

D I A L O G U E

Resolved: EPA and States Can Regulate Emissions Outside the Facility Fence Line Under Clean Air Act §111

Summary

Whether U.S. EPA and states can regulate emissions outside the facility fence line is a critical factor in shaping the regulatory response to climate change using Clean Air Act §111. There has been much rhetoric about the ability of states and EPA to create regulatory tools such as emissions trading of greenhouse gases, but policy experts and professionals need a more definitive answer. To address this topic, ELI held the second seminar of its Professional Practice Series. Loosely following an academic debate structure, two expert teams argued the resolution, asked questions of the other side, and identified points of agreement and disagreement. Following the debate, the discussion was open to audience questions.

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Moderator Scott Schang is Executive Vice President of the Environmental Law Institute and Editor-in-Chief of the *Environmental Law Reporter*.

Scott Schang: The question of whether Clean Air Act (CAA)¹ §111 applies only within the fence line may seem very, very narrow, but it's an incredibly important part of the overall plan to address greenhouse gas emissions under President Barack Obama's climate change action plan. He's asked [the U.S. Environmental Protection Agency] EPA to address power plant carbon emissions under a very tight time frame under §111 in particular. We have until June of

this year to get proposed rules for existing facilities and just one year to get all the rules into final form by June of 2015. That's a pretty tall task.

The problem for the Agency is that it's trying to put together a coherent regulatory picture from a set of tools that really weren't made for this task. You've got an international set of emissions alongside a federal act—the CAA—that really only addresses federal issues, and then, on top of that, states who enact that system of CAA regulations on a state-by-state and often a facility-by-facility basis.

EPA is trying to address electricity that's being sent across borders to facilities that were within one state's border and one state's regulatory power. There's really a mishmash of issues that the Agency has to deal with here. And whether EPA can have the flexibility to take §111 and address emissions outside of the facility fence line will be critical in both the efficiency and effectiveness of that plan.

Pursuant to ELI's function as an institute that tries to make law work with people, places, and the planet, we wanted to get people together to debate where we could have our advocates do their best advocacy about why as a legal matter you can or cannot take the CAA to go here.

I. David Doniger: Affirmative

Why is this issue important? Why is the Obama Administration acting on dangerous carbon pollution? In its brief for the recent U.S. Supreme Court argument (on a slightly different topic) the U.S. Department of Justice included this rather strong statement. "EPA has determined that greenhouse gas emissions endanger public health and welfare in ways that may prove to be more widespread, long-lasting and graver than the effects of any other pollutant regulated under the Clean Air Act." The nation's fleet of power plants accounts for 40% of all U.S. [carbon dioxide] CO₂ emissions, and effective reduction of power plant CO₂ is the linchpin of President Obama's Climate Action Plan, which aims to cut total U.S. carbon pollution by 17% from 2005 levels by 2020. We're about halfway there, but we need strong power plant standards, and other measures, in order to get all the way there.

1. 42 U.S.C. §§7401-7671q, ELR STAT. CAA §§101-618.

So, the president's goal, as Scott suggested, is to achieve significant carbon pollution reductions under §111(d) of the CAA. We want to do it at reasonable costs, and the way to do that is to tap all cost-effective emission reduction options. The best way to do that is to look beyond just the things that can be done within the fence line of a plant, to a system that gives credit for switching dispatch from dirty sources to cleaner sources, including renewables and low-emitting generation, and to lower power generation needs through end-use efficiency and transmission efficiency. And so, can we do this under §111(d)?

First of all, I would say we need to rephrase the question a little bit. We're not proposing to regulate emissions outside the fence line. We're proposing a system-based standard in which there's an enforceable obligation on the emitting sources, but in meeting that obligation they can obtain and use credits for the broader measures that I mentioned, such as shifting from a dirtier to a cleaner generation mix and reducing demand through energy-efficiency measures.

Now, the basic argument that this is legal, that EPA may do this, is quite simple and straightforward. The key phrase in the definition of a "standard of performance" in §111(a)(1) is that a standard must reflect the degree of emission reduction achievable through the application of—and here comes the key phrase—"the best system of emission reduction," taking into account cost and various other health, environmental, and energy impacts. And after considering all this, the standard has to be set at the lowest level that the Administrator determines has been "adequately demonstrated." There's no language in here that says that the standard must be set at a level that reflects only what an individual power plant can do *on its own*. There's no language like that. And, in fact, the "best system of emission reduction" language points in a broader direction. So, we think it's quite within EPA's authority to structure the standard so that there is an emission rate in pounds per megawatt hour that each source has to meet, but that in meeting it, each source can use credits that come from averaging with cleaner sources, or credits that come from building up renewables or other zero-emission generation or building up generation from other low-emitting sources, let's say, combined heat and power sources. And in addition, a source could use credits from a host of energy-efficiency measures that reduce demand for electricity, such as improving end-use efficiency and improving transmission efficiency. All of those things should count, and all of those things should be taken into account in determining the emission level that is achievable at an acceptable cost under the legal formula that I described above.

In closing, I defy my opponents to point to language that blocks this approach. I think it's within EPA's discretion, and actually compelled, because it's the way to achieve the most carbon pollution reduction at the lowest cost, which is the objective of the statute.

II. Jeffrey R. Holmstead: Negative

There are a lot of ways to reduce CO₂ emissions from the power sector. I think we can all agree that investments in energy efficiency, whether it's weatherization or changing out appliances or light bulbs, all of those things reduce emissions. You could also reduce emissions by requiring people to build a lot more renewable power sources and then requiring power from those resources to be used even if it's more expensive than other traditional sources. All of those things reduce CO₂ emissions from the U.S. power sector.

The question, though, is what all these things have to do with §111(d). And there are really two separate questions, and I think this is really important to remember. The first one is, once the state has an obligation under §111(d), can it use things like energy-efficiency programs and renewable energy mandates to satisfy that obligation? And I think in that regard, David and I probably agree. There are some implementation issues, but in general, the states have a lot of flexibility in meeting their obligation under §111(d). But a very different question is whether any of those things have any relevance to the way in which EPA determines what a state has to do, how it sets the state's obligation.

Now, David and I talked about this before. He's sometimes said that §111(d) is the 40-year-old virgin, suggesting essentially that §111(d) is a blank slate on which EPA can draw up a very creative plan to reduce CO₂ emissions from the power sector. But that's actually not quite right, and I want to explain why that is.

I look around and see that many of you are Clean Air people, but for those of you who are not, let me just explain §111. There are some defined terms that are important. The way it works is that EPA identifies a specific group of facilities, puts them in a category, and then sets a standard of performance for those sources. And any new source has to meet that standard of performance. Now, when it comes to existing sources, the statute and the regulations basically say that EPA sets guidelines, and then states are the ones who set the standard of performance. But the term is exactly the same, right? I mean, new sources have to meet the standard of performance set by EPA, and existing sources have to meet the standard of performance set by the states based on guidance from EPA. And we have more than 40 years' worth of determinations about what a standard of performance is. David does correctly point out that the definition of a standard of performance talks about a system of emission reductions that, based on cost, energy, and other factors, the Administrator determines has been adequately demonstrated.

But for more than 40 years, EPA has also looked at the other language in the statute that says that this standard of performance has to be applied to any individual facility in the source category. And for more than 40 years, EPA has, I think consistent with congressional intent, required that this system of performance be something that essentially

requires a continuous emission reduction at a particular source. So, we have more than 40 years of consistent EPA practice and interpretation of what constitutes a standard of performance.

I don't have time to go through EPA's existing regulations implementing §111(d), but there are various things in EPA regulations that make it pretty clear that a standard of performance applies to every individual facility.

But there's another problem that I think EPA will have with David and Megan's approach. EPA has already proposed a standard of performance for new coal-fired power plants. They've determined that carbon capture and sequestration (CCS) is the best system of emission reduction that's been adequately demonstrated for coal-fired power plants. But that would be puzzling if in fact this other system that David proposes were a system that was acceptable under the CAA. Because under David's system, you could get much greater reductions at much lower cost than CCS if you simply said: "You want to build a new power plant of any kind whether it's coal or natural gas, you have to invest in these other things like energy efficiency and demand response, so we're going to create a system that requires you to do just that." And so, even though we know your emission rate is actually 2,000 pounds per megawatt hour or 1,100, whatever it is, your standard of performance will require you to meet an emission rate of 500 or 200 or -500, and we're going to create a system that allows you to meet this standard of performance by investing in these things. And if that's the best system, why in the world did EPA come up with the notion of CCS, which is a much more expensive way of reducing CO₂ emissions?

Well, that's because EPA knows what a standard of performance is. That's the way it's been implemented for the last 40 years, and I think it will be very difficult for EPA to say in one place that a standard of performance for new plants is something that clearly is consistent with the notion that a continuous emission reduction is required at the facility and somewhere else adopt a very different standard of performance for existing plants that, by David's account, is a much more cost-effective way to achieve those reductions.

III. Megan Ceronky: Affirmative

I'd like to start today—this might surprise some of you—but I'd like to start with a quick discussion of slander and defamation. If we think back to 2009 when the U.S. Congress was working on the Waxman-Markey legislation, terrible things were said about the CAA as a framework for regulating greenhouse gases. Terrible, terrible things. Yet, here we are today with CAA policies in motion to address greenhouse gas emissions from the two largest sources of greenhouse gases in this country.

The Administration's landmark Clean Car Standards will nearly double our nation's fuel economy by 2025—double the distance that we will go on a single gallon

of gas.² They will save more than two million barrels of oil per day in 2025, which is nearly one-half of what we import daily from OPEC [Organization of the Petroleum Exporting Companies].³ It will total more than 12 billion barrels of oil saved over the lifetime of the standards.⁴ These standards were supported and defended in court by the U.S. automakers.⁵ And these standards will save customers \$1.7 trillion at the pump and will avoid six billion tons of CO₂ emissions.⁶

And now, we have §111(d), what we are here today to talk about, with broad statutory language that will enable us to secure the carbon pollution reductions we so desperately need from the power sector under a framework that is flexible and cost effective. So, I would suggest that perhaps we all owe the CAA an apology.

Under §111, Congress has charged EPA with identifying the "best system of emission reduction"—that is the statutory language that we are dealing with—that has been adequately demonstrated, taking into account cost, impacts on energy, and impacts on environmental and other health outcomes. This is EPA's responsibility, to identify the system of emission reduction that maximizes emission reductions considering costs, impacts on energy, and impacts on other health and environmental considerations.

And the question we're discussing today is whether that language, the "best system of emission reduction," is sufficiently broad to encompass a framework that effectively allows for averaging of emissions across power plants, across sources—one that recognizes the many options for reducing emissions that Jeff was discussing earlier from these existing fossil fuel-fired power plants, that looks at improvements in heat rate, use of cleaner fuels, the deployment of clean, renewable energy, investments in demand-side energy efficiency, and shifting utilization from high-emitting generation toward lower emitting generation.

The key term, the "system of emission reduction," is undefined in the CAA, and this is exceptionally broad lan-

2. *Compare Average Fuel Economy Standards Passenger Cars and Light Trucks Model Year 2011*, 74 Fed. Reg. 14196, 14412 (Mar. 30, 2009) (setting model-year 2011 industrywide average fuel economy standards for cars and light trucks at 27.3 miles per gallon), *with* 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62624, 62630 (Oct. 15, 2012) (setting model-year 2025 industrywide average standards equivalent to 54.5 miles per gallon).
3. *See* U.S. EPA, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks 3 (2012), *available at* <http://www.epa.gov/otaq/climate/documents/420f12051.pdf>.
4. *See* 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62624, 63087, tbl. IV-114 (Oct. 15, 2012).
5. *See* U.S. EPA, *Regulations & Standards: Presidential Announcements and Letters of Support*, <http://www.epa.gov/otaq/climate/letters.htm> (last visited Mar. 11, 2014); Environmental Defense Fund (EDF), *Automakers Defend Historic Clean Cars Standards* (Jan. 15, 2013), <http://blogs.edf.org/climate/411/2013/01/15/automakers-defend-historic-clean-cars-standards/> (last visited Mar. 17, 2014).
6. *See* U.S. EPA, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks 3 (2012), *available at* <http://www.epa.gov/otaq/climate/documents/420f12051.pdf>.

guage, language that Congress left for EPA to interpret. As such, under *Chevron*, a court may not substitute its own construction in place of EPA's reasonable interpretation of that language.⁷ Not, of course, that I'm assuming that EPA standards here will be subject to litigation. There is nothing in the history of CAA protections or CAA protections for greenhouse gases that would suggest that this will necessarily be litigated. But should it be litigated, that is the standard that will apply. A reviewing court will defer to EPA's interpretation of this broad language provided that interpretation is reasonable.

Now, we do have some tools available to us in understanding the term "system." At the time this language was passed into law, *Webster's Dictionary* defined "system" as "a complex unity formed of many often diverse parts subject to a common plan or serving a common purpose."⁸ Surely, the flexible system of emission reduction that we are describing would be encompassed within that plain language definition.

And we also have the CAA itself. Congress uses the term "system" fairly often in the CAA to apply to innovative, flexible regulatory approaches such as the acid rain trading program,⁹ emission fees, marketable permits, and fees on products that contribute to pollution formation.¹⁰ Congress certainly did not use the term "system" narrowly in a way that was limited to the application of, say, a specific technology put onto a pipe at a specific source.¹¹

And indeed, on that point, in 1977, Congress modified the definition of standard of performance as it applied to new sources under the Act and required it to reflect the "best *technological* system of continuous emission reduction."¹² It did not, however, require that the standards of performance for existing sources reflect that technological system of continuous emission reduction.¹³ It retained the broad language for existing sources. In 1990, Congress went back to the broad language for both the new and existing sources,¹⁴ but it is worth noting that even when Congress was using more constrained language to define what a standard of performance is for new sources, they retained this very broad, flexible language in the context of existing sources.

Now, although the language of §111 is broad, we are certainly not here to argue that it is unbounded. There is a critical legal nexus that must be maintained. The standards promulgated under this section must address emissions from the sources regulated under those standards. So, the question presented for this debate, as we have noted, is slightly off. This is not about regulating emissions that are occurring outside the fence line of a plant. The question is whether EPA can, or indeed must, consider the potential for certain measures that take place outside the fence line of a plant to reduce emissions from those plants in identifying the best system of emission reduction when they can best fulfill the statutory criteria of §111: maximizing the emission reductions that are achieved considering cost, impacts on energy, and other environmental and health impacts. And we would argue that a flexible, averaging framework is indeed the only framework that fulfills those statutory criteria, as well as being the framework that is currently being deployed by states and companies across the country to effectively reduce greenhouse gas emissions.

IV. Scott H. Segal: Negative

We've heard a lot today about the legal infirmities and support for using §111. I will say this: there are very few regulatory programs based on §111(d), but to date, among those, none of them has utilized demand-side requirements. The sum total of all industries thus far regulated under §111(d) is far smaller than this one proposal to regulate carbon from existing power plants. The structure of §111(d) itself focuses us inexorably back on the technology itself—think for a moment subcategorization—why would you ever subcategorize if you could simply go outside of the fence line to set the baseline?

There's no evidence that Congress intended §111(d) to apply to carbon. Much the opposite, I would say the critical

7. See *Chevron, U.S.A., Inc. v. NRDC, Inc.*, 467 U.S. 837, 844, 14 ELR 20507 (1984).

8. WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 2322 (1967); see also Megan Ceronosky & Tomás Carbonell, Section 111(d) of the Clean Air Act: The Legal Foundation for Strong, Flexible and Cost-Effective Carbon Pollution Standards for Existing Power Plants 9 (Oct. 2013, revised Feb. 2014), available at <http://blogs.edf.org/climate411/2013/10/04/new-paper-outlines-the-legal-foundations-for-strong-carbon-pollution-standards-for-power-plants/>.

9. See 42 U.S.C. §§7651(b) ("emission allocation and transfer system"), 7651b(b) ("allowance system"), 7651b(d) ("system for issuing, recording, and tracking allowances"), 7651b(g) ("allowance system regulations"), 7651c(c)(1) ("allowance system"), and 7651c(d)(3) ("allowance system").

10. See *id.* §§7511a(g)(4)(A) ("a nondiscriminatory system . . . of State established emissions fees or a system of marketable permits, or a system of State fees on sale or manufacture of products the use of which contributes to ozone formation, or any combination of the foregoing or other similar measures"), 7511b(e)(4) ("system or systems of regulation . . . including requirements for registration and labeling, self-monitoring and reporting, prohibitions, limitations, or economic incentives (including marketable permits and auctions of emissions rights) concerning the manufacture, processing, distribution, use, consumption, or disposal of the product").

11. See, e.g., Senate Debate (Oct. 27, 1990) (explanation introduced by Sen. Baucus), reprinted in 1 Comm. on Env't & Public Works, A Legislative History of the Clean Air Act Amendments of 1990, at 1035 (1993) ("Considering the potential benefits of the allowance trading system in general, this provision is intended to give the owners and operators of Phase I units opportunities and incentives for emissions reduction strategies that lower costs, maximize pollution reduction and promote energy efficiency and innovation."); Senate Debate (Oct. 26, 1990) (statement of Sen. Jeffords), reprinted in 1 Comm. on Env't & Public Works, A Legislative History of the Clean Air Act Amendments of 1990, at 1134-35 (1993):

Acid rain has killed more than lakes in the Northeast. For a decade the issue has killed all hopes of passing a new clean air bill. The solution to both problems has been an innovative, market-based approach to acid rain controls; a system that allows the goal of a 10-million-ton reduction to be reached while letting industries choose the most cost-effective approach to getting there.

12. Clean Air Act Amendments of 1977, Pub. L. No. 95-95, §109(c)(1)(A), 91 Stat. 685, 699-700 (emphasis added).

13. *Id.*; see also H.R. REP. NO. 95-564, at 129 (1977) (Conf. Rep.) (explaining that the amendments "make[] clear that standards adopted for existing sources under section 111(d) of the act are to be based on available means of emission control (*not necessarily technological*)" (emphasis added)).

14. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, §403(a), 104 Stat. 2399, 2631.

legal nexus that Megan just discussed is inordinately broad, because it would mean that anything that utilizes electricity can now be brought within the meaning of §111(d) as a potential nostrum to deal with global climate change. And what does that mean? That's 40 different industrial sectors, that's millions of households across the United States that could potentially be within the meaning of §111(d).

You know, EPA proposed the Tailoring Rule, you will recall, and defended it in court precisely because the thought that regulatory authority that would go to every household, small businesses, and apartment complex was "an absurd result."

But I want to take you from the legal to the practical. I believe EPA cannot utilize §111(d) in the way it suggested because it's unworkable. First, consider implementation for a moment. Our colleagues propose that a broad variety of demand-side policies including efficiency, renewables, etc., be utilized. The only tether to the CAA and the jurisdiction of §111(d) is mere use of electricity. As we saw on the case of the [Mercury and Air Toxics Standards] MATS rule, the Agency has had a great deal of difficulty in assessing the actual impact of its policies on the delivery and use of electricity.

Documents obtained by the U.S. Senate Energy Committee demonstrate that EPA failed even to coordinate or take advice from the [Federal Energy Regulatory Commission] FERC as it pressed forward with its rule despite protest to the contrary. But the super-charged approach to §111(d) at issue here would bring EPA directly into the business of 50 FERCs, 50 state governments that are on the demand side of the spectrum through their public utility commissions, as well as grid operators and environmental regulators. If recent experience with cooperative federalism, as reflected in, for example, the call of state implementation plans under the regional haze program or little set-tos over permitting are any indication, I believe EPA's potential to cooperate openly and vigorously and flexibly with the states on carbon is pretty darn weak.

And of course, the chickens are coming home to roost on MATS. I'm sure all of you saw the Energy Information Administration released that there will be far more retirements than they anticipated in the period between 2016 and 2020.

Second, cost. Our colleagues seem to believe that moving beyond the fence line is actually a benefit for cost because it allows averaging across the system. Would that that were the case. Unfortunately, the good Lord giveth and the good Lord taketh away, because they used the addition of these demand-side nostrums to reduce what is achievable from an 1,800 emissions rate down to a 1,500 emissions rate in the case of Dave's [Natural Resources Defense Council] NRDC proposal.

The 1,500 is not achievable by any stretch of the imagination. And if you lay the 1,500 emissions rate on top of all of the other regulatory approaches that in particular coal-fired utilities have to meet over the next several years, what you find is essentially a phasedown of coal-fired power.

And studies show that if you do that by the end of 2023, employment falls by nearly 600,000 jobs, manufacturing loses about 270,000 jobs, and the average household over the period studied loses about \$25,000 in real income.

The last thing I wanted to bring to your attention is a little something we call electric reliability. I don't need to remind folks in this room about the polar vortex of last January. Remember what the FERC said at that time? Cold temperature stressed the bulk power system with high loads and increased generator outages. Peak demands during the vortex were between 7 and 8 a.m., and guess what's not generating power at that time? Solar energy.

Lastly, guess what also doesn't work by light? Energy efficiency. If you are in a situation where it is extraordinarily cold outside and someone says, "Just use less power," do not listen to that person. Okay? That is a dangerous ramification. The NRDC report is predicated on reducing electricity by some 11%. If they miss that mark, the system they are delivering to you is unreliable on a good day. Imagine what it is like during a polar vortex or a summer heat wave when you need base-load power like of the kind of power that you would find in a coal-fired power plant.

Last item, why are we doing all of this? Presumably, we're doing it to reduce the ill effects of global warming or global climate change, whichever term you wish. But I don't think anybody thinks that the adoption of this rule will have anything to do with the reduction of actual climatic effects. The social cost of carbon report of the U.S. government states that even if the United States were to reduce its greenhouse gas emissions to zero, that step would be far from enough to avoid substantial climate change.

My favorite source on this is the Environmental Defense Fund (EDF) and NRDC's 2008 principles of the U.S. Climate Action Partnership. That was a report that came out a little before the current reports we're discussing today. It said that since the major effects of climate change are global, as are sources of greenhouse gas emissions, success will require commitments by all the major emitting countries. And I don't think there's anything in the regulatory record today or elsewhere that demonstrates that other countries will adopt a scheme as complicated as the one presented under §111(d).

V. Discussion

David Doniger: In addition to describing §111(d) as "the 40-year-old virgin," I have talked about "the Spiderman Rule." All of you remember Spiderman's uncle telling him: "With great power comes great responsibility." We believe that that principle applies here too: "With great flexibility comes greater stringency." In other words, the flexibility available in implementation and compliance needs to be reflected in the stringency of the carbon standard itself. So, Jeff, I'd like ask why you think EPA can't take into account the cost-lowering impact of these compliance flexibilities when it determines what is the greatest pollution reduction achievable by the best system of emission reduction?

Jeffrey R. Holmstead: Well, I think EPA can take advantage of the flexibilities of averaging. There's been a proposal, for example, from Resources for the Future that talks about setting heat rate targets for individual plants and then allowing trading based on the notion that some plants can do better than that heat rate target and create credits that can be sold and used by plants that have a harder time reaching that target. But the trading has to involve things that can be done at the facility to reduce its emission rate. That's the way the program has worked for the last 40 years, and it's really the only way it can be read.

I'm always amused when EPA forgets or when people forget to quote what *Chevron* actually says about interpreting the statute. It says you have to use traditional tools of statutory construction. So, you can't just focus on those few words that you like, "the best system of emission reduction" without looking at all the other words around it and without looking at 40 years of regulatory history.

Megan Ceronsky: Jeff, I would love to give you another minute to continue on that question, but if you could, walk us through where in the statutory language you're seeing "best system" be limited to this context that you're limiting it to, to only things that are taking place physically within the fence line. That would be really helpful.

Jeffrey R. Holmstead: Probably one of the most useful things is to look at the next section of the statute, §111(d)(1), where it says: "Regulations of the Administrator under this paragraph shall permit the State in applying a standard of performance to any particular source to take into consideration, among other factors, the remaining useful life of the existing source to which this applies." This is specifically talking about §111(d), so the system of emission reductions is related to an individual source, very clearly under the definition of standard of performance, by virtue of the fact that states are given flexibility in applying standards of performance to individual facilities. There's just no other sensible way to read all of that together. And the courts have said, if you're going to change a construction of the statute that you've had for 40-something years, you need to have a pretty compelling case for doing that, and I just don't think it exists within the statutory language.

David Doniger: So, as an aside, I'm very interested in this appeal to 40 years of EPA regulatory history today, because we're not seeing a similar respect for 40 years of EPA regulatory history in the Supreme Court argument, which is coming up on Monday.

In any event, the phrase, "remaining useful life," is an undefined term. And so, I'm wondering why you think that language requires essentially a variance procedure. It's true that's what is in EPA's 1975 regulations, but why can't EPA change those regulations in connection with adopting a system-based approach to the existing power plants? Under NRDC's proposal, for instance, plant operators would have the choice of how long to continue operating

each facility, as long as they acquire sufficient credits from the measures I described above to bring the plants into compliance. Thus, the systemwide approach provides the flexibility—not just for the state, but for the sources—to take into account what they consider to be the remaining useful life of the plant. Why is that not a reasonable interpretation of the remaining useful life provision?

Scott H. Segal: What bothers me about your interpretation is the arbitrariness of it. The drop from 1,800 as our rate to 1,500 based on what seems to me to be an arbitrary selection of demand-side remedies. Why not drop it to zero? Why not make it a negative number? All of this—your reading of §111(d) and your *Webster's* definition of what a system is—is so overbroad that you could literally turn the system upside down. And I just think, without a little bit more than 333 words, I'm not comfortable letting §111(d) swallow the rest of the CAA. I mean, I know you guys are potentially comfortable with that, but I'm not comfortable with it.

Megan Ceronsky: Jeff, if we could go back to the problem that you're highlighting about the focus on the sources. In our conception of what we're laying out here, this framework would apply to every existing source. In fact, we would say that that is legally required by the Act, that this standard has to apply to every existing source—but that the standard, the compliance framework within the standard would allow for averaging across sources. So, I need more help I think in understanding how that doesn't apply to the sources.

Jeffrey R. Holmstead: Well, I think you can average across sources, right? I mean, if there are ways to improve the efficiency of a plant that go beyond the target rate set by EPA, you can do that kind of averaging. What you can't do, in my estimation, is essentially use individual power plants as a funding source to do all these other things you want to do. In essence, what your system does is come up with an arbitrary number that requires the owners of an individual power plant to invest in things that you want them to invest in. Now, maybe those are good things: energy efficiency, renewable energy, whatever it is, but §111(d) was not intended to simply make plants sources of cash for other programs. It was designed to control emissions at individual sources, and that's pretty clear from the context of the statute.

Scott H. Segal: And we'd be well-advised not to use that as a stand-alone funding source because it's a very regressive way to fund these projects, isn't it? Because those in society who are least able to afford it spend the most of their monthly income on their power bills, and that's how you're funding it up.

David Doniger: Well, NRDC's analysis shows that there won't be very much impact on power bills. Maybe some

impact on the profitability of certain sources, but if you do this in the system-based way we suggest, you have very little impact on power bills.

Basically, Scott, you're taking advantage of an artifact, in this particular case. There are some measures individual power plants can do that are quite cheap, like improving their heat rate. But after that, you jump to things that have a fairly substantial cost increment, like using natural gas in a coal-fired boiler or adopting CCS. Those things, I admit, are more expensive. But in between, there's this valley filled with low-cost system-based measures like shifting dispatch and bringing in cleaner sources and energy efficiency. These are all the things that a power company would consider in running its own business, in deciding the cheapest way to meet demand. It would array all these options in a ladder of cost and say, well, as we operate, and as we choose what to build and retire, let's choose the cheapest options first and just go up the ladder as far as we have to go. Why shouldn't the EPA standard replicate the way real power company decisionmaking is structured?

Jeffrey R. Holmstead: Well, I think the answer is fairly obvious, because the CAA doesn't allow that to happen.

Scott H. Segal: And because EPA is not a power company possessed of the knowledge—and just take a look at the implementation of MATS and you need go no further than that—they're not possessed of the adequate knowledge to make decisions like that. So, I don't think the analogy holds up. I wouldn't want them running my power company, try though they might.

Jeffrey R. Holmstead: Do NRDC and EDF support EPA's proposal for the new source performance standard (NSPS) for fossil fuel power plants?

David Doniger: Generally speaking, yes, we do. We'll have some comments on how the standards should be improved.

Jeffrey R. Holmstead: Same with EDF?

Megan Ceronsky: Well, there will be a lot of comments urging that the standard be strengthened in various ways.

Jeffrey R. Holmstead: Okay, but in general. I guess the answer is yes. So here is my question. EPA says that to install CCS on one coal-fired power plant is about \$1 billion, give or take. According to your analysis, all of these reductions across the whole sector will only cost \$4 billion. So, why not create a standard of performance for new power plants that rather than investing \$1 billion in CCS would let them invest in all these other things that you want them to do? I mean, that would be a much more cost-effective way to get these reductions. And if you don't think people are going to build new coal-fired plants, just do it to gas plants. If they really operate at about 1,100 pounds per megawatt hour, give them a target of 500 and

make them make up the difference by buying credits, and you get that \$4 billion pretty quickly. So, why isn't that the best system for a new power plant?

Megan Ceronsky: I think that's a really interesting way of looking at it. You know, the CAA does tend to treat new sources differently from existing sources.¹⁵ In the context of §111, the goal was clearly to make sure that when major investments were made in new infrastructure, which is obviously very costly and going to be around for a long time, that that infrastructure is as efficient and low-emitting as possible.¹⁶ And that's what the new source standard is doing. It is technology-forcing.¹⁷ It is making sure that we're building new infrastructure that is as low-polluting as possible.

The important thing about §111(d)—and Scott, you hit on this a little bit, although in a different way than I will—it provides for this very vibrant federal-state collaboration. And the framework that we are discussing here would provide a vast amount of flexibility for power companies and for states to figure out what made sense. So, once they've got their generation resources that they've decided to invest in, they can figure out how to reduce their emissions as cost-effectively as possible. But when they are building those new generation sources, if they make those choices, they build them as efficiently and in as environmentally friendly of a manner as possible. That's what the new source standard ensures.

Jeffrey R. Holmstead: Okay. Even though the statutory definition of a standard of performance is exactly the same for new and existing sources? So, you'd rather have people spend a lot of money on a system that gets very little by way of reduction instead of spending that same amount of money under your system that could get much greater reductions?

David Doniger: Well, one response might be that the standards will influence the decisions that companies make about what sorts of new capacity to add and when to add it. Power companies that manage a fleet of existing facilities, and face the decision whether to add new capacity, might decide that some kinds of new capacity are too expensive

15. See, e.g., *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391, 3 ELR 20642 (D.C. Cir. 1973) ("Section 111 looks toward what may fairly be projected for the regulated future, rather than the state of the art at present.").

16. See S. REP. NO. 91-1196, at 15 (1970) ("The provisions for new source performance standards are designed to ensure that new stationary sources are designed, built, equipped, operated, and maintained so as to reduce emissions to a minimum."); *id.* at 16 ("The overriding purpose of this section would be to prevent new air pollution problems, and toward that end, maximum feasible control of new sources at the time of their construction is seen by the committee as the most effective and, in the long run, least expensive approach.").

17. See *Sierra Club v. Costle*, 657 F.2d 298, 364, 11 ELR 20455 (D.C. Cir. 1981) ("Recognizing that the Clean Air Act is a technology-forcing statute, we believe EPA does have authority to hold the industry to a standard of improved design and operational advances. . . ."); see also H.R. REP. NO. 95-294, at 186 (1977) (noting that one of the purposes of NSPS is to create an incentive for technological innovation by providing a "guaranteed market" for new control technology).

to add. Instead, they might decide it would be better to add new capacity that is less expensive, or to invest in demand-side management, while meeting the system-based standard for existing plants.

Scott H. Segal: In 2008, EDF and NRDC co-signed on to the U.S. climate action partnership, and in it, you said in the principles that any carbon program, not just a legislation but any program, had to have the ability to take into account appropriate assistance to disadvantaged or proportionately impacted parts of the economy, it had to examine possible additional cost-control options including safety valves, borrowing strategic allowance reserves, preferential allocation, dedicated funding, technology incentives, transition assistance. I've heard you guys describe §111(d) in very broad terms. Are you going to tell this audience that §111(d) allows you to do all of those things?

David Doniger: Well, §111(d) actually allows the states to do many of those things. Under our proposal, states could elect to convert the federal §111(d) standard from a rate-based standard to a mass-based one, and—as a matter of state discretion—create a cap-and-trade program like the one that the northeastern states in the Regional Greenhouse Gas Initiative are already doing. In that program, they auction allowances and use some of the allowance value to invest in energy efficiency. That's great. If a state wanted to use some of that auction value for transition purposes—for example, some degree of free allowance allocation, or using auction revenues to take care of low-income people—those are choices I think states have under §111(d).

Scott H. Segal: And if the states don't do that, would you be willing to see EPA disallow the underlying state program and replace it with a federal program, utilizing §111(d) authority to do those things that you've just described? Do you find that within the plain meaning of §111(d) and its broad definition of the word “system”?

David Doniger: The states have more flexibility in this regard.

Scott H. Segal: It's a hell of a system.

David Doniger: If EPA has to step in because a state failed to develop any approvable plan, the question for the feds is more limited: What is the emission limit that meets the standard EPA propounds in the upcoming guideline regulations. We expect most states will choose to design their own plan, because then choices of *how* to meet the standard are in the states' hands.

Megan Ceronsky: And Scott, I think this is an extraordinarily important point, and it goes back to my quip at the beginning about Congress and Waxman-Markey. Because the tragedy of not operating under a comprehensive climate framework is that it becomes much more difficult to address the very issues that you're describ-

ing. This is what we have left ourselves by failing to put that legislation in place. What we are trying to figure out here is a framework that can be put in place under a very flexible statutory provision that can mobilize things like demand-side energy efficiency that reduce people's electricity bills, that create jobs both through the energy-efficiency investments and through the rebound effects in those localities where those bill savings are then respent. This is what you're seeing in the Regional Greenhouse Gas Initiative states that are investing in demand-side energy efficiency. Figuring out how to do this cost effectively so we can secure these emission reductions and mitigate those problems is exactly the point of what we are trying to do. So, I think it's really important, and that's why figuring out how to take a flexible approach here makes so much sense.

Scott H. Segal: I agree with what you said at the outset, I think that does take legislation, because I don't see all those moving parts in 333 words in §111(d).

Jeffrey R. Holmstead: I just want to ask about your interpretation of §111(d). So, you say in essence that you can create a target that's completely unrelated to what the plant can actually do, and then let the plant make up the difference by reducing the demand for its product, right? I mean, by saying: “I want to do things that require people—that will result in people buying less of my product.” So, let's talk about other sectors. Let's talk about refineries. If their emission rate is 1,000, you set the standard at 500 and you say: “You know what, you can reduce your emissions by doing other things that we will credit, like investing in public transit, giving people rebates on fuel-efficient cars.” Is that—is §111(d) under your reading broad enough to do that as well?

David Doniger: You know, you asked that question last September when we debated before. And I've thought about it some. It's not our proposal. If it's the oil industry's proposal, we'd be very interested in looking at it. I'm not saying that the electric power industry is the only industry that operates in a system. But the electric industry is just so clearly an integrated system, and power companies are already in the business of influencing end-use demand, through demand-side management programs, insulating people's homes, replacing appliances, and so on. Power companies that operate these programs are in the business to make money by offering a range of electric energy services, not just generating electrons.

Scott H. Segal: Well, you know, you can't have it both—then I'll ask a question that has no answer. You can't have it both ways. Once you open this Pandora's box, you can't say only the electric power system or the electric power system is the most close to being a “system” and everybody else we take on a case-by-case basis, because the bottom line is if you don't tie it to the technology within the fence

line, everyone is in the system. We're in a flow of commerce. We're all in a system. The cement kiln would have to reduce demand not to build as many highways, and you could go through every sector of the 40 that emit appreciable amounts of carbon.

VI. Rebuttals

Jeffrey R. Holmstead: I do think it's useful to hearken back to the debate over Waxman-Markey and other legislation when many people, including people who are now advocating this §111(d) approach, said that the CAA couldn't be used effectively to reduce emissions, and that we really did need new legislation to do it.

Now, I understand that people can go back and look at statutes and begin to read them more creatively, but I just don't think there's any way to read §111(d), along with the language around it, along with 40 years of regulatory history, to allow this sort of approach. I think to accomplish the things that you want to accomplish, you need to go through the democratic process to get new legislation and work in states, as some states are doing and working in Congress, because that really is the only way to create the kind of system that you want to create.

Now, in essence, the way you've done it and your approach is completely unrelated to what can be accomplished at a plant, and just turns each individual power plant into a funding source for projects that you want to have funded, whether that's energy efficiency, whether that's renewable power, whether that's demand-response. It's completely unrelated to what can actually be accomplished at the plants being regulated.

I think in the end, a court will use traditional tools of statutory construction, will look at that definition of the best system of emission reduction, will look at the fact that it's supposed to be applied to any individual existing source, will look to the fact that Congress clearly intended to give states the authority to do something less stringent than that when applying the standard to any individual source. You look at EPA's regulations for the last 40 years, it's very clear what Congress intended, and I just don't think §111 is broad enough to encompass the kind of system that you have proposed.

I guess the other thing about it is it really is completely limitless. And I know that you've come up with a system that you think makes the right balance between cost and energy efficiency and other things, but at the end of the day, the rate that you choose is completely arbitrary. And the system that you're trying to set up is also completely inconsistent with the way our electricity system is run today. I think it will be interesting to have a panel of Public Utility Commissioners talk about what this kind of approach would do under their jurisdiction. The CAA is certainly a very broad statute, but I just don't see how it can possibly be broad enough to accommodate the system that you're talking about.

And again, I think David's answer to my question about refineries was really quite interesting. If it's this broad, it means that any industry can be given an arbitrary number unrelated to what can be accomplished at its facility and then told, you can get to that number by doing things that will reduce the demand for your product.

The other thing—and again, I come back to this because I think it is an important point—if the approach that David and Megan are proposing is truly the best system of emission reduction, it's inconceivable to me that you would support EPA's proposed standard performance for new plants, because for the cost of installing CCS on four coal-fired power plants, you could get all of these reductions across the whole system, so why not set a standard at 1,000 pounds per megawatt hour or 500 pounds per megawatt hour and let every new source make up the difference between what their emissions rate is and that number by funding these things that you want to fund. It just doesn't make sense under the statute and can't be accomplished.

Megan Ceronsky: Just a couple of notes on history. EPA has taken a flexible "system" approach before under §111(d). Their 1995 municipal waste combustor NSPS allowed averaging and trading programs for [nitrogen oxide] NO_x emissions¹⁸; and in the 1997 emission guidelines for hospital medical infectious waste incinerators, EPA required states to, where feasible, include waste management plans to separate certain components of the solid waste before it would get to the incinerator and therefore create the harmful emissions.¹⁹ These guidelines also required commercial incinerators to ensure that their clients did the same thing—provided a waste management plan²⁰—activities that are, one could think, quite analogous to power company-funded energy-efficiency programs. And then, of course, we had the Clean Air Mercury Rule, where EPA established a budget and trading program for the power sector.²¹

It's also quite important to note the symmetry that exists in §111. Neither the language of §111 nor EPA's implementing regulations distinguish between the systems of emission reduction that state plans can be comprised of and the systems of emission reduction that EPA is to consider when identifying the best system. These "systems" share the same language, the same legal contours.²²

18. Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Municipal Waste Combustors, 60 Fed. Reg. 65387, 65403 (Dec. 19, 1995) (codified at 40 C.F.R. §60.33b(d)(2)).

19. Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Hospital/Medical/Infectious Waste Incinerators, 62 Fed. Reg. 48348, 48359 (Sept. 15, 1997) (codified at 40 C.F.R. §§60.35e, 60.55c).

20. Standards of Performance for New Stationary Sources and Emissions Guidelines for Existing Sources: Hospital/Medical/Infectious Waste Incinerators, 74 Fed. Reg. 51368, 51393 (Oct. 6, 2009) (codified at 40 C.F.R. §60.55c).

21. Standards of Performance for New and Existing Stationary Sources: Electric Utility Steam Generating Units, 70 Fed. Reg. 28606, 28606 (May 18, 2005). The Clean Air Mercury Rule was vacated by *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008), cert. dismissed, 555 U.S. 1162 (2009), and cert. denied, 555 U.S. 1169 (2009).

22. See 42 U.S.C. §7411(a)(1), 7411(d); 40 C.F.R. pt. 60, subpt. B.

There is arguably a more legally conservative option here. EPA could set a standard based on what you can do just at the plant within the fence line and then require compliance just at the plant within the fence line. You could see a CCS standard, you could see a standard requiring fuel switching, et cetera, et cetera. These types of standards have the potential to be quite costly and likely highly inflexible. But the statutory language of §111 does not require the Agency to be blind to the reality around it, and the world around us has states and companies deploying these flexible systems of emission reduction to very effectively reduce carbon pollution. Indeed, for EPA to ignore well-known and adequately demonstrated systems of emission reduction that are achieving greater emission reductions, more cost effectively and with more flexibility to address any possible energy system impacts such as those Scott highlighted earlier, would be arbitrary.

States and companies have extensive experience in reducing greenhouse gas emissions as well as conventional air pollutants from power plants by deploying renewable energy, by investing in energy efficiency as David was just noting, by shifting utilization away from higher emitting plants and toward lower emitting plants, and participating in market-based pollution reduction mechanisms.²³ Over 30 states have programs to deploy clean energy and energy efficiency.²⁴ Both PJM and ISO-New England provide for energy efficiency to be bid into their forward capacity markets.²⁵ These are very well-established tools and are certainly systems that are adequately demonstrated for the purposes of §111.²⁶

I'd like to take a step back and note what it is that is truly at stake here. What we are doing is trying to fig-

ure out how to reduce carbon pollution from the largest source in the United States. And we are trying to reduce that pollution because right now we are engaged in a giant chemistry experiment with our planet. The results of that experiment are expected to be dire, with a significant, non-zero possibility that they will be catastrophic.²⁷

The best guess, non-worst-case scenario of climate change is a world where the extreme weather events of history become the new normal.²⁸ In 2013, there were seven climate disasters in the United States, each costing more than \$1 billion, including catastrophic flooding in Colorado, where I used to live, and extreme drought in the western states.²⁹

In a wealthy country with a social safety net, we can and we will work together to endure these extreme events as a community,³⁰ although the cost will be high. But there are many countries that are not wealthy and do not have these kinds of safety nets, and many communities that are struggling to make ends meet as it is and that have no capacity to endure these kinds of climate disasters. For the poor and the disadvantaged, the consequence of sea-level rise, storm surges, floods, and other expected climate impacts are truly horrific.³¹ Recent history has shown us that economic stability cannot be isolated to one country or one region, and the U.S. Department of Defense has consistently recognized climate change as a major security threat because societal instability outside our borders will have consequences for American security.³² And then there's the possibility that we will trigger a threshold in the climate system and experience truly catastrophic climate change.³³

Section 111(d) offers us an opportunity and an obligation to begin to mitigate carbon pollution from the power sector and to create an American-led transition to the cleaner, safer international power sector of the future. It offers us an opportunity to mitigate carbon pollution in a

23. See generally Georgetown Climate Center, Reducing Carbon Emissions in the Power Sector: State and Company Successes (Dec. 2013), available at http://www.georgetownclimate.org/sites/default/files/Reducing_Carbon_Emissions_in_the_Power_Sector-Success-Stories.pdf.

24. *Rules, Regulations, and Policies for Renewable Energy*, Database of State Incentives for Renewable Energy, <http://www.dsireusa.org/summarytables/rprpe.cfm> (last visited Feb. 14, 2014); *Rules, Regulations, and Policies for Energy Efficiency*, Database of State Incentives for Renewable Energy, <http://www.dsireusa.org/summarytables/rpee.cfm> (last visited Feb. 14, 2014).

25. See Joel Fetter et al., Energy Efficiency in the Forward Capacity Market: Evaluating the Business Case for Building Energy Efficiency as a Resource for the Electric Grid, at 5-126 (2012), available at <http://www.aceee.org/files/proceedings/2012/data/papers/0193-000167.pdf>.

26. In practice, states have indicated that they prefer system-based approaches to source-by-source approaches to reducing emissions from the power sector. For example, under the NO_x SIP Call, EPA established the NO_x Budget Trading Program, which allowed states to participate in a regionwide cap-and-trade program in lieu of establishing controls on individual sources. As of the 2007 ozone season, all 20 affected states and the District of Columbia opted to meet most of their NO_x SIP Call requirements by participating in the program. The program was replaced by the Clean Air Interstate Rule (CAIR) in 2009. See U.S. EPA, *NO_x Budget Trading Program—Basic Information*, at 5 (2009), available at <http://www.epa.gov/airmarkets/progsgreg/nox/docs/NBPbasicinfo.pdf>.

Similarly, EPA's 2012 Regional Haze rule allows states participating in the Cross-State Air Pollution Rule (CSAPR) trading programs to use those in place of source-specific best available retrofit technology for [sulfur dioxide] SO₂ and NO_x emissions. Prior to the transition to CSAPR, 14 states met regional haze requirements through CAIR. See U.S. EPA, Fact Sheet: Regional Haze: Final Alternative to Source-Specific Best Available Retrofit Technology Determinations, Limited State Implementation Plan Disapprovals, and Federal Implementation Plans, at 1 (2012), available at <http://www.epa.gov/airquality/visibility/pdfs/20120530fs.pdf>.

27. See Nat'l Research Council, Abrupt Impacts of Climate Change: Anticipating Surprises 14-17, tbl. S.1 (2013), available at http://www.nap.edu/catalog.php?record_id=18373.

28. Intergovernmental Panel on Climate Change Working Group I, Summary for Policymakers 23 (2013), available at http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf.

29. See National Oceanic and Atmospheric Administration (NOAA), *Billion-Dollar Weather/Climate Disasters*, <http://www.ncdc.noaa.gov/billions/events>.

30. See generally Council on Env'tl. Quality, *State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience*, <http://www.whitehouse.gov/administration/eop/ceq/initiatives/resilience/taskforce> (last visited Mar. 5, 2014).

31. See John Vidal, *Climate Change Will Hit Poor Countries Hardest*, *Study Shows*, THE GUARDIAN (Sept. 27, 2013 4:01 EDT), <http://www.theguardian.com/global-development/2013/sep/27/climate-change-poor-countries-ipcc>; see also Oxfam Int'l, *Suffering the Science: Climate Change, People, and Poverty* (2009), available at <http://www.oxfam.org/en/policy/bp130-suffering-the-science>.

32. See, e.g., Dep't of Def., Report of the Defense Science Board Task Force on Trends and Implications of Climate Change for National and International Security 62-63 (2011), available at <http://www.fas.org/irp/agency/dod/dsb/climate.pdf>; see also Dep't of Def., *Quadrennial Defense Review 2014*, at 8 (2014), available at http://www.defense.gov/pubs/2014_Quadrennial_Defense_Review.pdf.

33. See generally Nat'l Research Council, Abrupt Impacts of Climate Change: Anticipating Surprises (2013), available at http://www.nap.edu/catalog.php?record_id=18373.

pragmatic, flexible, cost-effective framework, and it is simply not an opportunity that we can afford to miss.

Scott H. Segal: Well, first of all, I want to thank ELI for this, because I think this is a great format, as Scott knows it's what I'm very much dedicated to, and I think it's an interesting way to spend an hour and some change, right?

Now, to dive into the details a little bit, first of all, on the question of legal authority, there are very few regulatory examples that inform us as to what we know a §111(d) program ought to take a look at. And indeed, as Megan suggests, medical wastes in municipals allowed averaging, but nothing beyond the fence line, and that is the critical element in this particular discussion. So, we have not had that as an element. And once you move beyond the fence line, you are on a very slippery slope indeed, which allows a substantial amount of regulation or the conversion of the regulated industry in each case into a mere funding source, an ATM, if you will, that funds up good deeds that those at EPA might dream up with a very, very limited relationship to the actual specific facility, maybe none at all. And I would suggest to you that as a legal matter, having the only tether for extension of §111(d) authority, be whether or not a device uses electricity is a little bit too broad of a grant of authority to EPA without more legislative history, more specificity, or frankly, more of a legal development than we see associated with §111(d).

As Jeff has pointed out, the language of system is not the only language in §111(d) and that there are other provisions that clearly direct us back to the individual source, whether we're talking about subcategorization or whether we're talking about the assessment of the useful economic life of the facility that do direct us back to the facility. And in short, §111(d) would be transformed under this interpretation that it was intended for narrow gap-filling into this roving mandate that subsumes the rest of the act.

Now, I want to talk about practicality a little bit. I am not impressed with the advocate's description of the implementation of this very complicated process. What is described in their own reports requires EPA to have a close working relationship with 50 public utility commissions, countless other regulators, grid operators, and the record particularly associated with the MATS rule is very weak when it comes to dispatch questions and when it comes to questions related to broader electric reliability concerns. Even people who really like §111(d) and who really want a strong approach to be taken on climate change tell us that it is difficult to verify and quantify efficiency gains. Our friends at the Nicholas Institute have said the nature of electricity markets and electricity transmission makes it difficult to link energy-efficiency drive reductions and electricity demand to a void in generation of the particular unit. So, the nexus between a particular unit and the implementation of this proposal is difficult, if not impossible, to visualize.

In addition, in all fairness to our friends at the NRDC—and I'm very familiar with the report—there are three para-

graphs on cost in that report, okay? Dave suggests that we believe it'll be a very limited cost, and I'm glad he believes that, but I don't necessarily see that. The electric power system in this country is divided region by region. It has different sources of supply that go into each region. There will be disproportionate impact not only for those living in poverty, but also for regions and also during severe weather events as I described in terms of the polar vortex.

Last item, Megan ended in a very passionate, and I think, well-believed notion of how significant the issue is that we face with global warming. But the word is "global." What benefits are there to this very risky and reckless proposal? What truly are the benefits? And everyone from the Administration's council on the social cost of carbon to the Environment Defense Fund and the NRDC have concluded that this is an international issue for which little linear or incremental reduction in U.S. carbon emissions will result in tangible reductions. That leaves you only the notion of international leadership, and I defy you in the five years of jawboning in the current Administration on global warming, what tangible international leadership has produced similar outcomes to U.S. regulatory outcomes among our trade competitors? The answer is zero.

David Doniger: Well, thanks. Again, thanks to ELI.

First, a quick one. Neither Megan nor I trash-talked the CAA in the 2009-2010 legislative process. We always believed that new legislation would have advantages, as CAA 4.0. But I'm prepared to go forward to combat carbon pollution and climate change under CAA 3.0, the one we have now. To paraphrase Donald Rumsfeld, you go to battle with the CAA you have, not the one you wish you had. So, that's one point.

Second, I am impressed by the extensive outreach process that EPA has already engaged in—to my knowledge, a bigger effort than has ever been undertaken for any other rule, and starting long before it's even proposed. The outreach has involved not just talking to state air regulators, but also reaching out to public utility regulators and to industry, environmentalists, and all kinds of constituencies. And I'm very impressed by the letters that have been flowing in, from unexpected places, endorsing flexible approaches to establishing the §111(d) standard, not implementing it. So, I think EPA's doing this right. They need to keep doing it. And I'm very impressed with the positive reaction from some unexpected places.

Third, I suggest to my colleagues to be careful what you ask for, because, backed up by the social cost of carbon, you could well justify a "within-the-fence-line" standard that imposes some quite extensive and quite deep cuts in CO₂ from the power plants themselves. If that's what you want, it may well be that's what you'll get, and it'll likely be more expensive than the approach that we are suggesting.

Fourth, we're not asking companies to do "good deeds" generally. We need a very tight nexus between the actions that produce credit and reductions in electricity consump-

tion. We would not support credit for tree-planting, or credit for reducing natural gas consumption by some other industry, or something of that nature. It should be tightly bound within the electric production and consumption sector. That's the system.

And the last point I'd make is that the United States is trying to act both at home and abroad. Secretary [John] Kerry has been quite forceful recently, and Secretary [Hillary] Clinton before him, in trying to promote action by the Chinese and by other big contributors to the problem. We're getting some very significant parallel commitments from other countries. You're seeing them act and you're seeing them preparing themselves to act further. And the United States is never very effective when it just preaches to others. We need to act by example and be responsible for cleaning up our own mess. The president's Climate Action Plan has convinced a lot of other countries that this is a new day from the United States, and that if they make commitments to act, those commitments will be matched by U.S. commitments and U.S. action. That's the way we're going to solve this problem.

Scott, you seem to propose a recipe for us all boiling like a frog in the beaker, nobody can do anything, so it's going to get warm, and just lie back and let it happen. I'm not ready for that.

VII. Audience Questions

Audience Member: It seems like the panel is evenly split on whether these outside-the-fence-line opportunities like energy efficiency and renewables are permissible within the Act.

David Doniger: That's because we have an even number of panelists.

Audience Member: Well, right. But it seems that at least three of you seem to think that some form of trading between coal plants could be allowed by EPA to set a standard for the coal sector. Do you think EPA could allow trading between coal and gas?

Jeffrey R. Holmstead: The short answer is no, and we can talk more about that. The kind of trading that has been proposed, for example, by [Resources for the Future] RFF, is based on first an analysis of what plants across the sector can do. And so, while recognizing that there are still some variation among that type of plant, and so, some plants might be able to improve their heat rate by a bit, others by a lot more, but it really is trading within that category, which has been a long-standing category and which continues to be a category in the current proposal. So, I think it could only be trading within sources that are in the same subcategory.

Scott Schang: Why can't they just regroup the category?

Jeffrey R. Holmstead: Well, I think EPA thinks they can't, and I agree with that.

David Doniger: I just find it contradictory, and somewhat inexplicable, to say that everything has to be done within the fence line by the source, but that some groups of sources are exempt from that and can use trading or averaging among themselves. So, I think there's a big contradiction there. Jeff and I have been through this before. I wrote a piece about the standards called *Three Elements of Power Plant Standards: Carbon, Mercury, and Irony*.³⁴ Because, as compared to where we were on mercury, Jeff and I are sitting on opposite sides of the table for carbon. From NRDC's standpoint, carbon is a pollutant that doesn't have the local toxic impacts of mercury, so it is not a problem to think about locational averaging.

Audience Member: EPA released the tool [AVoided Emissions and geneRation Tool] AVERT on February 18. Does this signal that the Agency is expected to include beyond the fence and the tool in the proposal?

Megan Ceronsky: AVERT is one of many tools that are available out there to quantify energy-efficiency benefits, and of course, there are two stages to this framework, right? First, you have to figure out how much energy was avoided, and then, you have to figure out the greenhouse gases that were avoided by avoiding that energy production. And AVERT is one great technique. I'm not sure I would say that it foreshadows necessarily what the Agency is going to do in a rule that's still under development, but it is an example of one of the many things that have been developed by the agencies as well as states and independent groups that quantify the benefits of energy efficiency in terms of pollution reductions, and that, of course, has been a very familiar exercise.³⁵ States have been submitting energy-efficiency, pollution-reduction benefits as a part of their [state implementation plans] SIPs for a very long time,³⁶ and so this is a familiar technique.

David Doniger: Can I add one thing? You know, when you're dealing with a very locationally sensitive pollutant like ozone and the NO_x precursors that form ozone over a particular part of a city or a region, then the question of exactly where and when the emission reductions related to an energy conservation measure—the specific location and the specific hour of the reductions—is somewhat critical.

34. See David Doniger, *The Three Elements of Power Plant Standards: Carbon, Mercury, and Irony*, SWITCHBOARD: NRDC STAFF BLOG, http://switchboard.nrdc.org/blogs/ddoniger/the_three_elements_of_power_pl.html (Dec. 9, 2012).

35. See Steven Schiller et al., *National Energy Efficiency Evaluation, Measurement, and Verification (EM&V) Standard: Scoping Study of Issues and Implementation Requirements* 51 (2011), available at http://www1.eere.energy.gov/seeaction/pdfs/emvstandard_scopingstudy.pdf.

36. See generally U.S. EPA, Roadmap for Incorporating Energy Efficiency/Renewable Energy Policies and Programs Into State and Tribal Implementation Plans: Appendix K: State, Tribal, and Local Examples and Opportunities (2012), available at <http://epa.gov/airquality/eere/pdfs/appendixK.pdf>.

It's not critical for carbon pollution, it seems to me. Under a structure like NRDC has proposed, each state has an annual average emissions rate applicable to all its fossil fuel-fired plants. And when you avoid one megawatt hour of electricity generation through energy efficiency, you can be sure that what you have avoided is the tons of carbon pollution that would have accompanied that megawatt hour. So, I don't think you have to make averaging and trading as complicated for carbon as it has been in the smog-control world.

Scott H. Segal: The only thing I would say is without any reference to AVERT, because only by virtue of the fact that I carry an iPad with me was I able to determine what the acronym stood for, I would say there are very significant problems with quantification of energy efficiency. Folks, I can't say this enough, the whole purpose of the CAA is to allow the states substantial flexibility on implementation decisions. We have seen in recent years that the amount of flexibility that the states have gotten has been under constant erosion. So, if we are moving in the direction of a more national policy here, then I am concerned that there is a difference in nomenclature and a difference in evaluation between different electricity markets, between whether a market is regulated or unregulated, for example, how they treat energy efficiency and even how they measure it.

Let me give you an example. From a carbon perspective, we ought to be as interested in energy efficiency from an electricity perspective as we are from a thermal perspective. And I heard Dave say a moment ago: "Well, I'm not going to give credit to anybody who just reduces natural gas use," or something like that in a different context. But, you know, energy efficiency is a broader vocabulary than just electricity. And some states do give credit for thermal energy reduction, and some do not. So, unweaving that in order to create the national confederation of climate control, which this §111(d) proposal would look like, is going to prove difficult, whether you're using that particular tool or any other tool.

Audience Member: Given EPA's existing definition of [best system of emission reduction] BSER and the existing new source proposed rule, does EPA need to worry about the language in that rule when it's looking at §111(d) and is there a basis to have a different BSER in §111(d) than §111(b)?

Megan Ceronsky: Yes. It's a great question. The Agency laid out very clearly in the proposal, both the original proposal and the revised proposal for new sources, that what they were trying to figure out is what is the "best system of emission reduction," defined as what is going to give us the greatest emission reductions considering costs, impacts on energy, and other environmental and health impacts, with the added veneer of particularly in the context of §111(b),

this is supposed to be technology-forcing.³⁷ That is a strong part of the revised proposal—the goal of forcing technologies in this area that would reduce emissions.³⁸ So, I don't see any inconsistencies between the discussion of BSER in that proposal and what we're proposing here.

Jeffrey R. Holmstead: As you might guess, I have a somewhat different view of that. The statutory language is exactly the same. If BSER, for existing sources, allows this kind of trading, then it should be allowed for new sources too. Why? Because you can get significantly greater reductions at significantly less cost. So, I just think that if EPA does head down this road, then it really completely undercuts their case for the new source standard, and they would have to go back and change that. Because as I say, the language is exactly the same under the statute.

Scott Schang: Scott told us earlier to look at the general purposes of the Act, and §111(b) is really in part a technology-forcing statute or technology-forcing section and §111(d) applies to existing sources.

Jeffrey R. Holmstead: Where does it say technology-forcing in §111?

Scott Schang: Well, just the idea behind the—it doesn't say it in the statute.

Jeffrey R. Holmstead: So, this is your interpretation of the statute?

Megan Ceronsky: It's in the legislative history.³⁹ And in the case law.⁴⁰

Scott Schang: Is that not a solid take on it? For §111(b), you have new capital going into a new asset. You're trying to set a standard for it to meet versus existing capital

37. See Standards of Performance for Greenhouse Gas Emissions From New Stationary Sources: Electric Utility Generating Units, 79 Fed. Reg. 1430, 1434 (Jan. 8, 2014).

38. See *id.* at 1480.

39. See S. REP. NO. 91-1196, at 16 (1970) (NSPS should reflect "the degree of emission control that has been or can be achieved through the application [of] technology which is available or normally can be made available. This does not mean that the technology must be in actual, routine use somewhere."); *id.* at 17 ("Standards of performance should provide an incentive for industries to work toward constant improvement in techniques for preventing and controlling emissions from stationary sources . . ."); see also H.R. REP. NO. 95-294, at 186 (1977) (noting that one of the purposes of NSPS is to create an incentive for technological innovation by providing a "guaranteed market" for new control technology).

40. See, e.g., *Sierra Club v. Costle*, 657 F.2d 298, 364, 11 ELR 20455 (D.C. Cir. 1981) ("[r]ecognizing that the Clean Air Act is a technology-forcing statute, we believe EPA does have authority to hold the industry to a standard of improved design and operational advances" when setting standards under §111); *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391, 3 ELR 20642 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974) ("[s]ection 111 looks toward what may fairly be projected for the regulated future, rather than the state of the art at present"); *id.* (holding that EPA may make a reasonable "projection based on existing technology" when selecting the best system of emission reduction).

with an existing asset. Couldn't you have different BSER, at least in theory?

Jeffrey R. Holmstead: The big problem is not with §111(b). It's with this interpretation of §111(d). Because I think it's the very definition of arbitrary and capricious to come up with one system for existing sources when, if you apply the same system to new sources, you would get significantly greater reductions at significantly lower cost. So, the system—I mean, if it's BSER, it's BSER.

David Doniger: So, one difference is that the standard for new sources is regulating individual new sources that pop up, who knows where, who knows when.

Jeffrey R. Holmstead: But they're connected to this electricity system, right? It's all one system, I thought.

David Doniger: That's true. And in our proposal, the new source, once it's operating, could be earning credits under the existing source standard as well. But it would still have to meet the new source standard. And I just don't think that is something that can be revisited. Reread *ASARCO*. The reason why you can't bubble away new source status is that the statute is supposed to require new sources to be built with state-of-the-art pollution control, because you're adding new capital equipment that's built to operate for a long time. They should be built with modern technology.

Scott H. Segal: You know, I don't think the technology-forcing nature of §111(b) gets you out of it. I don't think it helps you one bit. Let me explain why. It's not as though your demand-side solutions are bereft of technology. And technology for which capital investment, ab initio, when you're building a new plant could also be of some use. Remember, to you, the power sector is an ATM and you're buying technology whether it's demand-side technology or generation-side technology. So, I don't think that gets you home—and particularly if you take as broad of interpretation §111(d) as you do.

David Doniger: In the context of §111(d), EPA is setting a standard for a known universe of all the existing plants all at the same time. In the context of §111(b), EPA is setting a standard for individual new sources that pop up, who knows where, who knows when. It's a different problem.

Audience Member: If you set BSER for new sources, is that same BSER for existing?

Jeffrey R. Holmstead: Right. I think we'd all have the same answer to that, and that's absolutely not. But I do think the best system of emission reduction has to be something that, for existing plants, just like new plants, is something that is related to controlling emissions from the source itself. And I say, that's not just my interpretation.

That's 40 years' worth of CAA history. So, no, I think it's very clear that existing sources are not required to use the same best system of emission reduction that new sources are. My only point is I think it's—look, EPA is—let's pick any number just like NRDC does, pick a number for a new source, doesn't matter what it is, as long as it's below 1,100. You pick that number and then you say part of BSER for you is to go out and invest in other things that will make up that difference. And my point is, it's completely arbitrary for EPA to require \$1 billion technology on a new plant when for that same \$1 billion from that same plant owner, you could get many, many times the emission reduction. I just think that that is completely—I mean, if that's not arbitrary and capricious, I don't know what would be.

Audience Member: Assuming that the affirmative view of the system-based standard of performance is used, how would remaining useful life be considered? Specifically in a system-based approach that would use some measure like rate CO₂ per megawatt hour generation that would be set low enough either to force coal retirements or eliminate base-load capacity in the event that demand-reduction programs, efficiency, and other methods would not work, is this consideration of remaining useful life?

David Doniger: So, I tried to address this maybe too elliptically before, and NRDC has a paper out on the website, *Questions and Answers on the EPA's Legal Authority*, of which this is one.⁴¹ Remaining useful life is an undefined term. It is a signal that there was some recognition that at least if you were thinking about uniform standards that had to be met by each source, there is the possibility that some sources might have higher cost structures or some economic justification for having some time, perhaps, for extended time for compliance.

What I'm saying is if you have a system-based approach and you think about this from the point of the view of the owners of these facilities, not these facilities—these facilities are not living entities, they are owned by people, and they're operated by people. So, when you think about the economic options that they have, a flexible system-based approach, such as NRDC is suggesting, gives the owner of that facility the decision, how long do I choose to operate this, knowing that it has an emissions compliance obligation, but it could be satisfied by using these alternative methods of compliance. And all that gets folded into basically the question—and it's not arbitrary—what is the emission rate that can be achieved at a reasonable cost, which you use tools like the IPM model and other tools to get a handle on what would be the cost of given emission limits across the system?

41. NATURAL RESOURCES DEFENSE COUNCIL, QUESTIONS AND ANSWERS ON THE EPA'S LEGAL AUTHORITY TO SET "SYSTEM BASED" CARBON POLLUTION STANDARDS FOR EXISTING POWER PLANTS UNDER CLEAN AIR ACT SECTION 111(d) (Oct. 2013), available at <http://www.nrdc.org/air/pollution-standards/files/system-based-pollution-standards-1B.pdf>.

But then there's all this flexibility to individual plant operators, and that is a means of accommodating remaining useful life within the system-based standards. So, you don't need a separate variance procedure such as existing rules now. So, it needs to be changed.

Jeffrey R. Holmstead: So, in your view, useful economic life would just become an artifact that's just not a relevant concept anymore?

David Doniger: No. It's entirely a relevant concept. What is remaining useful life? It's an economic decision by the companies on how long you want to run this thing.

Jeffrey R. Holmstead: But it's supposed to be made by the state, right? Regulations of the Administrator under this paragraph shall permit the state in applying a standard of performance to any particular source to take into account these various factors. That's basically—

David Doniger: So, our proposal goes this one better, because under it, the state allows the companies themselves the flexibility to consider the remaining economic value of their existing assets, within a systemwide standard that achieves overall carbon reductions.

Scott H. Segal: It makes the provision completely irrelevant.

David Doniger: No. It actually makes it even more flexible.

Scott H. Segal: No, no, no.

Jeffrey R. Holmstead: You're trying to read the statute that gives effect to all of the parts of the statute. I think that's hard.

Scott H. Segal: Yes, that's very tough. And if I had a brand new facility that had all of its useful economic life—we're not brand new, we're not a new source, but a very young power plant that had almost all of its useful economic life—if I were in an area that had a lot of outside-the-fence-line possibilities, its useful economic life is zero.

David Doniger: No, completely opposite. If it is a relatively new facility, and you have a lot invested in it and you want to operate it a long time, and it makes economic sense for you to do that by buying your credits from cheaper reductions outside the fence line, you should have the flexibility to do that. I am always stunned by the lack of interest in flexibility by your side.

Jeffrey R. Holmstead: But again, there is a very important legal distinction, and that is states certainly have flexibility in meeting their obligation under §111(d). The big question, I think we all agree, is what can EPA consider when it comes up with that state obligation. I'm interested in flexibility at a 2,000 emissions rate. I'm not interested in your flexibility at a 1,500 emissions rate.

Scott H. Segal: Yes, it's still in place. And many people got behind it and give flexibility and yet the court said to have that flexibility, so as professionals, our task is to try to take this amazing tool that is the CAA and reach a goal, which everybody agrees is a healthy environment, economies that work really well, and populations that are healthy and working in a good accord. That's what ELI is about, and that's what we do.