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ENVIRONMENTAL LAW: THE POLICY IMPLICATIONS OF THE REACTION TO CLIMATE CHANGE

The following is an edited transcript* of the Federalist Society for Law and Public Policy Environmental Law discussion at the 2008 National Lawyer's Convention. The panelists spoke in Washington, DC on November 20, 2008. The views and opinions expressed are solely those of the panelists and do reflect those of the Federalist Society or the William & Mary Environmental Law and Policy Review.

MODERATOR:

Hon. Jeffrey S. Sutton, U.S. Court of Appeals, Sixth Circuit

PANELISTS:

Prof. Jonathan Adler, Case Western Reserve University School of Law
Prof. John C. Dernbach, Widener University Law School
Dr. Steven F. Hayward, American Enterprise Institute
Prof. Jeremy A. Rabkin, George Mason University School of Law

HON. JEFFREY S. SUTTON
U.S. COURT OF APPEALS, SIXTH CIRCUIT

We've got a lot to talk about, and I want to make sure we have enough time for the questions and answers. My name is Jeff Sutton. I'm a judge on the Court of Appeals for the Sixth Circuit based in Cincinnati. I live in Columbus, Ohio. You may have noticed the title for our session today is the policy implications of the reaction to climate change. That's an extravagantly vague title that will pick up an extravagantly broad range of topics. We've got the Kyoto Protocol, whether it's still relevant or not. We've got the various roles of the states, state agencies, the federal government, the federal agencies, and the international community in enforcing all of these laws. We've got the role of the courts in refereeing

* Each speaker was provided a copy of the transcript prior to publication and offered an opportunity to make minor edits. Any paragraphs with changes beyond minor edits have been placed in brackets.

these disputes. And perhaps the real elephant in the room is what the new administration can meaningfully do in this economic climate. . . . We've got a first-class group of speakers here to walk us through these topics. As is typical with these sessions, we'll have roughly eight- to ten-minute presentations.

I'm going to introduce our speakers in the order in which they will be speaking. The first is Steven Hayward, the Weyerhaeuser Fellow in Law and Economics at the American Enterprise Institute. He's the co-author of AEI's *Environmental Policy Outlook*, the principal author of the *Annual Index of Leading Environmental Indicators*, and the author of four books on politics and the presidency, including *Air Quality in America*.

Our next speaker will be John Dernbach, distinguished professor of law at Widener University in Harrisburg, Pennsylvania. John teaches environmental law, property law, and international law. He co-authored an *amicus* brief on behalf of 18 climate scientists in the *Massachusetts v. EPA* U.S. Supreme Court case. He's a 1978 Michigan Law School graduate. John's also got a state perspective because, before teaching, he worked at the Pennsylvania Department of Environmental Protection.

Our third speaker will be Jonathan Adler, professor of law and director of the Center for Business Law and Regulation at Case Western. He's an author and editor of three books on environmental law, and a prolific contributor to the Volokh Conspiracy and the National Review Online. He also authored an *amicus* brief in the *Massachusetts v. EPA* case.

And our fourth speaker is Jeremy Rabkin, who teaches international law at George Mason University Law School. Much of his recent scholarship analyzes emerging conflicts between international law and traditional notions of national sovereignty. He serves on the Board of Academic Advisors of the AEI and the Board of Directors of the U.S. Institute of Peace.

DR. STEVEN F. HAYWARD
AMERICAN ENTERPRISE INSTITUTE

Well, thank you, Judge Sutton. Good afternoon everyone. I am not a lawyer, and I don't even play one on TV. I'm going to try and set the scene with some old-fashioned policy wonkery. It's considered *déclassé* and it's not the subject of our panel this afternoon to be openly skeptical about catastrophic global warming, so I won't do that, but I will do something nearly as bad. I'm going to stick with the nearly equal heresy

of disputing that rapid or steep reductions in greenhouse gas emissions are the path of supreme virtue and the primary policy to be pursued, even in the face of prospectively significant climate change.

My thesis is that the rigors of what I call environmental correctness and the prolonged and solemn farce of the Kyoto process are generating the greatest mass hypocrisy since perhaps the Kellogg-Briand Pact promised to end warfare in 1928, or as I often put it in just the American context, I'm pretty confident that within ten or twenty years—it might even be ten or twenty months—we're going to look back on the Kyoto process as the climate policy equivalent of wage and price controls to fight inflation in the '70s. My corollary is the traditional regulatory tools in environmental policy are not even the right framework for addressing this problem, even in its most severe prospective dimensions.

So, even as President-Elect Obama promises to get with the program that Bush has neglected for the last eight years, the scene in Europe right now is one of national governments looking for the exits from their grand rhetoric.

German Chancellor Angela Merkel last week reiterated the necessity of EU member states agreeing to ambitious targets for the year 2020 but said at the same time that there must be exemptions for key German industries. Two days ago, she said, "Emissions reductions must be taken in such a way as to not weigh on industry."

(Laughter.)

In other words, reductions have to be costless.

(Laughter.)

One sees the obvious parallel to the long-suffering trade liberalization talks in which European Union nations pay lip service to free trade, even as they increase their own agricultural subsidies and trade barriers.

In Australia, the ruling Labour Party, which made fealty to the Kyoto process one of its key campaign promises a year ago, is now splitting badly over their proposed emissions trading program. The new government in New Zealand has ordered a top-to-bottom review of its emissions trading scheme, and that's a signal that they're either going to scale it back or abandon it entirely. Canada's backing away from its proposed carbon tax. Two weeks ago, the Chair of the California Air Resources Board, Mary Nichols, who I can tell you is no shrinking violet when it comes to extending new regulations, said she was "thinking of punting" on the details of an emissions trading scheme for California that is supposed to begin

operating in the year 2012. And if you go over to Japan, whose economy is more than twice as energy efficient on energy use per dollar of GDP as the United States, their greenhouse gas emissions have risen 9% since 1990 with a fairly flat economy and virtually no population growth.

I could go on in this vein, and I interpret all of this as signs of evidence that the air is starting to leak out of the climate change bubble, the successor to the internet bubble and the housing bubble. Even Al Gore is slightly changing his tune if you paid close attention to his article in the *New York Times* the day after the election. Now, all this was utterly predictable. In fact, the template for the unfolding of this issue was laid out thirty-five years ago by political scientist Anthony Downs's famous article on the issue attention cycle, where he talks about how we get euphoric and excited about a new crisis because the euphoria comes from the opportunity to save the world with transformative action.

And then the key step, the third one, is reckoning with the serious costs involved and then declining public interest. We've seen the cycle with the population bomb of the late '60s and early '70s and with the resource exhaustion panics of the 1970s and so forth. This time, I think the green crusaders have bit off more than they can chew, and to mix references, they're calling for a transformation of the world's economy so sweeping and unrealistic that it would make King Canute blush. The target that Barack Obama has embraced—and John McCain wasn't that far behind, so I don't want to be picking on him—was that we need to reduce our greenhouse gas emissions by 80%, eight-zero percent, by the year 2050 from the 1990 baseline, which is significant.

Well, what does this mean in real terms? I mean, it's easy to throw around percentages and it's easy to throw around large numbers like 6 billion tons of carbon dioxide emissions a year, which is about our level in round numbers in the United States. If you take an 80% reduction from 1990 levels, it means by the year 2050 we have to get down to about 1 billion tons of carbon dioxide emissions. When was the last time the United States had emissions at that level? Well, if you look at Department of Energy historic tables, it turns out we were at that level of emissions at about the year 1910, a hundred years ago, when the country had 92 million people and per capita income in current dollars was about \$6000.

In the year 2050, we'll have 420 million people, which means on a per capita basis, we will have to have an emissions profile much lower than our great grandfathers had in 1910. In fact, to meet the 80 by '50 target, per capita emissions can be no more than 2.5 tons per person. Question: Anybody know what nations in the world right now have

emissions at that level? Well, it's, you know, garden spots like Haiti, Somalia, Jordan—poor, undeveloped countries. It's possible that the U.S. never emitted at that low a level even when we just burned wood and whale oil in our lamps.

The lowest industrialized nations' emissions profile right now are France and Switzerland. They're the very best. France, of course, gets 80% of its electricity from nuclear power. It's a small, compact country. People don't have to drive very far. You don't have to ship goods very far. They emit 6.5 tons per capita, right now, of CO₂. Switzerland is actually a little better. They get almost all their power from nuclear or hydropower, the other form of non-emitting power that our environmentalists don't like, and they emit about 6.2 tons per capita. So even if the U.S. were to match the French and Swiss performance, which, given our geography, is probably not possible under our current energy system, we'd still be way, way, way above the 2050 target.

I'll give you just one more example. The Energy Department breaks up emissions by sector. If the household sector in 2050, when we'll have forty million more households than today, is to stay with roughly it's the same share of the emissions it has today, then the household sector can account for no more than about 205 million tons of CO₂. Right now today, emissions from natural gas use from our household sector, just natural gas in our ovens and our furnaces is 237 million tons. That doesn't count a watt of electricity generated by coal or natural gas or anything. So, right now today, our household sector is, 30, 40% above where it has to be. In forty years, we're going to have forty million more households.

Are we really to retrofit the existing housing stock completely with all-electric appliances generated by, what, windmills, because we can't have coal? That's not going to work. You could replace every single coal-fired power plant with natural gas and still be more than twice as high as the 80 by '50 target. I can go on about this. I've done a great deal of analysis on how this all works and can bore you to death. I'm going to skip over a lot on this.

I sometimes ask people at the Department of Energy or in the European energy agencies—you know, both our energy department and the International Energy Agency, they have projections of greenhouse gas emissions based on energy use, and they all go up like this. And the 80 by '50 targets says we're going to go like that. And I ask them, do you sort of look at these targets and close your door and giggle? And they say, yeah, that's pretty much what we do.

(Laughter.)

DR. HAYWARD

There are two energy economists at Princeton, Robert Sokolow and Steven Pacala. They have a plan that would hold our emissions flat by the year 2050, including a whole lot of things such as nuclear power plants, which may or may not be feasible and affordable for lots of reasons, and it's hard to know what a lot of these new technologies would cost, like concentrated solar, but one estimate is that would be about six trillion dollars to stay flat by the year 2050.

Now very quickly since I'm almost out of time, what are the alternatives? One is, we need to have some energy breakthroughs. New energy has to be cheaper than what we have today. If it's more expensive, that's not going to work because developing nations aren't going to buy it. It's hard to say that in twenty or thirty years we're not going to see some, so you don't want to be a complete naysayer on that, but that's a tough problem. Second one, one the IPCC has endorsed but everyone ignores, is adaptation. Jonathan Adler has written some good, detailed papers on what you would do in areas of water, for example, in the West. Finally, the one I think that we're going to move to by force of gravity is what's called geoengineering. To make a long story short, it's build some artificial sun shades. There's been a lot of scientific interest in this. The Royal Academy of Sciences in Britain is launching a big project on it. It's very controversial because it's not environmentally correct. When NASA proposed to hold a workshop on this two years ago, they had shouting matches in the hallway. Don't ever let someone say that there's no politics in science, right?

Now, the science is actually easier than the politics and the law. One problem with this idea is that anybody could do it. China could decide in twenty years that they want to put sulfate emissions in the high altitude to deflect solar radiation, and there may or may not be existing law. Some of the UN treaties on manipulating the environment for hostile purposes may apply, there's going to need to be some new international law if this idea is to be developed. You know, Russia might well think that it would be a hostile act to cool off the northern hemisphere. They're one of the big winners from global warming, right? Canada might feel the same way. So this is a political and legal problem.

And I will stop there, fifteen seconds over time, so I don't get sanctioned by the judge.

(Applause.)

PROF. JOHN C. DERNBACH
WIDENER UNIVERSITY LAW SCHOOL

Good afternoon, and thank you all. When I was in fifth grade, I read one of those little books about World War II that were available in the early 1960s. It was about the Seabees. The Seabees were the Naval amphibious engineers who provided a lot of support for the island hopping campaign for the U.S. military as it moved toward Japan in the Pacific during World War II. Their motto was “can do.” An officer would say, “We need an amphibious bridge built across this 600-yard strait by tomorrow morning. Can you do that, Lieutenant?” The response invariably was, “Yes sir, can do.”

Russell Baker wrote a column about the Seabees in 1970, as the Clean Air Act was being discussed in Congress. I've kept this column for years, and today the column seems very timely. He compared the Seabees with the U.S. automakers at the time. He said that the position that the automakers were taking on pollution control was “can't do.”

We are now confronted with enormous scientific consensus that there is a substantial risk of very negative impacts from climate change to the United States and the rest of the world. What should the position of the United States be? The question I would put before you today as Americans, in responding to this issue, is this: Are we a can-do or a can't-do people?

I want to go back to the *amicus* brief that was referred to. I was privileged to be part of the legal team that represented eighteen prominent climate scientists. And apart from all the legal issues, the thing that really impressed me was that the scientists themselves are surprised by how fast climate change is unfolding. They said they always knew the basic atmospheric physics—if you put more greenhouse gases into the atmosphere, that increases pressure for warming in the atmosphere. So the atmosphere is going to warm and sea levels are going to rise. But, they said, they didn't expect to see actual climate change in their lifetime. And the picture they painted with that this is all unfolding very fast.

Climate change is not just an environmental issue; it is a sustainable development issue. At the Earth Summit in 1992, the nations of the world, including the United States under the first President Bush, signed on to nonbinding agreements to achieve sustainable development. Sustainable development would have us take the environment, economic development, social well-being, and security, and have them all work together. For most of my life, by contrast, we've treated environmental

degradation as the price of progress in all these other dimensions—social, economic and security. Sustainable development would also have us work for human quality of life, human freedom and human opportunity—the same goals as the traditional development model.

People all over the world are experiencing real problems because of climate change. And the overwhelming number of those people and the most severe impacts are being felt in developing countries, whether it's droughts or challenges with water supplies. The most recent reports to the Intergovernmental Panel on Climate Change aren't about the models anymore. They're all about observed effects. The debate has changed a lot in that regard.

I know how much the moral and ethical piece of your lives means to the members of this Society. And I would assert to you, in no uncertain terms, with 100% confidence, that climate change is not just a policy issue and it's not just a legal issue; it's a moral issue and it's an ethical issue. About 25% of historic greenhouse gas emissions that are in the atmosphere now are due to the United States. We're not responsible for all of it, but we can't say, well, that doesn't have anything to do with us. The moral and the ethical dimension works out in many ways. What does the United States do when we're contributing to problems that are being experienced right now in developing countries? What do we do when some of the impacts are being felt in our own country? What we do when there's a very high level of certainty that a great many property owners, particularly in coastal areas, are going to have their property values and their freedom to use and enjoy their property compromised by rising sea levels and stronger storm surges?

So my perspective is based on a respect for the science and a respect for the moral and ethical and even religious dimension of climate change.

There are dumb ways to deal with climate change and there are smart ways to deal with climate change, just like there are dumb ways to plan your life and smart ways to plan your life. We need to look really hard at what makes sense from the standpoint of creating jobs, advancing technology, reducing greenhouse gas emissions, reducing the emission of other air pollutants, and making ourselves more secure. In other words, we need to do sustainable development.

About 80% of U.S. greenhouse gas emissions—actually, the number's probably a little higher—are from the burning of fossil fuels. I was just at a conference in Sacramento a couple of days ago, where somebody had run the numbers. He said you can get way more out of

efficiency and conservation with existing off-the-shelf technologies than you can get with nuclear power or with wind or with any of the rest.

As you can probably guess, there's no magic bullet to seizing the opportunities of efficiency and conservation. The cap and trade legislation that's in front of Congress now probably won't do the trick on efficiency and conservation by itself. As Robert Stavins has pointed out, cap and trade alone doesn't do a good job of getting to energy efficiency. The price signals are often sent to the wrong people, as in landlord-tenant situations, for example. And even now there are cost-effective energy efficiency opportunities that people don't take advantage of. Why would that change under cap and trade?

So, putting together a portfolio of measures, whether it is in climate change legislation or in energy efficiency and conservation legislation, is probably the thing to do. There's a huge amount of energy savings, greenhouse gas reduction, and job creation that we could get with a really big program to renovate and upgrade existing residential and commercial structures. Something like 30 to 40% of U.S. energy consumption comes from existing buildings. And there are many other efficiency and conservation opportunities. Take traffic lights. You've been in traffic in cities, where you wait a minute at a traffic light and it turns green, and you go to the next block and it's red again, and wait another minute, and then you go to the next light two blocks away and it's red again. Imagine a world in which the traffic lights are all synchronized. The technical people who have done the modeling say that we could get considerable energy savings if we had a national effort to synchronize traffic lights. There are dozens and dozens of these kinds of opportunities, if we just look for them.

No one in this room thinks that the economic situation that we're in is a good one. The question whether we can afford climate change is based on the argument that it is going to have to cost more. The premise of sustainable development is that if we invest not just with the economy in mind, but with the environment in mind, with jobs and technology and security in mind, we actually get more benefits than if we're not thinking about them at all. And that's really my message here. There's a way to do this. We need to do it.

Thank you so much.

(Applause.)

PROF. JONATHAN ADLER

CASE WESTERN RESERVE UNIVERSITY SCHOOL OF LAW

Thank you. It's a pleasure to be back. I want to step back a little bit from talking about what we should do or shouldn't do in the context of climate change and spend a little bit of time talking about what, whether we like it or not, we are committed to doing—what, under current law at the federal level, we have to do if we just sit and watch the climate policy train keep going. Because the reality is whatever we think we should be doing with climate change and however much we think it is or is not a problem—whether we think the goal should be emission reductions, adaptation, geo-engineering or whatever else—legally, we are committed to doing a lot, and it's not going to be pretty. And I think that changes the calculus in some important ways in talking about climate change policy and the various climate policy options that we have. Obviously, the current financial situation changes some of those calculations even more.

So, what I want to do initially is talk about what we are doing or are going to have to do, like it or not, if there's not legislative change. Then if I have time, I'll say a little bit about some alternatives that we may need to put on the table. The short hand of what I'm going to tell you is that a lot of the emission reduction policies that are on the table may be a really bad idea. In fact, I think many of them are. But as, unfortunately, is so often the case, it's the law.

The first place to start is the Supreme Court's decision in *Massachusetts v. EPA*. I don't think we need to spend a lot of time talking about what happened in that case. Basically, the Supreme Court was forced to answer a handful of questions, the most important being whether or not the Clean Air Act authorizes the regulation of greenhouse gases for motor vehicles. I submitted a brief saying that no, it did not, and further arguing that the petitioners should not have standing because even accepting their own scientific estimates, the most they could assert as the injury that they complained of, and that could be redressed, was less than an inch of sea level rise over the next hundred years. But we lost those points, and the Supreme Court concluded that the Clean Air Act, whether it was intended to or not, did authorize the regulation of greenhouse gases. And although I admit that the decision itself did not say it, the reality is that the *Massachusetts v. EPA* decision effectively requires the regulation of greenhouse gases.

The standard in the Clean Air Act is that if the administrator could reasonably conclude that the accumulation of greenhouse gases in the

atmosphere could reasonably be anticipated to adversely affect the public health or welfare, then greenhouse gases must be regulated under various provisions of the Act. The reality is the Environmental Protection Agency has for years, under the Bush administration, under the Clinton administration, in official documents and unofficial documents, even in the original *Federal Register* notice, in which it initially denied the authority to regulate greenhouse gases, has effectively said that the accumulation of greenhouse gases can reasonably be anticipated to adversely affect the public health and welfare. It didn't use the magic words of an endangerment finding, but the EPA's position now of not simply having to make an initial determination about the effects of greenhouse gases in the atmosphere, it's actually in the position of having to deny all the things that it has said on top of the things that the National Academy of Sciences has said, the IPCC has said, and so on.

So, even if one believes that the scientific evidence is more equivocal than the official "consensus," that's not the position the EPA has taken in the *Federal Register* and in other documents. Given that I don't think there is any way at this point that the EPA could plausibly argue that the accumulation of greenhouse gases do not satisfy what is necessary for an endangerment finding, and therefore it must regulate.

Now, *Massachusetts v. EPA* only concerns Section 202 of the Act, which deals with new motor vehicles, so that's the first part that we get. And that's what the Bush administration's advance notice of proposed rulemaking that they dropped a few months ago at least initially addressed. This was something like a 500-page document in the *Federal Register* where the Bush administration basically said regulating greenhouse gases under the Clean Air Act is really crazy. It will make a mess. It will grind administration of this Act to a halt. It will impose tremendous costs with minimal benefits. I think on all those points, the Bush administration was correct. The Bush administration then said, "Well, what do we do about it?" and effectively kicked the can down the road so that the next administration could deal with it.

But we know what they have to do. They have to issue standards under Section 202 for motor vehicles. They have to issue standards under the provisions relating to other types of vehicles like off-road vehicles, planes, boats, and so on. They have to issue standards for stationary sources, including, for example, under the PSD provisions, the prevention of significant deterioration provisions. They probably, absent some really creative reading of the relevant Clean Air Act provisions, have to set nationally ambient air quality standards under the Clean Air Act, and

for those of you know something about the Clean Air Act, you already know how crazy that is.

For those of you who don't, basically the idea is this under the Clean Air Act, we set air quality standards that every metropolitan area has to meet. The idea is that Washington, DC has to worry about getting the smog to below a certain level and New York has to do this and Phoenix and so on, and that each metropolitan area is doing this essentially on its own or on a regional basis through the state government. And the states have to issue state implementation plans saying how they're going to meet the standards. And if they don't, they lose their highway funds and the federal government will do it for them.

It makes sense when you're talking about localized pollutants. It makes sense when you're talking about the sorts of pollutants that the Clean Air Act was actually written to deal with. It doesn't make sense when you're talking about substances that are globally disbursed. We can't meaningfully talk about greenhouse gas concentrations in Washington, DC being meaningfully different than in Boise, Idaho, Los Angeles, California, or Shanghai. But yet, that is what the Act require. Thus, it was, in some respects, a brilliant strategic move that the petitioners in *Massachusetts v. EPA*, some of whom had filed a parallel suit in federal court to require the setting of a national ambient air quality standard under the Clean Air Act, took a voluntary dismissal of that case before *Massachusetts v. EPA* was argued before the Supreme Court, so they could honestly say to the Supreme Court when presented with this crazy scenario as an argument for why the Clean Air Act didn't apply, they could say, oh, but Your Honor, there is no such case pending; no one is filing a case right now or is pressing the claim that such standards have to be adopted. And at that moment they were correct. But under the holding of *Massachusetts v. EPA* and under the Clean Air Act that is required.

Here are some other practical impacts of this. If you just look at the Prevention for the Significant Deterioration provisions of the Clean Air Act, these deal typically what we think of as large industrial facilities. There are somewhere around 200 to 300 such facilities that have to go through PSD permitting right now. PSD permitting is only imposed on major sources that emit a minimum amount of tons of the relevant pollutant per year. But given that, the relevant facilities tend to emit carbon dioxide in much greater volume than other pollutants, we will see, once it is applied to PSD (and just a couple weeks ago, the Environmental Appeals Board of the EPA remanded a PSD permit for its failure to address carbon dioxide emissions), we will see not 200 to 300 facilities that

have to deal with PSD permitting, but two to three thousand. So, just that one tiny slice of the Clean Air Act, we're going to see a tenfold increase in the permitting requirements.

Now, it's not just the Clean Air Act. I have more good news. Recently the Fish and Wildlife Service listed the polar bear as a threatened species under the Endangered Species Act. Now, I will take what may be the unpopular position in this crowd to say that under the law, I think the Fish and Wildlife Service had no choice. The short answer for why that is, is the Endangered Species Act requires you to use the best available science. While we know as a near metaphysical certainty polar bears at prior times, such as the last interglacial warm period, somehow managed to survive absent arctic ice, there were no scientists there to document those findings. There are no studies showing us how they did it. Therefore, we have no science about how they survived, and the only science we have on polar bears and arctic sea ice seems to suggest quite strongly that less arctic sea ice is much worse for polar bears.

Now, what is this going to do? It's going to do a lot of things, none of which are particularly good for polar bears. Among other things, it will effectively de-fund the most important conservation-through-use program for polar bears that exists in the world. But another one of the things it will do is require consultation for the effects of carbon dioxide emissions and greenhouse gas emissions for all significant federal actions, or all significant actions that are undertaken, authorized or funded by the federal government under Section 7 of the ESA.

Now these projects will go through because once the consultation process begins, the judgment of the Fish and Wildlife Service will be that the marginal impact of each project isn't all so great. But that's not the standard of the Act. That's not the standard that the courts have applied in terms of the threshold consultation requirement. And as folks at the Fish and Wildlife Service will tell you, they do not have the personnel, they do not have the resources, to come anywhere close to engaging in all the required consultations that the polar bear listing—and the additional listings that are soon coming (there's something like eight or ten species that additional petitions have been filed for that will be listed for the same reasons as the polar bear). The Fish and Wildlife Service has no ability to do these consultations, but they will be required.

The Bush administration is currently working on a rule to try and completely rewrite Section 7 regulations. It's in some respects an admirable effort to try and avoid a true regulatory train wreck. It is an effort that will fail, and it would fail even if the Obama administration was intending

to leave these rules, when they're finally issued, intact. I don't think, given the way the courts have interpreted Section 7, these regulatory provisions have a prayer of being upheld. So, we have another regularity train wreck in the offing by doing nothing.

So, that creates a situation where, like it or not, the discussion over climate change right now is not do we do something or do we do nothing. It's, what do we do? Because sitting on our hands results in a massive amount of regulation going forward. And I think it's quite clear in the current Congress—I heard just this morning that Henry Waxman will upset John Dingell as chairman of the Energy and Commerce Committee—the question is what, given this legislature, could be produced that would be preferable to what we're going to see under these Acts. Is it a cap-and-trade system like that advocated by John McCain and Barack Obama during the campaign? Is it a carbon tax that a lot of my economist friends think would be preferable and I think would be preferable to a cap-and-trade system? Or is it something else? And if we implemented it, would we ever let it actually be enforced?

I'm pretty sure that I'm about out of time, so let me just say one last thing. I think that some of the data that Steve's presentation earlier shows that we have no clue how to reduce emissions to a level that would, in the words of the IPCC, avoid dangerous levels, or what they consider to be dangerous levels, of greenhouse gases in the atmosphere. We have no clue how to stabilize greenhouse gas emissions in the near to medium term. The sorts of technologies that are required are things aren't even yet dreamt of. Even if we did everything that John suggested, we don't come close to Obama's targets, let alone the targets that would be actually necessary to stabilize the concentrations to the levels talked about.

And on top of that, in our current economic situation, it's not as if the federal government's going to start writing lots of checks to subsidize lots of new R&D in this area. And I would say even if they did, it's not as if that sort of R&D would produce much. We've been spending millions, or actually billions, of dollars on R&D for alternative energy sources over the last fifty years and have precious little to show for it, particularly if we're interested in commercially viable technologies.

But there are some sorts of other things we should look at, and I'm just going to mention one and then turn the mic over to Jeremy. It was, in my view, probably the only good idea on energy policy we heard from either major candidate during the campaign. So as a consequence, it was mentioned once in a speech, put at the very end of a list of talking points, and then never heard from again. And what that idea was, was the idea

of a prize for innovation. Say, instead of picking out labs and picking winners and losers and throwing subsidies at people, we're going to say instead there are innovations, there are ideas, there are solutions we really, really need, and we have no clue how to get there.

But we figure if we hold out the possibility of a big enough reward that maybe somebody out there, somebody who's not already in a federal lab, somebody's who's not already at the Federal trough, might actually be able to do it. When the British Empire wanted to improve navigation, this is what they did, and the guy that won the prize was someone that never would've gotten a grant from the Crown because his ideas were seen as so ludicrous before he proved them.

The virtues of prizes are many. I'm just going to mention a couple. The first is, you don't spend the money until you actually have something in return, something that federal subsidy programs typically can't claim. The second is you are spurring more innovation than you're actually spending. When some private entrepreneurs underwrote the Ansari X Prize for feasible manned repeatable space travel, they offered a \$10 million prize and spurred over \$100 million in private investment that produced all sorts of entrepreneurial innovation that we would not have seen otherwise.

Prizes aren't subject to the same sort of rent seeking and special-interest money grubbing that we typically see in the subsidy process, which is certainly another benefit. And another benefit is something that we see in operation all the time. The principle behind using prizes is the same principle that underlies our patent system. The idea is that sometimes, for whatever reason, we don't think the market by itself is going to produce the type of innovation we want, so we will offer to people a super-competitive reward for achieving something. That's what a patent effectively does, giving an innovator monopoly rents for a period of time. A prize will give you the same thing.

So, if it were up to me and I was trying to come up with one big idea, something to do while we try and avoid all the crazy things that we're in the process of doing now, I would say why don't we take the net present value of all the energy R&D we're planning on spending in the next 10 years and divvy it up into a handful of prizes for a handful of innovations that we really need, things that are transformative, and maybe that would help us figure out how to do some of these things in a less costly and a less ridiculous way.

Thank you.

(Applause.)

PROF. JEREMY A. RABKIN

GEORGE MASON UNIVERSITY SCHOOL OF LAW

All the previous speakers have focused on public policy. But the sponsoring organization here has "Law" as well as "Public Policy" in its name. I want to talk about law—specifically, the implications for constitutional law in efforts to implement a successor treaty to Kyoto.

In the interest of full disclosure, I will concede that I agree entirely with Steve Hayward that no foreseeable international regulatory effort will have any actual effect on the earth's climate. I do not think it is possible for the United States and Europe to cut their carbon dioxide emissions—in effect, to hold their collective breaths—sufficiently to affect actual CO₂ levels in the atmosphere. To do that, we'd have to get China to hold its breath, too. And India. And the rest of the world. I think it is safe to say that's not going to happen.

But I disagree with Steve's suggestion that since the ultimate goal can't be achieved, no attempt will be made to achieve it. Alas, that's not how the world works. We have been hearing for decades that European integration faces insurmountable obstacles, that the latest treaty in this area will be the last one, that it can't go forward because its aim is not really accepted by most Europeans. Somehow, the rejection of European treaties by actual voters doesn't stop the attempt to go forward with new treaties. Bad ideas have their hour, even impossible ideas seem to have their hour. Or their decade. So, I think it's almost certain that some ambitious new things will be attempted, and I just want to focus you briefly on some constitutional challenges which they will present to us.

...

[So, wherever we end up in this effort to halt climate change, I don't think we are about to abandon the whole effort any time soon. What I do think we will see is an effort to attempt something more ambitious in the successor to Kyoto. In particular, I think there will be much more effort in the next treaty, compared with the Kyoto Protocol, to link the obligations of individual countries to the climate control measures undertaken by other countries. That will be logical, since increases in carbon emissions by some countries would otherwise nullify the benefits supposed to be achieved by the sacrifices of others. But apart from its policy logic, such linkages will be politically irresistible in an era when so many countries are experiencing economic downturns and governments are under great pressure to assure that their people are not placed at a competitive disadvantage.]

[Even the Kyoto Protocol tried to establish certain linkages in the name of flexibility. There were provisions for buying and selling emission rights, between countries exceeding their limits and countries not exceeding their agreed limits. In other words, there was provision for an international counterpart to the cap-and-trade programs the EPA has administered for sulfur-dioxide and some other pollutants within the United States. There was also provision for satisfying emission reduction targets by arranging for alternate reductions in less developed countries (countries not otherwise committed by Kyoto reduction targets). The idea was that reductions achievable at lower cost in less developed economies could take the place of measures that would otherwise be very costly in a developed economy. Finally, there were provisions for off-setting carbon emissions with measures to soak up more carbon dioxide, such as increasing the size of forests that could serve as "carbon sinks."]

[The point to notice about all these measures is that they require a great deal of coordination, which in turn requires a great deal of specification and precision, if these measures are to work as intended. We aren't just asking everyone to do their best to reduce their own emissions. We are authorizing emission increases in some places with the idea that they will be compensated by decreases elsewhere. How can we be sure that a country selling emission rights is properly calculating its own emission levels—that it is selling no more than it should be allowed to sell, given its own production trends and its own past record of emissions? How can we be sure that a developing country, which agrees to adapt new technology as an offset for some other country's emission increases, isn't doing what it would have done anyway? What technological improvements in developing countries (as for example, switching from coal burning plants to less polluting fuel sources) should be allowed as off-sets and what should be considered expected base-line trends? Does it matter whether the developed country's economy is growing in other areas? Does the rate of growth matter? How do we calculate the carbon storage capacity of trees? Should we give different credits for trees of different species or different age, for trees planted at different elevations or different latitudes? All these variables do affect the carbon storage capacity of trees.]

[We didn't get very far in elaborating these measures in Kyoto. I think it is quite clear that we won't be able to settle all these questions in a follow-on treaty. There are innumerable details which will have to be delegated to specialized agencies, which can re-adjust standards in light of new experience and new data. That will mean a great deal of

international regulatory infrastructure on a scale that is totally beyond anything we've ever seen before. And this will present constitutional problems, very serious problems.]

...

The problem I want to focus on here is the challenge to various aspects of the non-delegation doctrine. Suppose we have a new treaty which is ratified by the Senate. Then there are these regulatory add-ons. These are administrative elaborations of more general provisions in the treaty. What is their legal status?

We have already had a foretaste of the constitutional controversies that are brewing here. The Montréal Protocol on Ozone Depleting Substances is a much more modest treaty than Kyoto—and of course far more modest than the post-Kyoto treaty on climate change. The Montreal Protocol does not cover all use of fossil fuels but simply focuses on a small number of specialized chemicals. Still, there was uncertainty about how quickly to phase out the use of covered chemicals like chlorofluorocarbons ("CFCs"), methyl bromide and some other substances. The experts kept changing their calculations and recommendations and there were successive meetings of the states-party to revise the previously agreed reduction schedules. The treaty authorized changes by two-thirds vote of the parties.

A case came before the D.C. Court of Appeals in 2005 called *Natural Resources Defense Council v. EPA*. The NRDC complained that the EPA had failed to implement the latest ratchet of reduction that had been agreed by the parties in a diplomatic conference. The DC Court of Appeals held that U.S. law did not require the EPA to implement such a diplomatic agreement. The Court said it did not think Congress had intended the EPA to be bound by votes at international gatherings of this sort.

...

[In fact, the court went a little further than that. The judges acknowledged that Congress might have intended to bind the EPA to international agreements in this way, because the amendments to the Clean Air Act had made reference to international standards. But reading the statute this way, the court explained, would raise very serious constitutional problems. It would mean delegating the treaty power to an international gathering, so international commitments of the United States, instead of being made by the President and two-thirds of the Senate, could be made by a gathering of foreign governments in which the United States had actually opposed the result but been outvoted by

two-thirds of the other governments. Or, the statute might be read as delegating not the power to make treaty commitments but the power to make U.S. legislation directly. That might seem to follow if the EPA were bound by a vote of an international conference in the same way it would be bound by an actual vote of the U.S. Congress.]

[There is not yet a Supreme Court decision addressing this question. The DC Court ruling noted that the Supreme Court might have faced similar questions in litigation over the effect of international court rulings on capital punishment cases in American courts. In its 2005 ruling, the DC Court of Appeals noted that none of these cases had received a full hearing from the Supreme Court.]

[Well, last spring, in *Medellin v. Texas*, the Supreme Court finally did address this issue. The International Court of Justice had held that Texas denied Medellin rights he was guaranteed under the convention on consular relations—a treaty which the U.S. has ratified. The ICJ held that the execution of Medellin, in these circumstances, would violate U.S. treaty obligations, so the International Court ordered the U.S. not to allow the execution to go forward. President Bush accepted the Court's claim about U.S. obligations and tried to direct Texas to rescind its capital sentence. But Texas courts denied the president's authority to intervene.]

[The U.S. Supreme Court held that ratifying the treaty on consular relations did not commit the United States to interpret the treaty as the International Court of Justice might advise. Not even the U.S. ratification of a protocol to that treaty, allowing disputes about its interpretation to be brought to the ICJ, committed the United States to give direct force to ICJ rulings in American domestic law. So the president could not insist that a state court obey the ruling of the ICJ.]

[The Supreme Court's *Medellin* ruling was not unanimous. Three dissenters argued that Texas courts should be required to obey the directive of the ICJ, because the treaty authorizing appeals of disputes to the ICJ implicitly directed American courts to give direct effect in U.S. law to interpretations of the international court. The Court's majority held that the Senate, when it ratified this treaty, had not indicated that it intended to give direct effect to ICJ rulings in this area. But the majority did not say the Senate could not have authorized ICJ rulings to have direct effect. Justice Stevens emphasized, in a concurring opinion, that he was persuaded that this particular treaty did not authorize giving direct effect to ICJ rulings but another treaty might rightly be interpreted otherwise.]

[So at least one and perhaps more than one of the justices voting with the majority in *Medellin* remains open to the idea embraced by the dissenters—that a treaty might authorize an international entity to elaborate on the terms of a U.S. treaty commitment, after the Senate has ratified that commitment. There may well be a majority of justices prepared to say it is constitutional for a treaty to lay down certain general principles and then set up an international mechanism to refine and elaborate more detailed standards—and make these standards binding in U.S. law, without returning to the Senate to ratify the new international standard and without returning to Congress for new legislation to enact these elaborations into U.S. law.]

[Just over the horizon, then, there are big constitutional disputes in prospect. We are likely to see elaborate regulatory structures established under a post-Kyoto treaty. We are likely to see interest groups within the United States eager to influence decisions coming out of those international agencies or international forums and then insisting that favorable results be applied in American law. There will be a lot of money at stake, whether the new standards go this way or that way. And American courts will not be quite clear on when the international standard binds U.S. regulatory agencies. Does a new international standard require separate ratification by two-thirds of the Senate—always? Does a new international standard have to be separately embraced by implementing legislation that has been approved, in the normal way, by requisite majorities in the House and the Senate? If a treaty can authorize an international entity to make binding regulations, would the U.S. still be bound if U.S. diplomats had opposed these regulations? What if the President refused to endorse such regulations in international negotiations: could Congress direct U.S. administrators to implement them over the president's objections?]

[The constitutional disputes won't just be about who gets to control the elaboration of technical standards for particular environmental measures. Ultimately, the issue is whether the Constitution does set limits on the possibilities for changing our structure of government by mere treaty. This is now one of the fundamental differences between the American approach to international law and the approach taken by nations of the European Union. At least within the EU, European states accept the idea that a treaty can authorize an international authority to make new rules, not subject to approval by the national government. Within the European Union, new regulations are made by the European Commission, a free-standing administrative body or by the Council of

Ministers, which represents the member states. But either way, in most areas, a nation can be bound by a new standard to which its own government (or its own minister on the Council) had previously objected. The United States does not now participate in international treaties involving such wholesale delegation of legislative powers.]

[A few years ago, The *Economist* magazine asked government officials in various EU nations how much of the law they enforced was law made for them at the European level. Answers varied but most of those surveyed said something like half or more than half the law they enforced was made at the European level. So European states have established a whole new government, on top of the parliamentary structures set out in their own national constitutions. And the new government has been established simply by treaties—the treaties delegating powers to the EU.]

[Now, if the United States does enter into a post-Kyoto treaty seeking to control climate change, that treaty will generate a whole lot of international regulation. It won't just be setting standards in a few very technical matters but implementing standards for energy use across our entire economy. If these standards can be made by international administrative agencies or by international diplomatic gatherings, we are talking about a very large transfer of political authority from our own government to international councils.]

Perhaps you think this could not happen and regard the whole prospect as simply too fantastic to contemplate. . . . Let me answer with a saying of Aristotle: "What has happened, can happen."

Thank you.

(Applause.)

JUDGE SUTTON

Thank you. We've got some time for questions. As the moderator, I'd like to exercise the prerogative to start with the first one, and I hope we'll get some questions on law, but I did want to start with one on policy. John, I was going to ask you to respond initially, and perhaps one or two others might have an answer. Most elected officials that I'm familiar with, whether they're governors or presidents, seem to care about economic growth, unemployment rates and the like. And my question is the extent to which these responses to climate change realistically can deal with those political ambitions. When I think of the news coverage recently about the plight of the American car companies, including the possibility

of bankruptcy filings, no elected official to my knowledge has said that the demise of some car companies would be good for the environment.

So, John you talked about conservation, and clearly that's important. I mean one great form of conservation, of course, is a ten-year recession. That will decrease a lot of these emissions and other problems. But that can't politically be the answer. So, what does an elected official do to deal with these concerns in a realistic way?

PROFESSOR DERNBACH

Well, it's a really good question, and obviously it's really timely. I'm going to give you a perspective from the state level, where, as the judge indicated, I've spent about half my career. The energy issue in Pennsylvania in the last six years has been cast not as a climate change issue. It's been cast as a job creation issue, as about fostering the development of new technology; it's about making Pennsylvania a center for energy innovation for part of the next century. Our former secretary of environmental protection, with the support of our current governor, went to Spain and convinced a Spanish wind turbine manufacturer, Gamesa, to locate its North American manufacturing headquarters in Pennsylvania.

Now this, folks, is good old-fashioned economic development. Pennsylvania used the standard tools that states have been using for a long time to attract industry. And we have something like 4000 new manufacturing jobs. A lot of steelworkers from the Pittsburgh area are now making wind turbines. This issue has been cast mostly as one that's about job creation, technology, reducing other pollution, making the state attractive in a lot of other ways and, oh, by the way, addressing climate change.

That's a common way that climate change has been addressed at the state level. I was in Ann Arbor six weeks ago, listening to Governor Jennifer Granholm express the same aspiration for Michigan, using the car manufacturers as an example. She's doing the same thing that Governor Ed Rendell is doing in Pennsylvania. I've heard the same thing from other governors. This conversation is different from the conversation that we've often had at the national level.

PROFESSOR ADLER

Quickly, two things. One, I think what John alludes to is an important thing to recognize about what we're seeing at the state level, which is, with the exception of California, state climate policies generally fit into one of two categories. One is the purely symbolic; that is, aspirations, creating cabinet-level committees and so on, but nothing that actually pinches in an economically meaningful way. Or, policies that can, at the right time, be characterized as climate policies but are really about something else. You know, they are energy or industrial policies that are given this kind of green gloss.

As for those, the policies that fit in the second category, whether or not one finds the argument that state-driven environmental investment is going to create jobs and produce all these other benefits really is a question of whether or not one believes that state-driven industrial policy as a general matter is an effective way of increasing growth, increasing wages, increasing jobs and so on. I happen to be one who thinks it's not. I happen to think you get the broken window fallacy, and you certainly see the winners of when you get a new plant sited, but overall, the economies of the states that spend all their time trying to pick winners and losers don't end up doing better.

I think the economic literature is pretty robust on that point, and it's not an environmental or non-environmental thing. It's just that state governments, like all governments, aren't particularly good at using industrial policy as a way of promoting economic development.

DR. HAYWARD

Can I make a quick observation, Judge, just as a historical matter? I went once and looked quite carefully at the energy consumption data from the Great Depression because you mentioned that one way to reduce/conserves is to have a depression. Of course, consumption went way down of energy and everything else. Energy efficiency went in reverse for commonsense reasons if you think about it for 10 seconds, and it's not clear to me today we're that much smarter that we can reverse the overall phenomenon that represents of diminished capital expenditures, people not trading up for better boilers in industrial settings or in their home appliances.

AUDIENCE PARTICIPANT

I'm Kai Alberg. Where I live in Western Washington, in a few years two dams will be removed pursuant to federal legislation to restore salmon runs and protect the endangered salmon. This will cause about an additional 70,000 tons a year of CO₂ to be admitted by other power plants that will pick up the slack. And instead, in Oregon there's a much bigger effort to deny re-permitting for some dams that are currently producing power for about 700,000 consumers. Eventually, I would expect this conflict between endangered species legislation taking out clean power, hydro dams, and the Clean Air Act, and the pursuit of reducing CO₂ omissions will wind up in front of a court somewhere.

I'd like to ask the panelists how they think a judge will or ought to analyze those issues when they come in front of the court.

PROFESSOR ADLER

I would say they should follow the law, which in many cases means doing things that, in light of these statutes, that don't make a lot of sense. I mean, right now there's nothing in the Clean Air Act that would preclude the removal of these dams, and if they are legally required based on other agreements that have been made, then they're going to go forward with that.

But I would note, this conflict between different environmental values in the economics of energy aren't new to climate change. In hydro, we see them in a quite pointed way, but we see them with all sorts of alternative energy sources because the reality is, there is no source of energy that is free of environmental impacts. And so, it turns out that those that happen to be less carbon-intensive have other impacts. With hydro, it's affecting rivers and streams. With wind power, it's, certainly with older types of wind turbines, there's the problem of bird kills. With newer ones, it's the problem of, in the words of RFK Jr., despoiling the water wilderness off the coast of Massachusetts should wind farms be built.

But you know, there are all these trade-offs, and our existing legal structure makes it very difficult to actually deal with those trade-offs in a reasonable way. So for example, with the Cape Wind Project and other offshore wind development proposals, the permitting process creates lots of opportunities to simply throw up roadblocks and prevent any development at all, but it doesn't create really any opportunity for an agency, let alone the public, to engage in any sort of discussion about what

sort of trade-offs we are or are not willing to make to meet one set of environmental goals versus another, and that's just one of the pathologies that are existing in the environmental laws that are given us.

AUDIENCE PARTICIPANT

Yes, thank you. My name is Buddy Menton from the New York chapter. I think there's on the order of five billion people in the world now who are outside, essentially, the energy economy—don't have electricity, don't have cars, don't have home heat, etc. They haven't caught up with the level of standard of living that we have. And the question I have is are those people to be allowed to join our standard of living or are they to be locked into poverty forever? I think that if we could double the energy efficiency of the United States, we couldn't come near to the energy saving that would be necessary to bring those people up to our standard of living, even if they had double the efficiency that we have. So, how is this to be done? And isn't that really a more important moral issue than saving the coastal property of a Hamptons millionaire?

(Applause.)

PROFESSOR DERNBACH

If we don't do anything about greenhouse gas emissions in the United States or anywhere else, we're going to continue to drive those people even further into poverty. That's the short answer, and that's the truth.

Now, there's more—

AUDIENCE PARTICIPANT

Do you have a basis for saying that?

PROFESSOR DERNBACH

Yes, I do. There's a lot of science that climate change is already adversely affecting, and will continue to adversely affect, the people who have the least ability to adapt. We can buy air conditioners, but in a lot

of places you can't do that. The IPCC reports all say as you continue to push greenhouse gas emissions up, you get higher and higher levels of greenhouse gas concentrations all around the world, and the people who are going to be most adversely affected are the poor.

The federal climate bills pretty much all say that we should significantly reduce greenhouse gas emissions over the next forty-some years, by 2050. There's an interesting question about projects like that. If you know the first group of things that you really need to do, but you don't know what to do after that, do you start now anyway with the expectation that in five or ten years, you'll have a little better idea of what the next steps ought to be? Or, do you say, well, we don't know how to get all the way to 2050 from here, and so we're not going to start?

I prefer the first approach for a couple of reasons. One is, we've done it before. We did it when we declared war on Germany and Japan in World War II. We did it when we said we'd send a man to the moon by the end of the 1960s. This is America, right? We do things that are important to do, knowing in advance that there is a risk we might fail but knowing that the goal is worth achieving. And it's worth achieving, by the way, not just for its own sake, not just because of climate change; there are many other benefits we get as well.

I don't think you get there by doubling energy efficiency; I think you get there by increasing the efficiency with which we use energy by one or two orders of magnitude. And I think that's doable. It's doable if we put our minds to it.

PROFESSOR ADLER

I think the flip side of what John said that we have to think about is that so much of our energy is a function of capital stock and infrastructure and things that we don't buy year-to-year, or even decade by decade. So, decisions we—so if we rush to do our first little step now, we may be locking in certain types of capital stock for 20, 30, 40, 50 years. And in many cases, waiting will actually be that much easier and that much cheaper to produce greater reductions later. We've seen this in a whole bunch of areas, certainly in the telecom area, that when something comes along that is that much cheaper and that much more efficient, the market doesn't need a lot of help to change over very, very quickly. The key is to have that innovation that actually is the leap forward instead of the tiny step forward.

On the other point is a quick little thought experiment. Assume—and I think John's right on this—that the most likely effects of climate change are far worse on tropical parts of the world than temperate parts of the world, far worse on poor or less developed nations than the United States. For those that are interested, AEI did a monograph several years ago by Robert Mendelsohn from Yale. I think it's called something like *The Greening of Global Warming*. It summarizes the economic and climate literature on this, and the basic bottom line answers aren't really any different, that under any reasonable scenario, countries like Bangladesh lose.

So then the question is if they have the choice, would they rather us figure out how to reduce our emissions when a lot of the effects that we're talking about are locked into the system and are unavoidable and are mixed in with other things that are going on in the world anyway, or would they rather us indemnify them, compensate them, you know, help them be more like the Dutch and build dykes so they don't have to worry about flooding and so on? I don't think there's any question what they would choose, and I don't think there's any question what is orders of magnitude cheaper over the next, say, thirty to fifty years.

So, if our concern is a moral one—I think John's correct to raise that issue; I've written a paper saying that a lot of folks on the right haven't given this part of climate change enough thought—the answer is probably not short to medium-term efforts to reduce emissions because that's not going to enhance welfare in developing nations, and it's going to be less efficient, and it's not what they would have wanted if we'd given them the choice.

AUDIENCE PARTICIPANT

The reason I came forward was I was disappointed that no one on the panel challenged the premise of man-made global warming. There are thousands of scientists who do. The notion of consensus, Mr. Dernbach, I think flies in the face of that. Thousands of scientists have signed petitions suggesting that they dispute the notion. And personally, the notion that a natural chemical substance that makes up only 370 parts per million of our atmosphere gives us control over climate is preposterous. Thank you.

(Applause.)

DR. HAYWARD

Look, this is—here, I disagree with John to this extent. I think there is a robust argument over how much. I mean, the basic theory that greenhouse gases trap heat, that is a pretty sound theory. But the question is, is it one degree or four degrees, even I can give you citations from the IPCC reports on this.

However, I've reached a state of repose about this. As badly politicized as science is, it is an iterative process. And with past problems that we have overestimated—not problems that were wrong but that we mis-estimated or overestimated—I think that if the skeptical case is right, that is going to be born out in the fullness of time, and so I'm perfectly happy to wait and sit back and let that process take its way. And by the way, successive iterations of the IPCC, if they get better at it, then they will be borne out by the evidence.

I mean, the one thing that seems a problem for me right now, socially you might say, is that global temperatures have been flat for the last seven or eight years, and this year's going to come in about the coldest year in thirty years. I guarantee the *New York Times* headline in January will say, "Coldest Year in 30 Years, but We're All Still Doomed." Now, it may be perfectly consistent with the catastrophic case. Some of the European modelers have said it's ocean currents; it's temporary. But when, like Al Gore, you have made the arrival, the two-day early arrival of every cock robin in the spring a harbinger of imminent catastrophe and suddenly you get a few cold years, that causes them a big problem, and I think you're going to see that play out in the next three or four years. That's my sort of 50% probability, yes, about the matter.

PROFESSOR DERNBACH

Just a couple of quick things on that. A lot of the scientists who have been weighing in on the other side are actually not climate scientists, and that's a serious concern. And if you go to five doctors and four of them tell you you've got a problem and one of them doesn't, what do you do? Do you decide who you're going to listen to and walk away, or do you do something prudent?

Climate change is not like whether there's a tooth fairy or whether there's Santa Claus—where you can just believe it or not and it doesn't matter. What we're doing, for real, is putting greenhouse gases into the

atmosphere. And we are, for real, creating serious risks of both short- and long-term problems, some of which are now being borne out.

I'm a career environmental lawyer. In my experience, there's a question about what the risk is, and you try to assess that. And then there's a separate risk management question. And the risk management question is, what does a prudent society to do in the face of abundant evidence on climate change? That's not a question that you can simply say "yes" or "no" to. In my experience as a problem solver, you look for prudent, appropriate things to do.

PROFESSOR ADLER

I actually agree with both John and Steve on this point, and let me say why. If you look at the people that are held up as skeptics—and in a recent paper I did this, I used only sources that would be characterized as skeptical, you know, so Pat Michaels, Roy Spencer, Bob Balling, and so on—do you find them claiming that human activity has no effect on the climate? No, you do not. Do you find them saying that existing and projected emissions of greenhouse gases will not affect temperature, will not warm the earth, all else equal? No, you do not. Do you find them saying there will be no sea level rise? No, you do not.

You find them saying that the changes in climate will be much less than, say, Steven Schneider says or James Hanson says. You find them saying that the effect on the sea level will be much less and much closer to the background noise, but you don't see them saying zero. Dick Lindzen at MIT, who, in terms of his estimate of the climate responses in the atmosphere is at the low end of people that are really actively involved, still doesn't say zero. So, the people that are skeptics aren't skeptical of the underlying mechanisms; they're skeptical about whether the world's going to end.

But the other point is that the debate really isn't over whether or not the world's going to end. The debate is over whether or not, if we believe and have good reason to believe that certain effects are going to happen, what do or don't we do about them. I think that is a policy debate that we have to have given uncertainty, because we have uncertainty in every heavily science-dependent question. And secondly, we also have to stop pretending—this isn't a right or left thing; this is a pathology that is endemic to environmental policy generally and is, in some cases, written into our laws—we have to stop pretending that answering the scientific

question with a particular level of certainty answers the policy question because the policy question is always a normative question and the science question is a positive question. And the answer to a scientific question will inform our normative judgment, but it cannot and should not ever dictate it.

And too often in this debate, as in others, we pretend as if, oh, once we get the science right, we know the answer. Well, no, we don't; we just have a different baseline for our debate.

PROF. RABKIN

Let me just give an illustration of that.

Everyone is saying, who wants to do something dramatic about global warming, that fifty years or eighty years or a hundred years from now, it could be really, really hard on Bangladesh, which—you know, I'm sorry for Bangladesh, but eighty or a hundred years is a fairly long planning horizon. What's it going to be for countries near Iran when they get nuclear weapons next year or the year after? I think worse consequences than flooding even. And this is something we've been living with since 1945. People said, after Hiroshima, this is so scary, this is beyond anything we've ever experienced, which it was. And so, people said it's obvious that we need world governments to deal with it because only world government can deal with the challenge of nuclear war, which is so terrible, that it's worth any risk. Well, actually no. It turned out no government in the world was prepared to say that, except for Luxembourg, which just had to be satisfied with the EU.

(Laughter.)

PROFESSOR RABKIN

The fact that you hold up to us something which is a frightening possibility doesn't mean that we suspend all judgment, go into a swoon, and say that's so scary, that we're putting you in charge of the world. Take it from here. And I do think that is really what's being said when people say let's start on this process which will, in the next three decades, have us not just cut our energy use by half but by orders of magnitude. Let's look forward to a day within, within a period in which the young members of the Federalist Society will still be with us, in which they will be using

one-tenth as much energy as today. And you really have to say, are you serious? Are you serious?

And if you are serious about America, which is, after all, a rich country—probably, we have ten times more than we need—that was an excellent question about the third world. I mean, China is not going to do this, period. This is not hypothetical. They said at Kyoto our answer is the three No's: No, we will not do it now; no, we will not do it later; no, we will not do it ever. And so, what we're really talking about is let's have a confrontation with China over this because the fate of the earth is at stake, and since the fate of the earth is at stake, it's really worthwhile having a confrontation with nuclear China over forcing them to remain at a very low level of development. And I say, wait a minute; what about Iran that's getting the bomb next year? Couldn't we handle that one first? No, that's just a passing problem. That's just like a minor thing right now.

I mean, people choose the horror that they like to focus on, but my taste is let's focus on manageable things that are near at hand rather than remove things which we really have no, with present technology and present prospects, any way of dealing with it.

AUDIENCE PARTICIPANT

Wow. Okay, you put me right off my game. Steven, James Hanson has the answer for cold years. That's to use September's data for October, and on both the state and federal action questions, I think you both had interesting points, but I'm thinking on the federal level, you talked about the clash between the Clean Air Act and the Endangered Species Act. What happens when, in essence, a self-appointed trustee for the polar bear attacks a self-appointed trustee for the salmon? That is a kind of maybe a more interesting question.

PROFESSOR ADLER

Yeah, the short answer is that the effect of what's going on under the ESA is not going to be to force anybody to do anything other than to force the Agency to spend a lot of time and energy and resources that it doesn't have studying something to just effectively grind things to a halt so whatever the status quo is will be preserved.

JUDGE SUTTON

Thank you so much for coming. Let's give a hand for our speakers.

(Applause.)

(Panel concluded.)