringent than the corresponding NSPS are unreasonable. VSCC staff puts the point in a rhetorical question. Noting that Virginia's CPP target in 2030 (810 lbs. CO_2/MWh) is 26% below the NSPS for new coal power plants, staff asks:

> Would it be rational to require the current owners of automobiles or lawnmowers throughout Virginia, for example, to meet an emission standard that is 26% more stringent than required for the production of new cars or lawnmowers that must use the best available technology?[81]

To this we would add another rhetorical question: Would it be rational to require current owners of automobiles and lawnmowers to meet such standards on the grounds that "don't use it" and "end suburban sprawl" (i.e. restructure your community) are BSER building blocks?

The ESPS in the CPP are more stringent than EPA's proposed NSPS because the former require shifting base-load generation from coal to gas and from both to wind, solar, and nuclear. The ESPS also require reduced production achieved through changes in consumer demand. Thus, the ESPS regulate not only fossil-fuel power plants but also entities different from those regulated by the NSPS. Congress did not intend for §111(d) to operate in this way.

(i) EPA May Not Command the States to Do What It Has No Authority to Do.

Section 111(d)(2)(A) requires EPA to impose a federal ESPS plan when a state fails to adopt its own EPA-approved plan. By clear implication, EPA may only require ESPS that it can administer if a state can't or won't submit a satisfactory plan. EPA has no authority to enact state renewable energy mandates, fleet dispatch policies, or demand-reduction incentives. Hence ordering states to revise their energy policies is beyond EPA's authority as well. As Groten explains:

> While EPA certainly could adopt and impose emission limitations on "existing sources," it has no authority whatsoever to prescribe state-wide energy policy, as it is directing the states to do for themselves. EPA cannot identify in the CAA any provision that authorizes it to establish and enforce renewable portfolio standards (RPS), to make dispatch decisions, to provide rebates for programmable thermostats, or to undertake any of the other notions that it has for Blocks 2-4 of its "best system of emission reduction." And so those blocks must be outside of the options delegated to EPA by Congress under section 111.[82]

(j) The CAA Empowers States, not EPA, to Apply Appropriately Tailored Standards to Individual Sources.

Under some provisions of the CAA, EPA itself sets federal standards that apply directly to individual sources — for instance, under §112, or under §111(b), which empowers the agency to set performance standards for new sources. But under the §111(d) system, EPA is limited to establishing a procedure for states to submit plans under which the states will set performance standards for existing sources within their jurisdiction, taking into account plant-specific characteristics such as the remaining useful life of each facility. The states are expressly afforded this discretion by the statute, and the agency has

[81] State Corporation Commission, Op Cit., p. 10
[82] Groten, Ibid.

reflected this in its general regulations implementing the statute. Only if a state fails to submit a "satisfactory" plan may EPA impose its own, federal plan, and that federal plan may only remain in force until the state corrects its plan.

The current proposal upends this scheme by purporting to set binding and inflexible state "goals" in the form of statewide limits on CO_2 emissions for a state's entire power sector. This contradicts Congress's intent to respect and harness states' local knowledge. Even assuming that §111 contemplates beyond-the-fence, grid-wide "systems of emission reduction" — which, as explained above, it does not — Congress's design of the statute makes clear that it would never have wanted the agency to make the intensely detailed, state-specific projections of what each individual state can achieve through alteration of its energy policy.

It is telling that EPA does not invite states to submit proposals of what reductions they think are achievable from their existing sources. Instead, states are relegated to a purely ministerial role in achieving the limits handed down from the federal government. This gets §111 entirely backwards: 111(d) was designed to establish cooperative state-federal regulation, with less of a role for the federal government than under 111(b). The CPP imposes cookie-cutter regulation.

A case in point is the CPP's renewable energy goal computation for Virginia. The CPP assumes Virginia can obtain 16% of its generation from renewable sources by 2030. EPA gets that figure by *averaging* the *future* RPS requirements of *six other jurisdictions* in the "East Central" region: District of Columbia, Delaware, Maryland, New Jersey, Ohio, and Pennsylvania. But Virginia, by deliberate policy choice, does not have an RPS program. What those other jurisdictions aspire to do provides no knowledge of what is achievable in Virginia.[83]

In effect, EPA gives those jurisdictions authority to determine Virginia's electricity policies. But no state may lawfully dictate policy to another. "To foist in-state decisions upon other States, and to do so while ignoring the contrary decisions of other States, is arbitrary, capricious, and unlawful," the VSCC staff observes.[84]

If Virginia's renewable energy goal were based on local knowledge, it would be nowhere close to 16%. Regardless of aspirations expressed in other states' RPS programs, as of 2012, renewable generation in the East Central region ranged from only 1% to 3%, with Virginia at 3% for that year. "This is the level of renewable generation that has been adequately demonstrated in Virginia."[85]

Furthermore, even assuming those six states can achieve their RPS targets, taking a simple average of those targets is an inappropriate way to determine what is achievable in Virginia. The CPP's methodology ignores the fact that it is cheaper to obtain a given percentage of renewable electricity in jurisdictions with relatively little generation (D.C., Delaware, Maryland, New Jersey) than in states with much larger base loads (Pennsylvania, Ohio, Virginia, West Virginia). "There is no rational basis – legally

[83] State Corporation Council, Op Cit., p. 32
[84] Ibid.
[85] Ibid, p. 33

or mathematically – for giving such undue and unintended influence to certain legislatures at the expense of others, including Virginia."[86]

Stranger still, although Virginia has no RPS program, the State's Building Block 3 goal is at the top end for states in the region.[87] "Thus, even though EPA relies on the legislative determinations of States with renewable requirements to determine what is achievable across a region, the final result of EPA's calculation is that States with such requirements are actually expected to achieve less than Virginia, which has no renewable requirement."[88]

V. The CPP Will Cost More than EPA Estimates, Will Increase Electricity Prices, and Raises Reliability Concerns.

EPA estimates that in 2030, total CPP compliance costs are approximately $7.3 billion to $8.8 billion.[89] That estimate is implausibly low.

VSCC has been regulating electricity markets for more than 110 years to ensure reliable service at reasonable prices. They know whereof they speak. VSCC staff report that Dominion Power's Base Case Integrated Resource Plan already includes significant increases in nuclear, gas, and renewable generation, reducing CO_2 emissions by 28% below 2012 levels. EPA's proposal, however, requires Virginia to cut power-sector CO_2 emissions by 38% below 2012 levels in 2020 and 43% below in 2030.

VSCC staff estimate the CPP targets would require Dominion to spend an additional $5.5 billion to $6 billion. In other words, one utility's compliance costs in one state could be two-thirds or more of EPA's estimated compliance costs for the nation as a whole.

As a matter of common sense, it is hard to imagine how giving low-carbon generation priority over low-cost generation, and forcing states to replace economical coal capacity with more costly renewable and nuclear generation would not increase electric rates.

EPA claims that although electric *rates* may go up, electric *bills* will go down, because improved efficiencies will cut overall electricity consumption.[90] VSCC staff is deeply skeptical of such reasoning:

> The Virginia SCC Staff is unaware of any electric energy efficiency resource deployable in Virginia that both: 1) has a cost less than its associated avoided variable operating costs, and 2) is scalable to a level that would meet the Proposed Regulation. While energy efficiency may possibly be a least cost measure for addressing some portion of the Proposed Regulation, it is

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[86] Ibid., p. 34

[87] The CPP final renewable energy goals for the East Central region are: Delaware, 12%; Maryland, 16%; New Jersey, 16%; Ohio, 11%; Pennsylvania, 16%; Virginia, 16%; West Virginia, 14%. See chart at http://www.globalwarming.org/wp-content/uploads/2014/10/Clean-Power-Plan-State-Renewable-Goals.jpg

[88] State Corporation Commission, op cit., p. 34

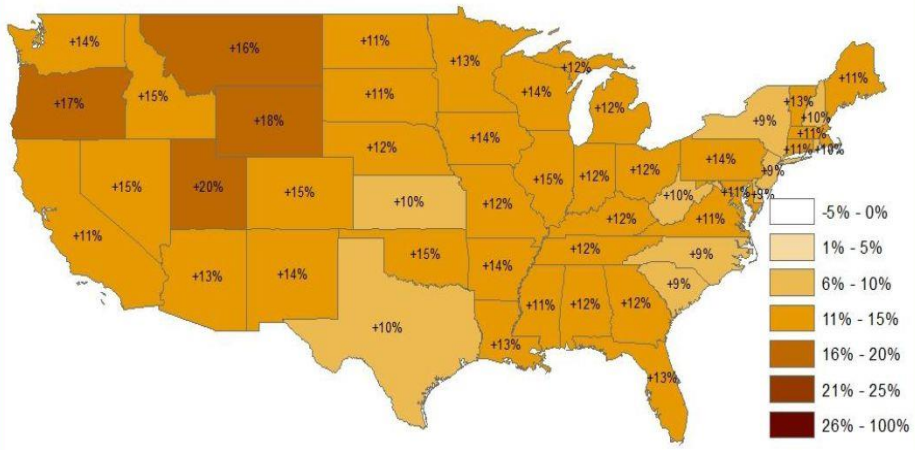
[89] 79 FR 34839

[90] EPA, *Regulatory Impact Analysis for the Proposed Carbon Pollution Guidelines for Existing Power Plants and Emission Standards for Modified and Reconstructed Power Plants [hereafter RIA]*, 3-43, http://www2.epa.gov/sites/production/files/2014-06/documents/20140602ria-clean-power-plan.pdf

extremely unlikely that energy efficiency can both reduce aggregate bills and produce compliance given the Mandatory Goals proposed for Virginia.[91]

NERA Economic Consulting similarly projects higher implementation costs than EPA's estimate, and anticipates adverse consumer impacts. According to NERA, the CPP will cost state power sectors $41 billion in 2030 and $336 billion over 15 years.[92] Thus, implementation costs could be approximately 465% to 560% higher in 2030 than EPA's estimate. NERA also projects double-digit increases in electricity rates in 43 states.[93]

Figure 17: State All Sectors Delivered Electricity Price Impacts of State Unconstrained (BB1-4) Scenario (Annual Average, 2017-2031)



Source: NERA calculations as explained in text.

NERA acknowledges that CPP-mandated efficiencies will decrease consumption, but not enough to reduce electric bills. NERA estimates a net increase in electricity costs of $34 billion per year from 2017 through 2031.[94]

Common sense also suggests that prematurely retiring large quantities of reliable coal-based power while pushing intermittent renewable sources higher in the "merit order of dispatch" could complicate the task of balancing loads and ensuring grid reliability. NERA projects that the CPP will retire 45,000 MW of coal generation capacity (more than the electricity output of all the New England States combined). That is on top of 70,000 MW of coal-fired generation in 42 states already slated to retire due to other EPA policies and low natural gas prices.[95]

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[91] State Corporation Commission, Op Cit., p. 27.
[92] NERA Economic Consulting, *Potential Energy Impacts of the EPA Proposed Clean Power Plan*, October 2014, p. 21, http://www.globalwarming.org/wp-content/uploads/2014/10/NERA_ACCCE-CPP-Report_Final-Oct-16-2014.pdf
[93] Ibid., p. 25
[94] Ibid., p. 26
[95] American Coalition for Clean Coal Electricity, *[NERA Analysis Talking Points] EPA's Proposed Carbon Rule*, p. http://www.globalwarming.org/wp-content/uploads/2014/10/Talking-Points-on-NERA-10-161.pdf

VSCC staff notes that even if the intermittency of wind and solar power could be managed, "there is still zero probability that wind and solar resources can be developed in the time and on the scale necessary to accommodate the zero-carbon generation levels needed to meet the Mandatory Interim Goal in 2020."[96] Virginia will have to add 3,300 MW of wind by 2020, or 4,100 MW of solar, or some combination thereof. For perspective, Virginia had 10 MW of installed solar capacity as of March 2013,[97] and currently has zero MW of installed wind capacity.[98] VSCC staff comment:

> EPA's modeling shows 2,851 megawatts of dispatchable fossil-fuel generation in Virginia being retired and replaced, before 2020, with 351 megawatts of non-dispatchable onshore wind. This raises alarming regional reliability concerns.[99]

During a House Energy & Power Subcommittee hearing on June 19, 2014, acting EPA Air Administrator Janet McCabe testified that electric reliability "was paramount in our minds as we worked through the proposal" and that EPA "consulted with FERC and DOE and other agencies that have this as a chief responsibility." She stated: "I or my staff have consulted with staff at FERC. They are part of the interagency review process that we always go through, and so they have given us their input on electric reliability."

In a subsequent hearing on July 29, 2014, the Subcommittee asked FERC Commissioners to assess McCabe's testimony. The responses are not encouraging. Two examples must here suffice.

- Commissioner Phillip Moeller: "I am not aware of any request by EPA for written advice or analysis from FERC" on potential CPP reliability impacts, nor of "any outreach by EPA to NERC [North American Electric Reliability Corporation]."[100]
- Acting Commission Chairman Cheryl LaFleur: "EPA did not request written advice or analysis regarding the potential impacts of the Proposal on the reliability of the electric grid." Although FERC staff discussed CPP building blocks with EPA staff, FERC "did not specifically assist in the preparation of this [EPA's] analysis or consult with EPA regarding its preparation or its results."[101]

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[96] State Corporation Commission, Op Cit., p. 16

[97] Andrew Jenner, "Sunnier Skies for Virginia Solar," *Bacon's Rebellion: Reinventing Virginia for the 21st Century*, March 2013, http://www.baconsrebellion.com/articles/2013/04/solar.html

[98] U.S. Department of Energy, Installed Wind Capacity by State (accessed November 28, 2014), http://apps2.eere.energy.gov/wind/windexchange/wind_installed_capacity.asp

[99] State Corporation Commission, Op Cit., pp. 4, 14-15

[100] Commissioner Philip Moeller's Answers to Preliminary Questions for the Federal Energy Regulatory Commission, Committee on Energy & Commerce Subcommittee on Energy & Power, July 29, 2014, http://docs.house.gov/meetings/IF/IF03/20140729/102558/HHRG-113-IF03-Wstate-MoellerP-20140729-SD001.pdf

[101] Responses of Acting Chairman Cheryl A. LaFleur To Committee on Energy & Commerce Subcommittee on Energy & Power Preliminary Questions for the Federal Energy Regulatory Commission, http://docs.house.gov/meetings/IF/IF03/20140729/102558/HHRG-113-IF03-Wstate-LaFleurC-20140729-SD001.pdf

Although far from alarmist about the CPP, the North American Electric Reliability Corporation (NERC) identifies several reliability concerns and challenges. Excerpts from NERC's recently published analysis follow:[102]

> Under the EPA proposal, substantial CO_2 reductions are required under the State Implementation Plans (SIPs) as early as 2020 . . . . Developing suitable replacement generation resources to maintain adequate reserve margin levels may represent a significant reliability challenge, given the constrained time period for implementation.
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> * * *
>
> Assumed heat rate improvements for existing generation may be difficult to achieve: NERC is concerned that the assumed improvements may not be realized across the entire generation fleet since many plant efficiencies have already been realized and economic heat-rate improvements have been achieved.
>
> * * *
>
> Increased dependence on renewable energy generation will require additional transmission to access areas that have higher-grade wind and solar resources (generally located in remote areas). Increased natural gas use will require pipeline expansion to maintain a reliable source of fuel, particularly during the peak winter heating season. Pipeline constraints and growing gas and electric interdependency challenges impede the electric industry's ability to obtain needed natural gas services, especially during high-use horizons.
>
> * * *
>
> With such aggressive energy efficiency expansion, the EPA assumes that energy efficiency will grow faster than electricity demand, with total electricity demand shrinking after 2020. The implications of this assumption are complex. If the EPA-assumed energy efficiency growth rates cannot be attained, additional carbon reduction measures would be required, primarily through reduced fossil-fired generation.
>
> * * *
>
> Essential Reliability Services may be strained by the proposed CPP: The anticipated changes in the resource mix and new dispatching protocols will require comprehensive reliability assessments to identify changes in power flows and ERSs.
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> * * *
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> Areas that experience a large shift in their resource mix are expected to require transmission enhancements to maintain reliability. Constructing the resource additions, as well as the

[102] North American Electric Reliability Corporation, Op Cit., p. 2

expected transmission enhancements, may represent a significant reliability challenge given the constrained time period for implementation.

VI. The CPP's Climate Benefits Are Illusory.

EPA estimates that in 2030 the rule will deliver climate benefits of $9.5 billion to $94 billion, with a mid-range estimate of $31 billion.[103] This seems to suggest that, just as the rule will impose $7.3 billion to $8.8 billion in compliance costs on the power sector in 2030, so it will spare Americans tens of billions of dollars in climate change damages within the same time frame.

EPA officials also foster that impression. When announcing the rule, Administrator Gina McCarthy said:

> In 2030, the Clean Power Plan will deliver climate and health benefits of up to $90 billion dollars. And for soot and smog reductions alone, that means for every dollar we invest in the plan, families will see $7 dollars in health benefits.[104]

Since EPA estimates the CPP will cost $7.3 billion to $8.8 billion in 2030, McCarthy implied the rule would deliver close to $60 billion in smog- and soot-related health benefits,[105] which in turn implies climate benefits for Americans in excess of $30 billion.

That is not credible for three reasons.

First, EPA calculates climate benefits by multiplying the number of tons CO_2 avoided by the administration's estimates of the social cost of carbon (SCC). The SCC is a guesstimate of the present value of the cumulative damage to society out to the year 2300 from an incremental ton of CO_2 emitted in a particular year. The SCC is an unknown quantity, discernible in neither physical nor economic data. Whether the SCC is large or small, or even positive rather than negative (i.e. represents a net benefit), depends entirely on more or less arbitrary modeling assumptions. By fiddling with non-validated climate parameters (such as climate sensitivity, how warming will affect ice sheet dynamics, and how warming will affect weather patterns), made-up damage functions (how adaptive capabilities — that is,

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[103] EPA, *RIA*, p. ES-7

[104] Administrator Gina McCarthy, Remarks Announcing Clean Power Plan, As Prepared, June 2, 2014, http://yosemite.epa.gov/opa/admpress.nsf/8d49f7ad4bbcf4ef852573590040b7f6/c45baade030b640785257ceb003f3ac3!opendocument

[105] Although we are not submitting an analysis of the CPP's purported health benefits from coincidental reductions in fine particulate matter ($PM_{2.5}$) and ozone, we regard those claims as wildly exaggerated at best. For further discussion, see the testimonies of Julie Goodman (http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/Hearings/EP/20120208/HHRG-112-IF03-WState-JGoodman-20120208.pdf) and Anne E. Smith (http://www.nera.com/content/dam/nera/publications/archive2/PUB_Smith_Testimony_ECC_0212.pdf) for the House Energy and Power Subcommittee's February 8, 2012 hearing on EPA's Mercury and Air Toxics Standard Rule; and Joel Schwartz, *Where the Bodies Are Buried: How experts for N.C.'s Attorney General mislead the public about TVA air pollution*, John Locke Foundation, 2008, http://johnlocke.org/site-docs/research/schwartz-tva.pdf

technology — will develop between now and 2300), and below-market discount rates, SCC analysts can get almost any result they desire.[106]

Second, EPA uses "global" rather than U.S. "domestic" SCC values to calculate climate benefits. Yet the costs and energy-market impacts of the CPP fall almost exclusively on U.S. firms and consumers. Accordingly, a fair assessment will compare estimated CPP compliance costs to estimated climate benefits using "domestic" SCC values.

Global SCC values incorporate climate change damage estimates for developing countries, many of which still depend on subsistence agriculture, and all of which lack first-world adaptive capabilities. According to the Interagency Working Group's 2010 technical support document,[107] agencies should use "a range of values from 7% to 23% . . . to adjust the global SCC to calculate domestic effects." Thus, if the CPP's climate benefit is estimated to be $31 billion in 2030 based on global SCC values, the benefit to the U.S. is only $2.2 billion to $7.1 billion. That range of benefits is lower than the rule's estimated 2030 compliance costs ($7.3 billion to $8.8 billion). If NERA is correct and compliance costs in 2030 reach $41 billion, then domestic costs outweigh domestic benefits by 577% to 1,863%.

Third, and most importantly, the rule's climate benefits are not actually an estimate of the damages avoided in 2030. To reiterate, the climate benefits are simply the numbers EPA gets when it multiplies tons of CO_2 avoided by its estimates of the present value of all cumulative damages caused by each incremental ton of CO_2 emissions over an immense time span — from 2010 to 2300.

In other words, none of the rule's alleged climate benefits will be discernible in 2030 and likely not even in 2100.

EPA has to know that. Indeed, if EPA really believes the CPP will deliver $31 billion in climate benefits in 2030, then why do the CPP, the Regulatory Impact Analysis, and the By the Numbers Fact Sheet[108] provide no estimates of how the rule will affect warming rates, sea-level rise, drought frequency, tropical storm behavior, crop yields, polar bear populations, flood risk, heat mortality rates, or any other climate-related indicator that people care about?

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[106] Competitive Enterprise Institute et al., Comment Letter on the Social Cost of Carbon, Docket ID OMB-OMB-2013-0007, February 26, 2014, http://www.globalwarming.org/wp-content/uploads/2014/02/Competitive-Enterprise-Institute-and-Cooler-Heads-Comment-Letter-to-Office-of-Management-and-Budget-Technical-Support-Document-on-Social-Cost-of-Carbon-February-26-2014-Spelling-Corrected.pdf

[107] Interagency Working Group on the Social Cost of Carbon, *Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866*, p. 12, http://www1.eere.energy.gov/buildings/appliance_standards/commercial/pdfs/sem_finalrule_appendix15a.pdf

[108] EPA Fact Sheet: Clean Power Plan by the Numbers, http://www2.epa.gov/sites/production/files/2014-06/documents/20140602fs-important-numbers-clean-power-plan.pdf

The answer is obvious. It's because the CPP will have no perceptible impact on those indicators in 2030 — and very likely not even in 2100. So how can the rule's CO_2 reductions confer tens of billions of dollars in net benefits on the American people *in 2030*? It can't.

On this critical point, the CPP is less candid than previous EPA greenhouse gas (GHG) regulations. Previous GHG rules also did not acknowledge their climatic irrelevance but at least provided enough information for attentive readers to see through the self-promotional rhetoric.

Consider EPA and the National Highway Traffic Administration's first (2010) Tailpipe Rule, which established GHG/Fuel Economy standards for model year (MY) 2012-2016 light duty vehicles. According to the agencies, "this rulemaking is expected to reduce global CO_2 emissions by about 0.4 to 0.9%" by 2100.[109] Which means: "These reductions are projected to reduce global mean temperatures by approximately 0.007 to 0.016 degrees Centigrade by 2100 and global mean sea level rise is projected to be reduced by 0.06 to 0.15 centimeters by 2100."[110]

That bears repeating. Averted warming between 2010 and 2100 could be as little as seven-thousandths of a degree Celsius. Averted sea-level rise could be as tiny as two-hundredths of an inch. Such changes are too minute to be distinguished from the "noise" of inter-annual climate variability, and would make no practical difference to farmers, urban planners, or polar bears. The climate 'benefits' in 2030 would be even more miniscule.

The agencies said much the same in their second (2012) GHG/Fuel Economy Tailpipe Rule for MY 2017-2025 light duty vehicles: "The results of the analysis demonstrate that relative to the reference case, projected atmospheric CO_2 concentrations are estimated by 2100 to be reduced by 3.29 to 3.68 part per million by volume (ppmv), global mean temperature is estimated to be reduced by 0.0076 to 0.0184°C, and sea level rise is projected to be reduced by approximately 0.074–0.166 cm, based on a range of climate sensitivities."[111] The climate change benefits, again, would be hypothetical and undetectable.

Ditto for the agencies' 2011 GHG/Fuel Economy standards for MY 2014-2018 medium- and heavy-duty trucks: "By 2100, the proposed GHG standards are estimated to reduce atmospheric CO_2 concentration by 0.732 parts per million, which in turn is estimated to avert 0.002-0.004°C of global warming and

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[109] EPA, NHTSA, *Proposed Rulemaking To Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate*
Average Fuel Economy Standards, 74 FR 49741, September 28, 2009, http://www.gpo.gov/fdsys/pkg/FR-2009-09-28/pdf/E9-22516.pdf

[110] 74 FR 49581

[111] EPA, NHTSA, *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*, 76 FR 75097, http://www.gpo.gov/fdsys/pkg/FR-2011-12-01/pdf/2011-30358.pdf

0.012-0.048 centimeters of sea-level rise."[112] The climate change benefits, if any, would exist only in the virtual world of computer modeling.

Although absent from the CPP and supporting materials, it is not hard to compute the rule's hypothetical climate impacts. Using MAGICC, a climate model developed with EPA support, Cato Institute scientists Chip Knappenberger and Patrick Michaels estimate the CPP will avert 0.018°C of global warming by 2100 – less than two hundredths of a degree Celsius.[113]

The climate benefits of the CPP are, as Knappenberger and Michaels put it, "vanishingly small." That's in 2100. Claims that the CPP will confer multi-billion dollar benefits on Americans in 2030 are nonsensical.

VII. Conclusion

The CPP is illegitimate and unlawful. Its implementation costs are likely much greater than EPA estimates. It will increase electricity prices and raises reliability concerns. Its putative climate benefits are illusory. The regulation should be withdrawn.

[112] EPA, NHTSA, *Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Vehicles*; Proposed Rule, November 30, 2010, 75 FR 74289, http://www.gpo.gov/fdsys/pkg/FR-2010-11-30/pdf/2010-28120.pdf

[113] Paul C. "Chip" Knappenberger and Patrick Michaels, "0.02°C Temperature Rise Averted: The Vital Number Missing from the EPA's 'By the Numbers' Fact Sheet," *Global Science Report*, Cato Institute, June 11, 2014, http://www.cato.org/blog/002degc-temperature-rise-averted-vital-number-missing-epas-numbers-fact-sheet