Climate Policy Under the Clean Air Act
An RFF First Wednesday Seminar
March 3, 2010

What follows is a transcript of the First Wednesday Seminar "Climate Policy Under the Clean Air Act," held at RFF on March 3, 2010. It has been lightly edited and will not directly correlate to the verbatim video recording.

Phil Sharp: Because of my involvement when I was in Congress with the 1990 Clean Air Act amendments, I'm going to make a few very broad comments about the Clean Air Act. Hopefully they will be helpful to those who have not have had to deal with this piece of legislation.

First of all, it is important to recognize that the Clean Air Act represents a very complex set of authorities that Congress has delegated to the U.S. Environmental Protection Agency (EPA). That discretion comes in various forms. In one form, it resembles the more traditional regulatory systems of the Federal Power Act, the Federal Communications Act, the Securities and Exchange Commission Act—all established in the 1930s—in that the federal government makes a broad general grant to the agency and expects it to fill in very dramatic forms. The obvious example is that EPA must determine the National Ambient Air Quality Standards (NAAQS) that will apply across the nation.

But unlike many other regulatory acts, the Clean Air Act also has some very highly prescriptive and specific kinds of regulatory mandates. One of the most obvious is the tailpipe standards for automobiles: Congress went to great lengths setting limits on, I think, grams per mile on carbon monoxide and about three major pollutants that come out of the auto. That standard says when and what EPA will have to do. That was somewhat changed in 1990, but it is still very explicit, no discretion, just get the job done. EPA might have to set up a testing system, but the agency had no fundamental policymaking role in that case, unlike in the NAAQS case.

In addition, the authority is not exclusively exercised by the EPA, although it has lead responsibilities and major activities that it alone undertakes, like determination of the best-available control technology for a new electric power plant in this country. The act leaves a number of the decisions to the states once the federal government sets the NAAQS, the broad standard. For example, it leaves to the state how heavy to regulate which emitters within that state to meet the goals of the state implementation plan. As a result, aside from all the permitting issues and enforcement questions, just in the policymaking alone is a shared responsibility that is not always easily understood or worked out.

In addition to the complex set of delegated authorities, we obviously have the situation that when the agency exercises its authority, it is almost always subject to court challenge. There is a dispute over whether the endangerment finding is subject to court challenge until EPA takes the next step; many would think it's not

technically something over which you can get standing to sue, but I'm not a lawyer. I talk to lawyers and sometimes understand what they say. So as I understand it, that's the case.

The courts have had a major role and will continue to in the policy questions that EPA decides. Most people understand that its rules, when it recommends them, get challenged, oftentimes by industry or by the emitter that has to respond. But what many people do not grasp is that a whole other set of challenges occurs for the EPA by those who say the agency has not acted; the agency should act.

Indeed, the reason we are here today and talking about this subject is because a number of state governments and other entities went to the federal courts after the agency denied them the chance to regulate carbon dioxide (CO_2) emissions. The federal courts said, "Wait a minute: you do have the authority to regulate, EPA; you're going to have to think about this; you're going to have to take some action." And that's where we are at the moment, after *Massachusetts v. EPA* was decided in 2007.

Another perspective is how likely or difficult it is for the United States Congress to change this fundamental act. I see Congressman Sherry Boehlert, who's been a subcommittee chairman on science, grinning at the moment because Sherry knows it's damn tough.

The 1990 amendments were the last major successful undertaking to change the Clean Air Act in a large way in this country. I want to make a couple comments about that process. It was clearly bipartisan. We had a Republican president, President George Bush—number one that is—and he offered up a major set of recommendations and changes. The Congress, of course, at that time had Democratic majorities.

Also often missed in the politics of legislating is that the Clean Air Act amendments of 1990 were not one-way. They didn't just impose a whole set of new requirements that upped the ante and the drive to cut emissions in this country. They did that in terms of the acid rain program, the sulfur dioxide (SO_2) trading program, but they also reduced regulation in a sense by adjusting the targets and timetables that had been so difficult to meet and that so many interests, including city governments, were petitioning the Congress to undo.

Let me suggest to you two other times an effort was to be made. The first George W. Bush administration sought to engage Congress in what is known as the 3P bill, named for the three pollutants—nitrogen oxides, sulfur oxides, and mercury—that the electric utility industry was facing. The administration wanted to get a packaged deal; it thought that was a more rational way to go and presented the bill

to Congress. This was a Republican administration presenting this to a fully Republican Congress, and yet it was unable to get that to happen.

The point here is this is complex, with many interests and regions involved on all the major issues. It isn't just a matter of which party is in charge.

Let me give you one last example. When Congressman Waxman introduced the Waxman-Markey Bill, one of the surprises—and one of the politically advantageous things that he did to build a coalition—was that he recognized this trade-off that I mentioned to you a moment ago.

What he essentially said was, "If you will agree to regulate the major emitters in this country, under the cap-and-trade system, we will take away the authority EPA may have under *Massachusetts v. EPA* for several years. In other words, we will try to make sure that in a sense you don't get double regulation."

This is a very appealing concept to many emitters in this country who feel one way over the other. In other words, they have to choose the style of regulation. Congressman Waxman, of course, had been intimately involved in the 1990 Clean Air Act, and I think he understood that concept very well.

One more major point I want to make about the general direction of the Clean Air Act is the style of regulation or the regulatory approach. Under most provisions of the act, is it is a system of command and control—that is, the agency sets a standard, and every emitter must meet that standard. It's quite specific: you emit, you must meet the standard, whether it's a technology standard or an allowable level of pollution, which means you have to reduce to get to that level.

In 1990, one innovation that was adopted on a bipartisan basis, of course, was the cap-and-trade system, which has a command in it that the nation must reduce the total budget of pollution, but it's not a direct control as such. Emitters do have flexibility, they have options—they can trade. In fact, if an emitter over-reduces, it can get rewards by selling emissions allowances to the one that has more trouble controlling its emissions. And this is quite a different kind of flexibility, often considered as a market view to enforcement.

It's not true that the Clean Air Act is without some flexibilities to allow emitters to move around under "bubbles" or to have some limited trading systems. People at the agency, lawyers, emitters, and environmentalists over the last 30 years have worked to find ways to reduce costs and be effective.

Let me now turn it over to Art Fraas. We're very pleased to have him here at Resources for the Future. He's a visiting scholar. He happens to be a scholar with

extensive experience in the U.S. federal government. He has served at the Federal Reserve System, on the U.S. Senate staff, and perhaps most powerfully at the Office of Management and Budget. Art, we're delighted to have you here; take it away.

Art Fraas: Thank you. I'm delighted to be here. Last fall, when the legislative efforts seemed to be flagging on the Hill and the current administration had begun to take steps to regulate greenhouse gas emissions from mobile sources, RFF Senior Fellow Dallas Burtraw brought Nathan Richardson, who's on the panel today, and me together to discuss potential regulation of greenhouse gas emissions under the Clean Air Act.

Our focus was pretty narrow—it was specific to what the regulation of stationary sources might look like under the Clean Air Act, rather than broader questions, such as what would be the best way to regulate greenhouse gas emissions.

As we talked it over, the analogy that came to mind for the Clean Air Act was a large river with different channels separated by islands. The channels between the islands may flow at different speeds and have different obstacles; there may be a log across the channel. Once you take a channel, the decision may be irrevocable. Or there may be a surprise side channel that could take you to a different channel.

So as you approach a set of islands, you have to pick a channel. The river's moving steadily downstream; you can hear the roar of downstream rapids. One of the things I learned in this situation is that it's a good idea to do some scouting of the river.

In scouting a river, the questions you might want to ask yourself include: What is the best way through this rapid? Can I make it? What happens if I goof it up?

For the Clean Air Act, the questions might be: What are the channels we have to take? What is the best way to use the Clean Air Act to reduce greenhouse gas emissions? What are the legal and/or implementation obstacles to this approach? And so it is in this spirit that we turn to our panel today to discuss climate policy under the Clean Air Act.

Nathan Richardson is going to go first. He's a visiting scholar at RFF, working on a regulatory policy with an emphasis on climate change, and he recently received a law degree from the University of Chicago. Nathan? You're up.

Nathan Richardson: Thanks, Art. I also want to say thanks to RFF for making it possible for me to be here, both generally this year and specifically today.

There is a lot to talk about on this issue, so I can't cover everything available, certainly not even everything that I find interesting. But I am going to make one point and ask one question in particular that Dallas Burtraw, Art, and I have been researching here.

There's a standard view of the Clean Air Act, and I'm going to tell you two ways that I think that view, or least the way it's presented currently, is wrong. That ties into the analogy that Art made, and I hope it will help you, as an audience, better understand what's going to come, both in my presentation and the ones afterward.

I'm also going tell you about our research topic. The questions I have deal primarily with regulation of existing stationary sources: the plants on the ground that aren't getting modified. What does regulation of those existing sources look like? I think that's relatively under-researched, although other people on the panel may have ideas that I haven't heard, and I'd certainly look forward to hearing them.

Let's start with the standard view and what I think is wrong about it. The view that I'm going to characterize as standard is one that you see in media accounts, in political statements, and from people who oppose or support Clean Air Act regulation of greenhouse gases.

It's less likely that you see this view among the other members of the panel and among most of you in the audience. I think that it's probably a very sophisticated group here. So don't take this as a criticism if you don't feel this way, but it is a criticism of a view that I see often.

I think the standard view of the Clean Air Act, at least in terms of greenhouse gases, is wrong in two ways: first, it's presented as an alternative to climate legislation, and second, it's presented as an either/or, all-or-nothing monolithic approach.

Let's start with why it's wrong to present it as an alternative. Phil talked a lot about this, but the Clean Air Act is not new—it's been around since the 1970s and was substantially revised in 1990. Greenhouse gas regulation under the Clean Air Act has been considered since the Clinton administration. When I say that, I don't mean to suggest that the path from then to now has been smooth; anybody who's paid attention to the current controversy over *Massachusetts v. EPA* knows that the path is not smooth. That's not what I am trying to suggest. I'm just trying to suggest that the path shouldn't be surprising.

Moreover, the Clean Air Act has consistently been in the background. We characterize it as an alternative now—at least many people characterize it as an alternative. Legislation, in fact, was the alternative. Legislation, as Phil mentioned, would have superseded the existing Clean Air Act and put a new mechanism in

place. So I think to the extent that the Clean Air Act is characterized as an alternative, it misrepresents the role it plays as an existing statute and the role new legislation would play.

Another point that I think is somewhat incorrect about the general view of the Clean Air Act is that it's presented in a monolithic way: either we regulate with the Clean Air Act, or we don't. In reality, there are many different pathways to regulation; Art's analogy is very apt in this sense. Multiple pathways impact different kinds of sources. And I think it's important to realize that EPA doesn't have to do everything at once.

The three main pathways in the Clean Air Act are mobile-source regulation, permits for new and modified stationary sources, and regulation of existing stationary sources. Mobile sources and stationary sources are Clean Air Act lingo for cars and trucks (mobile sources), and power plants and industrial facilities (stationary sources).

All these could happen for greenhouse gases. They'll generally happen in the order that I presented them, but there will be substantial overlap.

I hope all of you have a copy of the chart I prepared. I'm going to walk through it briefly. I designed this chart to make the Clean Air Act options easy to understand. I realize now, looking at it, it's probably intimidatingly complex. I apologize for all the acronyms in it, but we are in DC, so I couldn't do it otherwise.

What this chart is designed to show is those three separate pathways that I told you about and how they connect with each other. Your initial steps are at the top—the key step is *Massachusetts v. EPA*, which launched us into mobile-source regulation. That case was brought under the mobile-source provisions of the Clean Air Act. All the major moves that the EPA has made on greenhouse gas regulations so far have been under these mobile-source provisions. The endangerment finding that most of you are aware of that is under the mobile-source provisions. The fleet emissions regulations that are supposed to be finalized this month are also under those provisions.

Most but not all people have a general sense that this is a relatively well-known pathway. There was a compromise agreement last year between states, automakers, and the EPA on how cars and trucks will be regulated under the Clean Air Act. This is a relatively stable pathway. For example, the Waxman-Markey Bill last year would have removed a lot of the Clean Air Act authority but preserved this mobile-source authority.

The next step in the process, the one that's triggered by this mobile-source regulation once it becomes effective, is permits for new and modified sources. These are stationary sources. Preconstruction permits, in most cases, are required when a plant either is built or when a plant undergoes some substantial modification. This is a relatively stable program, but implementing it for greenhouse gases would create some problems. The largest of them probably is that the statutory threshold for who needs a permit is low for greenhouse gases, in most cases 250 tons per year. Apartment buildings in this town might emit that many.

No facilities at this level of emissions have experienced this regulation before, so it's a real challenge, both for who might be regulated and for the regulating entities. The EPA is trying to tailor this approach so that at least initially, only the larger facilities are regulated. There are some legal questions about that—there are a lot of interesting issues here. I have a strong suspicion that other people on the panel are going to talk about this, so I won't go into it in depth, but if we do want to talk about that more, we can come back to it.

What I'm really interested in and what I've been doing most of my research on with other people here at RFF is the puzzle of what happens to existing sources, sources that aren't modified, sources that aren't new construction. You have an existing coal plant on the ground: what happens to it? Is there a way to regulate it under the Clean Air Act? A better question may be: how likely is it to get regulated?

If you look back at the chart, we're in the largest box on the right. As you can see, even within that question are multiple pathways. And I think probably two of those are more or less plausible. One is new source-performance standards (NSPS), which is somewhat of a misnomer because we're actually talking about existing sources. We also have the NAAQS, which Phil mentioned, usually considered to be the core of the act. That's what most people associate with Clean Air Act regulation.

As of today, the NSPS pathway seems the most likely. The EPA offers some anecdotal evidence of that, and President Obama's proposed budget for this year included explicit funding for research into NSPS regulation of greenhouse gases. I think most scholars would prefer this approach.

The primary research topic we've been looking at here at RFF, as Art mentioned, is what NSPS would look like for existing greenhouse gas sources. The following is a hypothetical standard for greenhouse gases in the electricity sector: We know, or at least we think, that in the electricity sector there are non-trivial gains to be made in terms of efficiency. The EPA estimates that for coal plants on the ground now, efficiency gains of somewhere between 2 and 5 percent are available. The National Energy Technology Laboratory, part of the Department of Energy, estimates that

there might be a bit more than that. Furthermore, the EPA estimates similar gains might be available for biomass co-firing.

If you take these existing, available, on-the-ground possibilities for improvement, you can imagine a scenario where EPA might propose something in the neighborhood of a 5–10 percent across-the-board improvement in efficiency and emissions from these coal plants, and I'm speaking just about coal plants—gains from gas probably would be substantially less.

Once you take this 5–10 percent, you can see three plausible forms of an NSPS: you could have a uniform efficiency improvement, you could have a uniform efficiency standard—I can explain the difference between those in the questions—and you can even imagine this being used to set the cap for a cap-and-trade program.

But substantial questions remain for which the answers are unknown. There is limited precedent for trading under the NSPS, although I tend to think it's possible. It's hard to incentivize fuel switching. What you really want to have is an efficient climate policy in the energy sector. In fact, it might be impossible to include renewables because renewables have no emissions, and to be regulated under the Clean Air Act, you have to be an emitter.

Finally allocation decisions, to the extent there are any in one of these programs, would get made by states. With the exception of the Title IV SO_2 program that Phil mentioned, that's generally the precedent in environmental regulation. In fact, it's an almost universal precedent. While not necessarily a problem, it is something to think about. You might not have a uniform policy, and the extent to which you trust states or think states are good actors in terms of being able to do this effectively matters.

I want to conclude by talking just a little bit about the NAAQS. This is a topic that I've written about. It is a core Clean Air Act program, but generally most scholars who have looked at it don't think it's a great fit for greenhouse gas regulation for a variety of reasons.

I've written a paper where I argue—and I think I'm right about this—that it might be legally required. A petition is before the EPA saying that based on the endangerment finding, the EPA will have to issue a NAAQS; I don't know whether that petition will be successful, but I think there's a substantial chance that it will be.

My bigger question isn't necessarily who's going to win that lawsuit, but if that lawsuit does progress, what happens? How does Congress act? How messy do

things get? The longer this potential lawsuit goes, the more problems it could cause for NSPS regulation because the two programs are mutually exclusive.

To wrap up: we need to reframe some elements of our discourse about the Clean Air Act in two ways. First, it's not a monolithic approach; we have different pathways and different options, some of which might remain with legislation and some of which might go away. And second, it's not an alternative; it exists, it's on the ground, and legislation is an alternative to the Clean Air Act.

The second thing I'd like to say is that the question of whether and how existing stationary sources are going to be regulated under the Clean Air Act is open. We know a lot less about it than we do about mobile-source regulation and the permitting programs, and I think that's the most interesting question we have in front of us. It's more of a long-term question, which explains why we don't know everything. But it's certainly something we're researching here at RFF and that I'd like to hear more about. Thank you.

Art Fraas: Thank you, Nathan. Our next panelist is David Doniger. David is a policy director for the Natural Resources Defense Council's (NRDC) Climate Center. He has a long and distinguished career in the environmental and energy areas: he first joined NRDC in 1978 and served for eight years in the Clinton administration EPA. David holds a law degree and a master's degree in city and regional planning from the University of California at Berkeley (and we must have been there about the same time).

David Doniger: Oh, that was you on the barricades? Thank you very much. It's a pleasure to be here. A large group—I'm impressed that there's this much interest in our little, arcane Clean Air Act. I have only one slide, and I wanted to use it as a heuristic tool. It's a little different from Nathan's, but they fit together; there's quite a lot of overlap here, and my chart's just a little simpler.

I want to start by re-emphasizing a point that Nathan made. In the current discussion on the Hill, a lot of podium-thumping members at this point are claiming that the EPA and the administration have surprised everyone by creating, "out of whole cloth," a tool to address global warming. In the words and images of one of the trade associations, this is a "power grab." There's a nice little chart of a fist grabbing a bolt of lightning on the web.

The truth is the Clean Air Act since 1970 has been an act of Congress, and Congress instructed the EPA not just to deal with a handful of pollutants that were known at the time, but they also gave EPA the tools to apply modern, developing science to address new pollution hazards as they became evident.

We have another chart in the works that shows a blossoming in the number of pollutants that have come into regulation since 1970. EPA took most of the actions, and Congress itself added the largest number of pollutants in a couple of focused actions in 1990. So the law goes well beyond the five criteria of pollutants that it started with in 1970, and it was meant to. It was meant to be there to deal with public health and environmental hazards as the science revealed them.

That's what the endangerment question is all about. It was framed up over the controversy about lead and gasoline in the mid-1970s. The first major pollutant that EPA added to the law was lead as a hazard to children's health. EPA had to make a determination that there was a danger. The language at that time was not uniform between the different sections of the Clean Air Act, but in those amendments in 1977, Congress ratified the decisions that EPA and the courts had made about lead and established the endangerment language more uniformly throughout the law. The test is if EPA determines that a pollutant from a particular kind of source contributes to air pollution—sometimes it significantly contributes to air pollution that may reasonably be anticipated to endanger public health or welfare—then in most parts of the law, a mandatory obligation to regulate kicks in.

"Welfare" is a term that since 1970 has expressly included adverse effects on the climate. So its legislative history goes all the way back to the 1960s, showing an awareness by members of Congress that CO_2 and other pollutants could alter the climate.

One minor point of difference I'd make with Nathan is that the endangerment determination that EPA made is across the board. It covers all the different possibilities in that it was a two-part determination. First, it determined that anthropogenic greenhouse gases that are already in the air from different sources are endangering and are expected to further endanger in the future public health, public welfare, and the climate. The second part is the contribution determination, and the existing action in December makes the contribution finding only with respect to mobile sources. In addition to endangerment, a separate step needs to be taken in making a contribution determination in order to invoke one of these pathways.

Let me step back further just to explain how we got where we are. We began the litigation with Massachusetts and the other states in what might be called the coldest and darkest part of a little ice age in Washington, the period in which the legislative pathway was shut down; the last administration was shut down. The only pathway was to go to the courts and challenge the determination made by the second Bush administration that air pollutants didn't include greenhouse gases and the Clean Air Act did not authorize any action on greenhouse gases—and even if it

did, they Bush administration determined it wouldn't use whatever discretion it had.

So we joined in that coalition, we took this case to court. It ended up in the Supreme Court with a decision that "Yes, Virginia—" (actually Virginia wasn't involved), "Yes, Virginia, there are air pollutants," because the definition is any chemical substance which is emitted into the air. And if they are dangerous, if they're endangering, then there must be regulation, the Supreme Court ruled. The Supreme Court further ruled that the EPA had to make the endangerment determination on the basis of science considerations only. There are six or seven other considerations of foreign policy, economics, and "I-don't-want-to" kind of factors that the administration had relied on, and the Supreme Court said that those were all beyond their authority.

When the Obama team came in, I think that they were motivated by two desires: to make this part of a broader demonstration about rule of law and also a broader demonstration about following science. I think those are still valid points. The push from certain members of Congress to repeal the endangerment determination under the Congressional Review Act smacks of a rejection of modern science. It's equivalent to having Congress overturn the surgeon general's conclusion that smoking causes lung cancer. It would be interesting to hear how you differentiate that.

So where does it lead? The mobile-source path Nathan and others have described led to a clean-car peace treaty, which was unveiled in May in the Rose Garden. It became possible to establish national emissions standards that are coordinated with national Corporate Average Fuel Economy (CAFE) standards and also the state initiatives brought by California and 14 other states. It achieves nationwide the levels of reductions that the states were seeking but with a practical uniformity so that the car companies remain subject to three regimes: the federal Clean Air Act, the state pathway under the Clean Air Act, and the fuel-economy regime. There's one course of conduct that allows them to meet all three regimes.

So they're satisfied with this arrangement, the states are satisfied, the environmental community and the administration are satisfied. The endangerment repeal, if it were to succeed in the Congress, would invalidate the clean-car peace treaty because it's not possible to issue the federal emissions standards without the endangerment determination, and if they are not issued, then the state standards come back into play that have different structural characteristics that annoy the carmakers a great deal.

So the carmakers in the fall, in an earlier iteration of the Murkowski effort, came out publicly against the interference with the issuance of these standards. They are

expected to be issued at the end of this month because of a lead-time requirement that comes from the CAFE law, which requires that the 2012 regulations be issued before the end of March of 2010.

Now let me skip to the National Ambient Air Quality Standards. A petition is pending to invoke the NAAQS pathway. NRDC does not support that petition, and we don't think it's going to be successful. In the Massachusetts litigation, it was necessary to address the question that Nathan posed: will the conclusion that the Clean Air Act applied to the mobile-source emissions compel the conclusion that you had to set a National Ambient Air Quality Standard?

The Supreme Court didn't address that question at all, but the briefs did. And in the briefs, our side said we thought there was a basis for a distinction because an additional factor in Section 108 that's not present in the other sections can be interpreted to allow for more discretion on EPA's part whether to proceed. Nathan, in his paper, has identified that this would require reversing a case by the name of *NRDC v. Train*, a 1976 case in which the Second Circuit Court of Appeals ruled that EPA had no discretion to use that third clause to avoid setting an Ambient Air Quality Standard for lead. I think NRDC as a litigant is prepared to take a different position than we took in 1976 on that question. So we'll see how that develops. Who says there's no flexibility under the Clean Air Act?

The NSPS track is really about, as Nathan said, both new and existing sources. It will be interesting in the Q&A to explore the kinds of flexibility that are possible under that section.

I want to say a word about the tailoring rule, and then I will finish. The key questions are whether the EPA will be successful in changing the threshold level proposed at 25,000 tons per year. Administrator Jackson has indicated that in response to comments, she's likely to pick a number that's higher than that. In my view—not based on anything I've heard from EPA—the number most likely is something in the range of 50,000–100,000. It's not, as some have characterized it, a further weakening or a further retreat; rather, the goal they annunciated was to cover a number of sources that the permitting system can handle and sources of the kind that have been in the permitting system before, not the smaller sources that haven't been entered and that Congress didn't intend should be in it.

In reviewing the data in the first instance, EPA thought the 25,000-ton threshold was the discriminator that would accomplish that division. I think it may end up concluding, as Jackson signaled, that a higher number is needed to accomplish that division. But I don't think the goal is to change the populations that are considered to be in and outside of the system. So that's not a weakening.

The second question is, when will all of this take place? There is some reasonable discretion to decide when, pursuant to the vehicle regulation, the triggering event occurs. The triggering event is when the greenhouse gases become "subject to regulation." It's reasonable to say that it's when cars become subject to regulation for greenhouse gases, which is January 2, 2011. That's when the model 2012 year begins. (Welcome to the Clean Air Act: the model year begins at the beginning of the year before.)

What does the permitting program require? Some people on the Hill are saying such things as, "You could not build the Alaska Natural Gas Pipeline because there's no best-available control technology (BACT) for the emissions from compressor stations." Well, that is a fundamental misunderstanding because in the BACT process, you ask what is technically possible, array the measures that could work, and then ask what do they cost, what is economically reasonable? In this triage process, you obviously knock out things that can't be done, to start with, and then you knock out things that can be done but are unreasonably expensive.

So it is a process of deciding what is available and affordable, and requiring that—not requiring something impossible. These horror stories about not being able to build things are just that: horror stories. It's always good to end with the phrase "horror story," so I'll stop there.

Art Fraas: Thank you. Our next panelist is Jeff Holmstead. Jeff joined Bracewell & Guiliani in 2006, after serving for five years as head of the Air Office at EPA. He now heads the Environmental Strategies Group at Bracewell & Guiliani, working on a wide range of environmental and energy issues. Jeff also served in the government from 1989 to 1993 in the White House Counsel's Office, where he worked on environmental matters, notably the 1990 amendments to the Clean Air Act and the early steps in implementing those amendments. Jeff is a graduate of Yale Law School.

Jeff Holmstead: I'm delighted to be here. You might not be surprised to know that my take is not exactly the same as David Doniger's on some of these issues. Let me just make one or two overall comments and then launch into what I think is of most interest to all of you.

Nathan presented and David reinforced the idea that in fact legislation is an alternative to the Clean Air Act, that the Clean Air Act is designed to do this, it's in place, and it's been in place since 1970. I think this idea is not quite right. I don't think anyone, even before the Supreme Court, argued that Congress intended to deal with climate change in the Clean Air Act; the argument was that the language is broad enough to include greenhouse gases.

It's important to recognize honestly that the Clean Air Act, with all its programs, was not designed to deal with anything at all like greenhouse gases. And in fact, despite what David said, the way the Clean Air Act has worked, by and large, is as new issues have arisen, Congress has been called upon to design programs to address those issues.

Under the theory that David and others espouse, there was no reason for Congress to come in and develop the acid rain program: there was plenty of regulatory authority. But that was actually quite different from other things that the Clean Air Act was designed to deal with. And you'd have to say that's especially true of the phase-out of ozone-depleting substances, CFCs. Under the approach that David and others have espoused and that the Supreme Court did adopt, that was also entirely unnecessary.

But as a practical matter, the way it's always worked is there is a type of issue the Clean Air Act was clearly designed to deal with, looking back to 1970. Every time a new issue has come up, the expectation has been that EPA doesn't invent some whole new program; instead, the elected representatives of the people make these major policy decisions.

And that was the assumption everybody had until probably the late 1990s, that Congress really did need to do something about climate change. I think it's fair to say that the environmental community, which had worked on that type of legislation since 1990, realized it was time to either accomplish something under the Clean Air Act or at least create a bigger incentive for Congress to do something by imposing the cost under the Clean Air Act.

I would be happy to talk to you more about constitutional theory and why I think there are serious separation–of-powers problems with the Supreme Court decision. One other observation I just have to make: many of us in this room were involved in estimates of what the 1998 Clean Air Act amendments would cost; I know Art was there and Boyden and others. I don't remember all the numbers, but an extensive effort was undertaken and estimates were roughly $20 billion a year by the time the program was fully implemented.

By now, to cover greenhouse gases under the Clean Air Act, it has gone from a $20-billion-a-year program to $100-billion-plus-a-year program, depending on what assumptions you use and how it's implemented.

So I'm not suggesting it as a power grab, but as a matter of the way the government works. It's an odd situation that an act everybody agrees was not designed to deal with this problem is now being called upon to do it.

There has been a lot of discussion about regulation versus legislation. I think that misses the most important point about this effort we're about to take. In my view, if EPA were to issue regulations to deal with greenhouse gases, they could do some sensible things. We've already talked a little bit about Section 111, which is the new-source performance standards. Some interesting work suggests that Section 115, which has never really been used before, could be used.

I even think that there are ways the NAAQS program could be used effectively to deal with greenhouse gases. All those are fair, understandable, predictable regulatory programs that could accomplish some useful things.

I wanted to draw out what I think is a much more important distinction between a regulatory program and something else, whether you call it case-by-case permitting, enforcement, or litigation. Unfortunately, this is the primary path that has been chosen to deal with emissions from new and existing stationary sources.

Let me tell you what I mean by that: I think both David and Nathan glossed over the Prevention of Significant Deterioration (PSD) program much too quickly. David in particular substantially minimized the delays that it has caused in building many types of energy projects over the last few years and the likely delays if the PSD program does come into place.

I'm really happy to talk about what could be done in 111, 115, even the NAAQS program. But the big issue that this country is going to face over the next few years has everything to do with this permitting program because it is not a regulatory program in the way we typically think of a regulatory program.

Let me give you an example: When I think about what the rule of law means and the way a regulatory program works, I think that an agency with some expertise like EPA proposes a standard that people know they have to meet at some point in the future. EPA comes along and says, "Okay, let's think about this." They go through a process, they put it out for public comment, and the world is on notice that at some point in the future, it's going to have to meet this standard, whether you're talking about new or existing sources.

That's a regulatory process, in my mind. The PSD program is very different from that because all the important decisions, both about timing and about what is substantively required, are made by a variety of actors with very little ability for public input and the kind of analysis we typically have with regulatory programs.

Let me draw a distinction in four key areas between fair regulation and this permitting-enforcement program that really boils down to how much leverage the government or a special interest group can have over individual actors. How can

they force them to do something with very little standard and fairness in the process?

First, let me talk about timing. This is something I find disturbing because I think my former agency has not been forthcoming with what it really intends to do. In fact, it very carefully avoided the question. As you may know, Administrator Jackson recently sent a reassuring letter saying, "Don't worry about this PSD program; no permits will be required until next year."

The question is, what does that really mean? We have some indications, including some that I think will be made public over the next few days. The agency's view is that the requirements apply as of the date the permit is issued. Hundreds of projects have been in the permitting process, some for years, literally. These permits are supposed to be issued within one year's time, but it often goes well beyond that.

The administration's position is that regardless of when you started the permitting process, you will have to get a CO_2 limit in your permit unless you get it before the end of the year. So who decides what permits are issued by the end of the year? Well, it's by and large EPA. Now, states in some case do have authority, but EPA has made it very clear to a number of permit applicants that it wants them to be subject to PSD, and it is not going to issue a final permit until after CO_2 becomes a regulated pollutant.

An anecdote that I find instructive: The California Energy Commission sent a very strong letter to EPA, raising a number of concerns about whether this permitting program will work. One thing the commission said in particular is, "This is a problem that you need to clarify," because in the past, the requirements that are in place when you apply are the requirements that you have to meet. So they said, "Please clarify that's the case."

This letter caused quite a stir, and apparently the California Energy Commission took the letter off its website and stood down because EPA has reassured them that for the project that the California Energy Commission cares about—a natural gas project to help them support their renewables—EPA will issue those permits in final form before the end of the year. On the other hand, projects the EPA may not want to support—in particular coal-fired power plants but others as well—will not be issued until after CO_2 becomes a regulated pollutant.

So on the one hand, you have EPA reassuring people: "Don't worry, this permitting program is not going to come into effect." In fact, most people don't know it yet, but they are already being targeted under this program.

Let's talk a little bit about the process to set substantive requirements. My view is a fair regulatory process brings a lot of value to all these discussions. Sometimes at EPA, it was a little difficult to have to go through Art Fraas and agencies, but the result of that interagency process is a lot of analysis, a lot of careful thinking done about what this requirement will mean for various sectors of the economy and whether it's fair—all these things. So a detailed process goes on when you have a regulatory program.

You have no such discipline in the permitting process. In fact, under a letter that I think Boyden Gray reissued from some years ago, the White House and Office of Management and Budget are not allowed to get involved in individual permitting actions for a variety of good, prudential reasons. As a result, all these decisions are made by individual state permitting authorities or by EPA.

Let me give two examples of things that have happened recently that I'm quite confident would not have happened had there been the discipline of an interagency process. One of the big debates—one that David has been involved in over many years—is deciding the best-available control technology for a new coal-fired power plant. The environmental community for years has said, "Look, the purpose of this plan is to produce electricity. There's a cleaner way to produce it, so we ought to require not only that they look at scrubbers, selective catalytic reductions (SCRs), and bag houses, but that they use cleaner fuel. So they should be required to switch to natural gas."

After many years of rejecting that position, EPA has adopted it in two individual permitting cases that were decided without input from any other part of the federal government or from the industry as a whole. There was an ultra-critical coal-fired power plant proposed for Navajo Nation in New Mexico that was finally permitted by the region but hadn't yet gone through the EPA Environmental Appeals Board process. When the new administration came in, it said, "Even though we think that permit is legal, we would like to review it under our new policies. And, oh, by the way, we think you should be required to look at a whole different process called IGCC, a gasification process."

A few months later in another project, someone had proposed and gotten the final permit for the gasification process. Once again, even though that permit was finally issued by the state, EPA used another very interesting Clean Air Act process known as a Title V permitting petition to undo the permit that had already been granted for an IGCC process. It said, "No, that's not good enough—you've got to consider the use of natural gas in lieu of coal." So these kinds of decisions are made unilaterally by the EPA administrator, or in many cases, by state and local authorities.

What are the substantive requirements going to be for BACT? There is a workgroup of outside advisors—David participates on it. And I can tell you there are a wide variety of decisions about what is going to happen under these permitting processes. And what is the BACT?

Historically the BACT is what you can bolt on to your plant, such as a scrubber, an SCR, or a bag house. But people are saying, "Greenhouse gases are different; we have to be more expansive." Some people argue that you have to look at natural gas instead of coal, look at wind instead of natural gas, and require this agency to go out and install energy-efficiency lighting, to find offsets. Who's going to make that decision?

It's not going to be a normal regulatory process—it's essentially a question of how much leverage the actors in this little drama have to get the applicant to agree to something. Depending on how much they are willing to spend—if it's $10 million to contribute to a local park, which often happens, whether it's by X offsets or Y offsets—they may get the permit. That's the way this permitting process works, and it goes on for years. As far as I know, only two lawsuits have been filed to try to get EPA to make a decision, and even in those cases, there's no way to do this except to agree to something that either EPA or the permitting authority will be happy with.

One more thought about existing sources: David and others blithely say, "Well, this process only applies to a major stationary source that makes a significant modification," but that's not true. Under the approach that EPA has been following now since 1997, any project, no matter how small, that recovers some lost downtime triggers PSD. For instance, the process would apply if you had something break on your plant, you fixed it, and that was projected to allow you to run more hours next year than you did in the past.

There has been enormous litigation about this, and many of you know that fact. But enforcement officials are viewing this as the way that they can get involved in looking at existing plants. Again, it's all a matter of leverage: I've had enforcement officials tell me they believe that if they look at any big manufacturing plant, they can always find something to claim as a New Source Review or PSD violation. They bring a lawsuit, and then it's all about negotiation. It's all about how much leverage they have, whether they think you can do biomass at this plant or that plant, or which plants you're going to shut down.

I've already used up more than my time, but I really do think there is a distinction between legislation and regulation, and I think there is a fundamental distinction that we're now faced with regarding the rule of law: are we going to be fair and tell people what they're required to do, or are we going to let that be decided in dozens

and hundreds of individual permitting processes and enforcement actions? The latter is where we're headed today, and I think that's what's at stake in many of these discussions on the Hill. Thank you.

Art Fraas: The panel wants to come up and sit at the table here. Phil, do you want to have a first crack at asking questions?

Phil Sharp: I don't want to ask a question, but I want to inject another issue: profoundly important to the choices we make about how we regulate greenhouse gas emissions are the methods or techniques that are most likely to get us significant technological change, not just adoption in the marketplace of technologies that are currently available. Setting a regulatory system in the first round in EPA will get you a level of increase and push research—it will push some technological improvements on efficiency and fuels and what-not.

But if we are thinking of this as a 50-year problem in which we must advance what we know today, the issue is, what is most likely to get us continuous improvement or continuous incentives to go forward? Most of us think that research and development is only one part of technological change. I think a very significant issue to be examined is the choice of regulatory mechanisms that is most likely to create innovation.

David Doniger: I just wonder if I could comment on that. First, I agree with you that that's critical; second, a long-term decline in caps, such as in the proposed legislation, would be a very strong driver for that. We support legislation—I should have made that much clearer in my talk. The next legislation would be Clean Air Act 4.0 (we're living under Clean Air Act 3.0 right now), and it's perfectly consistent for us to think of a world in which we're working for that kind of comprehensive legislation and working out and applying the Clean Air Act as it is today.

One other point I'd make is that there are ways the 111 system could be elaborated with performance standards, which have some element of flexibility to them. I don't want to go too far here, but there are areas to explore. Possibly a declining performance standard could be thought of as an element of a Section 111 program.

If you look at the mobile-source side, we have standards for model years 2012–2016, and they get more stringent for each model year. The pattern for the NSPS has been to set a flat standard and hold it for 8 or sometimes 10 or 15 or 16 or 20 years, until somebody successfully sues for the updating, which is supposed to happen every 8 years. But you could build in a continuous improvement component that could be applied also when performance standards are set under Section 111(d) for existing sources.

Art Fraas: Let me interrupt for a minute: at the beginning I think we asked you to fill out your note card and put your question on it. If you could pass it up to these two guys in the front, that would be great. I'm going to open the comments and questions to the panel and then open it up to the audience. So are there other questions or comments? Nathan?

Nathan Richardson: I would like to add something briefly on the question that Phil just asked. If you're in a world where there is no legislation and you want to get technological development, I think the answer is the same as in a world with legislation: you want to set a price on carbon. That seems like the best way to get innovation. So then the question becomes, what mechanisms under the Clean Air Act can you use to do that? And there is a pretty strong precedent for having some form of trading under the NAAQS; there's a much weaker precedent for doing so under the NSPS and under other programs, such as 115.

So one of the questions I'm most interested in—one you don't know the answer to until it gets litigated—is, under which of these programs can you have a substantial trading program for greenhouse gases? I don't know the answer to that, but I'd really like to.

Jeff Holmstead: On this issue, I do agree with David and Nathan; I think the best way to promote innovation, at least in a regulatory program, is to create some sort of a price signal. I think that will be challenging under the Clean Air Act, but it conceivably could be done under a NAAQS program, Section 111, or perhaps even Section 115. A lot of thinking still needs to go on in those issues.

David Doniger: Just one point is that we tend to talk about setting caps or limits or performance standard, and from them, there are obvious price-signal consequences. The goal is to limit the pollution; there is a value in doing it in a way that creates incentives for innovation and better performance—call that setting a price signal—but I don't think the Clean Air Act is about prices; it's about limits.

Jeff Holmstead: Again, back to my earlier diatribe, the permitting process is not an effective way to encourage innovation. I think there are many other ways to do it, but I think having CO_2 subject to these pre-construction permitting programs is not the right way to incentivize technology.

Art Fraas: What would your reaction be to a targeted rifle-shot amendment to the Clean Air Act that would remove the New Source Review pathway for greenhouse gases?

David Doniger: Let me take the first shot at the rifle shooter. I don't think anything of that nature is needed because of the way in which the EPA is apparently set on exercising its authority. I already summarized the moves it's making to ensure that

the smaller sources that have not been subject to this pre-construction review wouldn't be subject to it, going forward on greenhouse gases. If someone is proposing a true rifle-shot to ratify a higher threshold once EPA determines what is the right amount to accomplish that purpose, I might have a different view about that.

But there doesn't seem to be a need to do what Senator Rockefeller is contemplating, which is to call a halt to current regulation, even if it were targeted, as Art said, to that one program, because Administrator Jackson has outlined a reasonable schedule that allows the states to change their programs, as needed, to accommodate this higher threshold. There needs to be—but there is—a process of developing some guidance about what would be considered reasonable control measures for BACT, at least for the kinds of things that are going to come up on a recurring basis.

Jeff Holmstead: As David well knows, the Clean Air Act says a major source is anything over 250 tons. Now EPA has said, I think appropriately, "That just won't work here; we'll be overwhelmed. So we need to figure out a way to increase that." And some people have said yes to the 25,000-ton limit, which is still way to small. Wouldn't it be advisable to make sure that this proposed approach actually passes legal muster before we trigger the permitting programs? Because first of all, there are citizen suits against anybody who wants to build anything, even if they're below the 25,000-ton threshold. And if that threshold is likely to be struck down, as some people have suggested, all of a sudden you have possibly millions of major sources. Shouldn't you at least wait to find out if that's going to hold up before you head down this path?

David Doniger: It's not as though this is unfolding at a faster pace than we can digest and react to. I know—I think with a high degree of confidence—all the potential litigants on our side who might challenge the thresholds of the exclusion, and there aren't any. Even the group that is often thought of as most likely to do that has assured me that they're not going to do that.

Jeff Holmstead: So there will be no litigants?

David Doniger: There will be no litigants from the environmental side to challenge the rules. Now, will the big representatives of power plants—

Jeff Holmstead: So the lie is what the environmental groups decide they're going to challenge. As long as they're willing to live with something that's clearly illegal, then we should be happy with that?

David Doniger: No, I think the answer is that they've been persuaded by the administrative-necessity rationale, which is a legal doctrine. But the question is whether the associations that represent power plants or oil refineries, who are undoubtedly on Chamber of Commerce—representatives of the big boys—are they going to challenge the exclusion of the small sources? I would like to be in the conference rooms where the National Federation of Independent Business, the Chamber of Commerce, the American Petroleum Institute, and the utility regulatory group hash out that strategy.

Would they have standing to complain that someone small has been excluded from a program that by its terms covers those who are bringing the lawsuits? I'm not sure this case can be brought. The other scenario—

Jeff Holmstead: And you don't think that some of those groups that care about climate change would argue that if we exclude all of these sources, we won't get the reductions we should, and so they wouldn't have standing that way?

David Doniger: I think it would be very interesting to see whether your bylaws of the utility air regulatory group evince a concern about the adverse effects of climate change. The other scenario is somebody challenging a particular plant. I think once those rules pass their 60-day mark, they may be beyond challenge.

So I'm not saying this is the perfect solution, and a true rifle shot may be a good idea. The trouble is that when one member of Congress proposes a rifle shot, somebody wants to add something with a little wider area coverage to it, and then a little wider area coverage to that, and rifle shots become blunderbusses and so on.

In the course of the comprehensive legislation, which we hope Kerry, Graham, and Lieberman's process will produce, it's obvious that the questions of what adjustments to make to the existing Clean Air Act will be addressed. We have a narrower view of what adjustments are needed than Congressman Waxman's proposal, and maybe interest groups and members of Congress have some progress to make on that. But when you're doing Clean Air Act 4.0, it's obvious that people take a look at what's in the existing 3.0.

Nathan Richardson: That debate's really interesting, but I want to try to take a broader view, really quickly. It doesn't exactly answer Art's question, but with the arguments EPA is using to support the tailoring rule, it is basically saying to courts, "Stop me before I regulate again." EPA doesn't really like this 250-ton limit in the statute any more than the regulated industries or apparently environmental groups do. That's not an unprecedented position for an agency to take, but it's odd. And it

makes you ask, if you look at the Clean Air Act as a kind of regulatory software, is it a bug, or is it just an unplanned feature?

I think whether Congress passes this kind of rifle-shot law will answer that question. If there is a rifle shot, it's a bug, and we fixed it; and if there's not, or if you have some kind of blunderbuss approach, then maybe it was an unplanned feature. Maybe there were more bugs than we thought. But Congress ultimately gets to decide the answer to that question when we have a problem like this.

Phil Sharp: If we're talking about Clean Air Act 4.0, then we're talking about a very complex legislative vehicle going through the Congress, one that will have multiple interests and multiple visions way beyond greenhouse gas emissions, and that's just tough to do. We've done it only three times in the history of the Clean Air Act. I articulated how that's hard, not impossible, but it seems highly improbable at the moment.

But David is not talking about that happening now; he is talking about how over years, we are going to make changes.

David Doniger: Let me be clear: Waxman-Markey, for example, is framed in terms of adding to and modifying the Clean Air Act. I think this would be true of a Senate bill as well. It proposes some energy legislation outside the Clean Air Act, but the greenhouse gas limitation program, whatever form it takes, will be under the Clean Air Act.

Phil Sharp: I don't disagree with that; it's just tough. The rifle shot on the tailoring rule might have possibilities, but it won't be a singular vehicle because it would go through both chambers for a vote. More likely is that it is added to some other legislation going through Congress, so the average member can't dispute it or get at it in terms of votes. But as David's already implying here, once you start down that path, there are always other people who have better ideas, either about that rifle shot or an additional rifle-shot, and that complicates it.

This might be a good place to say something about the effort that is actively under way at the moment to exercise the authorities under the Congressional Review Act. This effort involves a joint resolution of the Congress to overturn the endangerment finding at EPA and therefore block the path forward, in theory. It would do that under the mobile regulations as well as the stationary regulations.

Two things are important to recognize about that legally and politically: it's the same as any act of Congress or law in the regard that both houses have to pass it, and it must be signed by the president of the United States. So even if you could get

both houses to agree to it, it's not clear that this president would sign it. If he vetoed it, making it law would take two-thirds vote on both sides.

Now what makes this vehicle at all likely is the fact that so-called streamlined procedures exist for exercising this kind of thing, but only in the Senate. We've been having this massive debate over filibusters, and this is one of the very few situations in which the rules define that the filibuster does not apply. If Senator Murkowski pursues this, she has a chance to get the vote in the Senate without having it blocked by a filibuster.

However, there are no streamlined procedures for the House of Representatives. The House is built around a system that allows for streamlined procedures because the House Rules Committee will set the rules on what members are going to vote on in the bill; even though the House can overturn that rule at the very time you're doing it, it nonetheless is the way you proceed. But notice what that means politically here: the speaker and the majority party leadership would have to be in league to be willing to allow that vote; otherwise it'd be highly improbable that it could happen through a discharge provision.

So you've got a problem in the House, and you've got a problem in the Senate of actually completing the action on this particular approach to change the path.

Jeff Holmstead: Could I just weigh in very quickly? This is not necessarily where most of the industry is, but as I've said before, I think I would let EPA go forward and regulate CO_2 in effective and fair ways. My rifle shot would be to say it doesn't make any sense to have this PSD permitting program apply. If you take it out of the permitting program, you probably help your CO_2 emissions, too. This is what the California Energy Commission says and Howard Gruenspecht and others have written about over the years: when you impose very significant costs on new sources, you make existing sources much more valuable, and the people are likely to hold onto them for longer.

If you remove some of the roadblocks that stand in the way of very highly efficient energy project today, you would get the benefit the other clean air programs without the delays that go on for years under the PSD program.

I suspect that the big issue has nothing to do with the merits of that and everything to do with kind of the leverage that you get in Congress. In theory, if industry has to deal with all of the difficulties of the PSD program, it will be more likely to support something in Congress. I think that's the real message of *Massachusetts v. EPA*—it flipped the leverage. Before, anybody who wanted to have a climate change regime needed to convince Congress to pass something, and that was relatively easy to stop. Now with the prospect of Clean Air Act regulation, the theory is that industry

groups will be more willing to come to the table—not just those who might benefit, and there are clearly rent seekers in this process like any other, but also others who just want to avoid the challenges and get some certainty going forward.

So my rifle shot is simply to take CO_2 and methane out of the permitting program. That leaves EPA regulation without all the disincentives and transactions costs that make it very hard to build new projects of any size.

Phil Sharp: I can't resist a little political science here: this is the nature of division of authority in this country between separation of powers and federal and state. There's a constant run on any one of these forms to try to influence the other one. In the lawsuits we were talking about, the litigators are not necessarily tactically saying, "Here's what I want that effort to pursue;" no, it's "I'm going to go this way in order to pressure them over here."

This happens on multiple issues all the time; this is not unique to the issue before us; it's constantly a matter of how to leverage up. NRDC is very skilled at this, but so are other organizations. It doesn't mean you don't have good ends that you're trying to achieve, but don't ever mistake the fact that any major force in this country is actually true to its belief about who ought to be making the decisions; they go for where they can get decisions that carry out their values.

David Doniger: Our goal is to curb global warming pollution and to use the tool that exists today. Some members of the business community would prefer legislation, at least of certain descriptions, to the implementation of the Clean Air Act. Fine, I can work with that. But the objective is to curb the pollution using the only tool we have, at the same time what we're trying to get another, better complementary tool.

Phil Sharp: I was alluding to the fact that you might get this inconsistent lawsuit in which EPA is sued for not enforcing below the 250,000 limit by precisely the people who don't believe you ought to be regulating anybody. The Chamber of Commerce may step up because it believes it can block all of it by agreeing to something it normally would not agree to—in fact, it would fight for the exclusion on Capitol Hill, but it will go to the court and take the opposite direction.

Jeff Holmstead: But David has said no lawsuits, so we don't need to worry about that.

Art Fraas: We have some questions from the audience, and the first one is for David and Jeff: "Could you comment on whether EPA would have authority to use cap and trade for greenhouse gases under Section 111, and particularly 111(d)?"

Jeff Holmstead: I'll let David respond to me this time. I believe that there probably is that authority, and that's what we did in the Clean Air mercury rule. I think the real

question, though, is how aggressively that authority can be used because cap and trade, at least on the Hill, is designed not to get control technologies on individual plants, but to fundamentally change the way we produce energy and close down new plants. I don't think you can do that under Section 111. I think something like the 5–10 percent reductions that Nathan talked about probably can be accomplished under Section 111(d) as long as it is shown that existing technologies can be used at those plants to get those reductions.

In addition to whether the technology exists, which Section 111 is all about, the challenge is both the legality and politics of creating allowances. If EPA were to try to take a Section 111 approach and get an 80 percent reduction or a 50 percent reduction, EPA would be creating currency worth hundreds of billions of dollars in the power sector. You look at the value of the allowances under any of these bills, and EPA has no authority to do anything other than give those allowances to the states. Maybe that would be fine: the states would be very interested in having additional source of revenue that they could auction off.

It also creates a huge competitiveness in the states: a state that wants to attract more business is going to do something different with those allowances than one that does not, and so I think you have both a huge political problem as well as a legal problem if you try to enforce the kind of reductions that can be gotten.

Art Fraas: I said cap and trade, but other trading opportunities exist as well, and so there could be a trading program around heat rate, for example, as a performance standard.

David Doniger: I agree with parts of what Jeff said. In the mercury case, NRDC took the position that a) the mercury was properly regulated under 112 as a toxic air pollutant because of the characteristics that it has, and b) the mercury cap-and-trade program was not legal. The case was resolved on the first question; the second question wasn't reached.

The policy considerations are very different: mercury is a toxic pollutant with local distributional ramifications; CO_2 doesn't have those same distributional characteristics. A debate is going on within the environmental community about what sort of intersource trading or averaging and so on is permitted under Section 111. But I personally am prepared to explore that with people, and from a policy point of view, we recognize the advantages of the flexibility.

I think under the Clean Air Act, you can take a big initial bite out of global warming pollution relatively easily. It may be more of a struggle to do the long-term deep reductions which are needed, but that's not a reason not to take the first big bite.

Art Fraas: We have a question from Brad Campbell for Jeff Holmstead: "When the Bush administration proposed the Clear Skies Program, Congress balked and EPA proceeded with the same program by regulation. Why is the use of the Clean Air Act for greenhouse gases any different from the approach you took for Clear Skies?"

Jeff Holmstead: There is no doubt that the Clean Air Act gives EPA authority to regulate sulfur dioxide, nitrogen oxides, and mercury; no one questioned that, and many programs do that. Clear Skies was designed to rationalize and make those programs more harmonized and effective, but it didn't fundamentally rewrite the Clean Air Act or the pollutants that it's designed to cover. So when we were not able to get Clear Skies through, we took a page out of the Clinton administration's playbook—at least that's what we thought we had done; the court didn't agree with us. We thought that relying on what the Clinton administration had done to get a cap and trade for sulfur dioxide and nitrogen oxides was the most sensible way of doing what Congress had declined to do under Clear Skies. So I really don't see a whole lot of similarity between trying to make up a new program and an effort to accomplish something administratively that Congress declined to do legislatively. Brad, I'd be happy to talk with you more about it afterward.

David Doniger: Can I just comment? Apart from the fact that Jeff's initial points in his talk were sort of relitigating arguments that were rejected in the Supreme Court case, it is not correct historically to say that whenever we came to a juncture for a new pollution problem, the EPA turned to the Congress to get its new marching orders. The EPA created the PSD program to begin with, and Congress altered but largely adopted it. The EPA started work on ozone-depleting chemicals, and Congress created a regime in 1977 and then again in 1990.

The acid rain problem could have been addressed if there had been no acid rain title (I am not saying as well), and it would have been EPA's responsibility to do it. So it's a mixed picture, and the same thing is going on now in terms of EPA trying to feel its way forward and develop a program for global warming pollution as happened with lead, toxic pollutants, ozone depleters, PSD, and you name it under the Clean Air Act.

Art Fraas: We have time for one more question: "How would the Clean Air Act regulation of greenhouse gases work if Congress passes a bill that includes a sector-by-sector approach, and would there be a problem with dual regulation, or would it make it more or less complicated than an economy-wide cap?"

David Doniger: Let me take one quick crack at that: our notion—and it's also a point of agreement in the U.S. Climate Action Partnership blueprint—is that there is a role for complementary standards, in addition to the cap-and-trade program. Vehicles make up one well-accepted area; another key area is power plants. The question

under a cap-and-trade program is, are we going to get domestic reductions at a reasonable rate under the setup as it is envisioned in Waxman-Markey and most other variations? We don't know yet what Kerry-Graham-Lieberman's proposal will be.

The difference between the cap-and-trade programs in the global warming context and in the acid rain context is that the acid rain program was a closed system with no offsets. You knew that you would get the reductions from this cap. They would be spread out over time in an interesting profile compared with the nominal profile, but apart from that, you knew that these domestic sources were going to reduce.

With respect to the Waxman-Markey bill, there's a bet being made about the level of domestic reductions that will occur and about the reality and validity of the offsets that will occur. Our community is looking for some degree of a backup plan, something to reliably produce at least a minimal rate of reductions from the power sector and some of the other big industrial sectors. If the cap-and-trade program works as it is supposed to, that backup plan possibly would not come into play. But if there is a failure of the offset system or some other kind of breakdown of the system, then you have the secondary pathway.

Jeff Holmstead: That's a pretty complicated question, and the answer is that is all subject to debate. I think everyone agrees that legislation would certainly supersede parts of the Clean Air Act. David and I might be in slightly different places as to how far you should go. I think if you have a cap-and-trade program, the only thing anything else can do is make the same number of reductions more expensive. David thinks there is some value in getting reductions from certain sources, as opposed to other sources; I'm not sure that I see that, although the interesting question, again, has to do with technology.

At a fundamental level, here is where I think we are: in almost every part of the world today, the cheapest way to produce electricity is to burn coal. Until somebody figures out a way to produce electricity at a cost that is comparable to that, without using coal, it is going to be very hard to solve the problem.

By the way, I support climate change legislation. I think the bills that have been introduced have some real flaws, but in addition to whatever we do to put a price on carbon and reduce domestic greenhouse gas emissions, there needs to be a real sense of the set of policies that we can put in place worldwide to try to find new technologies. I think it is going to be very difficult in the developing world to make it harder for people to have reliable, affordable electricity, when that is viewed as something that governments have the responsibility to give their citizens.

So setting aside the Clean Air Act and regulation, I think we need to figure out the collective tools that will encourage technology development.

Art Fraas: Nathan, Dallas, and I have been working on an unfinished project. Our goal has been to figure out how effective and how cost-effective the Clean Air Act would be in reducing greenhouse gas emissions, and how regulation under the Clean Air Act compares with legislative proposals that are on the table. So that is our future mountain to climb.

With that, I want to thank the panel for a very interesting and provocative discussion, and thank you all for coming.

#####