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STATES' IMPLEMENTATION OF EPA'S CLEAN POWER PLAN:
WHAT ARE THE PROSPECTS AND OPTIONS?

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Keynote:

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Governor
State of Colorado

Panel Discussion:

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P R O C E E D I N G S

MS. MORRIS: Thank you all for coming and welcome to those of you who are joining us by webcast. We have a terrific collection of speakers for today's topic, which I will summarize whither goest the Clean Power Plan and the future of decarbonization. It's not an exaggeration I think to say that the Clean Power Plan is the most significant environmental regulation of our time in nearly every way, environmentally, economically, and politically.

Today we have a number of questions to explore what are states, utilities, and EPA doing now, what should they be doing now, and going forward in light of the extraordinary events of the last two weeks in the Supreme Court stay of the rule and the time untimely death of Justice Scalia, which could have important implications for the direction of the Court and the future of the Clean Power Plan, and what should be the longer-term objectives of states and utilities. The rule, assuming it moves forward as currently envisions culminates in 2030. Many of the decisions states take now have important implications for deeper decarbonization in later decades. And how should states and utilities in EPA keep that longer-term in mind as they navigate the uncertain policy waters now.

I'd like to thank your distinguished speakers for joining us, and as always I'd like to express my gratitude to our Economic Studies funders here at Brookings. I'd like to give a special welcome of appreciation to the Clean and Safe Energy Coalition whose representatives are with us today.

To start us off today in our consideration of this rule I am deeply honored to welcome Governor Bill Ritter from the great State of Colorado. Governor Ritter has a distinguished career in public service in Colorado, including serving as governor from 2007 to 2011. He now devotes his time to leading the Center for the New Energy

Economy at Colorado State University. He is the author of "Powering Forward: What Everyone Should Know About American's Energy Revolution". I understand it is available today on Amazon and it looks like it's going to be a real threat to the Amazon ranking of my book about implementing a U.S. carbon tax. So congratulations on your deserved success.

Governor Ritter will be speaking for about 20 minutes and then we'll take your questions, and then we'll move directly into our panel session and I'll introduce our distinguished panelists at that time. So welcome, Governor Ritter. (Applause)

GOVERNOR RITTER: Thank you, Adele. Thanks for joining us here today. It's an honor actually to be able to provide remarks and to be with such a distinguished panel who you will enjoy after I conclude my remarks. We're going to go for about 20 minutes and then do Q&A. So think about things that you might want to ask me.

They asked me to speak about what states should be doing with respect to the Clean Power Plan, and we've got great panelists who are going to talk about that as well, but before I went into the sort of specifics of that I wanted to put into a little bit of context. And most of us here know the context, but I think it's important to understand this because there are many answers to what states should be doing, and many of them have to do with the Clean Power Plan, many do not. Many have to do with the context in which we are -- I was fortunate in 2013 to be part of a group, including some CEOs and folks from other NGOs and academia, to meet with President Obama. It was March of 2013. He had just been inaugurated for his second term and he was asking the question of this group of 13, what should he as the president do to really try and make climate and clean energy a focus for his second four year term. We had a great discussion with him. Out of that I was given a task that my Center would prepare a report called powering

forward, about what the United States administration, the President's administration, could do if Congress remained active. So part of the context we're in here is the United States Congress is at a place where it has not done anything comprehensive as it relates to climate or energy for a very, very long time. And it looks like it could remain stalemated depending on the outcome of the 2016 elections. So the real game has been with the President of the United States and with Executive Agencies. We actually made 200 recommendations in this report that is called Powering Forward -- that's also the name of the book, but it's about something different, the book and that report. But we made 200 recommendations at their request and there were a variety of really important things that the President of the United States could do to push a climate and a clean energy agenda at the agency level with Executive Action, with Executive Directives. And we made those recommendations and one of the things that came from all our discussions -- we convened stakeholders from around the country to really be able to provide that report, we tried to do it in a very bipartisan way, we tried to involve a variety of different sectors, bring great diversity to the conversation. And one of the things that became clear to us is that of all of the things that the President of the United States could do, the Clean Power Plan, or at the time it was called just Rule 111(d), when it was coming to them it was probably the most important thing. So when Adele calls the Clean Power Plan one of the most important and significant environmental regulations of our time I think that's probably right. And Governor Whitman, who is a better historian about environment and the EPA as a former administrator, may have some quibble with that about whether there were other things, particularly early on, that might have been more important for the time. But for our time, the Clean Power Plan -- and for people in the administration talk about is the crown jewel of the President's Climate Action Plan. So remember, the President announced his Climate Action Plan on June the 25th of 2013.

And one of the things he said was he was going to ask the EPA to develop a proposed rule by June the 1st of 2014. The EPA did that, 111(d), and they called it the Clean Power Plan. That's when the proposal came out. They were to finalize that rule a year later. That final rule was published in August of 2015, so this past summer. So that's sort of the history of the President and the Clean Power Plan.

But internationally COP21 in Paris provides us with a context for this as well. No other time in the history of the world have 187 nations provided a declaration about what they would do about their own emissions. And likewise 196 states or 197 countries came together and signed, or agreed upon an accord that will be signed on Earth Day, April 22, in New York City. So in another couple of months we'll have the signature of the representatives from nations around the world and it will be the most significant declaration. Our Clean Power Plan was really not the only thing that the President took to Paris, but it was certainly a part of it. So its future very much depends - the future of our ability to meet with the accord depends upon what we're able to do as a nation, what states and local governments are willing to do as well. The Clean Power Plan was the framework for that, but even with it being stayed, and even with there being some uncertainty about its future, we as a nation have to move forward in terms of meeting our goals and our targets in 2025 and 2030. One of the things the accord provides is a framework for us being able to do that, transparency around doing that, and then nations coming back together every five years to reset their targets, reset their goals according to what the emissions are.

So the Clean Power Plan was very much a part of what we discussed. I was actually there with a badge from the State Department and spoke about four times when I was in Paris and there were a variety of governors, a variety of mayors from the United States talking about the activities by the governors. The activities by the States in

part because the international community, when it reads about the United States and it reads about climate action and it reads about Congress, and it hasn't been paying attention to all of the really significant things that are happening at the state level and happening the local level.

So Paris happened. The President has made this part of his agenda, the Pope actually issued an Encyclical, different than any Encyclicals the Pope has ever issued because they're usually just directed to priests and bishops; this was directed to all the people in the world. And it was really about the need to act upon issues not just having to do with climate change, but about the environmental degradation around the planet, and also about economic inequity or inequality that is really part of environmental degradation. And so you've got the Pope, you've got the President, and the third "P", and this is the public. And this is a really important part of this context. If you look at the opinion polling -- so in this book I talk a little bit about what Americans think because sometimes researchers will say what do you care most about, and climate and energy may be way down the list, but if you ask them specifically, do you want clean energy, do you want that to be the next thing to put on the grid, would you pay a little bit more for that. A series of questions like that, there's real support for clean energy, there's real support for Congress and for governors, for legislatures and states to address climate change. So you've got the President, you've got the Pope, you've got the public, and now you have the Clean Power Plan that until February the 9th was on course, or states were on course to do what they needed to do to submit their initial filing in September of 2016, their final filing in September of 2018.

So just to tell you a little bit about what states were doing. States had stakeholder processes where they were actually meeting with all the folks in their state to talk about how they may go about implementing a plan or drawing up a plan. There was

certainly pushback. There were legislative efforts to require the stakeholder process to finish their work and then have it come through the state legislature, there was the lawsuit that happened after the filing of the final plan. So it's not like it was all candy and flowers at the state level, but there were a lot of states working on it and we in the west were working with 13 states, many of whom were involved in the litigation, but were coming to regional meetings that we were convening for western states to look at regional issues and regional approaches. And around the country, almost all the states in the country that were -- so 47 states got targets from the final rule, almost all of those 47 states were in some kind of a regional convening where there was a discussion about planning, there was a discussion about modeling, and really about whether or not it was important for a state to look at this regionally or to just go it alone and do it state by state.

So then the stay happened. And the stay happened as I said February 9 and it was a pretty dramatic event. And a lot of the folks at the EPA would say, well it's a bump in the road and it's things -- we know this. I mean this happens all the time. We get sued by one side or the other on every big thing we do. So it wasn't a terrible shock to us. I think the stay was something different from the United States Supreme Court than they've experienced before, but this is a bump in the road and I think they are looking at this and saying well, the Clean Power Plan is something states should still actively be involved in, and for a few reasons; we're going to talk about what those reasons are.

February 9 came and states began making their announcements about what they were going to do. So I would classify states in three different categories. Just as it relates to their stakeholder process, they're own state process, there are the no go states, the slow go states, and the go go states. So there are some states who said we're just going to keep planning. Colorado is one of those states. Governor

Hickenlooper announced that that stakeholder process was going to go forward and, in fact, last two members of my staff testified in front of the Air Quality Commissioner, the air regulators in Colorado who will write the plan. The Pacific Coast Collaborative, Washington, Oregon, California, they're all going forward. So there are a variety of states around the country that said no, it's important for us to keep the stakeholder process together and to go.

There are other states that said well, we're going to slow down a little bit with our stakeholder process. We're still going to have some meetings and we're going to, you know, push this forward a little bit, but we don't have the same deadlines in place, and the plan may come back, it may not come back, but we're going to slow down a little bit.

And then there are states that just basically shut down their stakeholder process. The State of Wyoming, the Senate last week passed a bill that said no state resources can be used to look at implementation of the Clean Power Plan. That's now got to be taken up by the House. If it passes, the Governor signs it and the folks in Wyoming are going to have to figure out what they do and how they really go about doing anything about the Clean Power Plan without spending state resources.

So there are those kinds of efforts that are, you know, that are out there. There's legislation pending in Colorado that basically requires review by the legislature of the Clean Power Plan. I just read an E&E article that talked about Virginia and some legislation that's moving forward in Virginia. And I think we'll see this around the country, where there will be legislative efforts to push states back from doing anything as it relates to implementation, and we'll see sort of what the outcome of that legislation is.

But what should states do? And I want to spend just a little bit of time on that. What should states do and why should they do it? Well, first of all while it was a 5-4

decision to stay the Clean Power Plan implementation. Scalia's death, Justice Scalia's death four days later really did mount uncertainty on top of uncertainty because he was in the majority. If they had taken this up after his death it would have been a 4-4 tie and the lower court ruling not to stay it would have been upheld. So being in the majority and then having passed away, now you have kind of a 4-4 split it might appear on the Court. And we don't know who the next justice will be, we don't know how the nomination and the confirmation process is going to go, but it certainly has caused a lot of people to think, even the folks who said well we won that and that's good news because it was a 5-4 decision. It could portend bad things for the Rule 111(d) when it gets to the Supreme Court. They can't say that any longer, they can't say that any longer until you know who the next justice or if you don't get a justice in time, it could be a 4-4 split, and again that would uphold the lower court ruling.

So those are all parts of what states are looking at and what regulators and utilities have to look at. The issue about what states should do, I want to take a moment and say the clean power plant is just one thing. And what's really important about this issue, this issue about energy and resource planning, and doing it in the context of international agreements, public support, a President who's really pushing a climate energy agenda, states have been doing fairly dramatic things for quite a while and actually we found a group -- if you look at the governors in those states and the legislatures, some bipartisan support to push this issue. As governor of Michigan, before the Clean Power Plan had announced a clean energy plan to build on things that this predecessor, Governor Granholm had done. There are governors across the country, republican and democrat alike, who are looking at this and understanding our future is going to involve decarbonization. One way or the other, our future is going to involve decarbonization. So the Clean Power Plan actually provided a framework for states to

act. And even with it being stayed I think you're going to see a variety of states at some level continue to look at how you move forward in the context that I talked about at the beginning of my remarks. How do you continue to look at decarbonizing and what kind of resource planning? One of the things about the stay that we found kind of tough was utilities. And all these really significant utilities who were accepting that the clean power plan was going forward, using that as their framework and giving them the thing they want the most, right, certainty. Giving them some certainty about what the future looked like for them, the next five or ten or fifteen or twenty years. And this particularly in a place where utilities are very concerned that their business model is a 20th century business model and actually does not fit with this 21st century clean energy world, climate change world that we live in. And so they were happy to have a little bit of certainty come their way from the EPA with the Clean Power Plan. And suddenly with the stay that certainty is thrown up. It matters to utilities because there are all sorts of significant resource plans that must be filed around the country, with utilities going in front of utility commissioners and planning for the next 10, 20, 40, 45 years, to build a combined cycle. The natural gas plan is a long commitment of resources. And you really want to know what's sort of the future, what's the wisdom of that, what are the alternatives. And to not understand what the future of the Clean Power Plan is has made it difficult for utilities. I think we're going to hear from the President, the Executive Director of NARUC, that it's difficult for utility commissioners. So it's through some difficult things in other words. And it's one of the reasons states should stay the course. Because staying the course and using the Clean Power Plan as a framework, even if it's someday perhaps tossed out, staying the course on that gives you a framework for going forward, gives you some certainty as a state, and gives you some ability to really look at how you over time have lower emissions. And I think across the board states understand even without the Clean Power

Plan or what you think about, you know the President's Climate Action Plan, or the EPA, this is the future, this is the future for states.

So that's one of the reasons, is because the resource planning that has to happen really involves you making decisions today that have far and long-reaching consequences. Secondly, I would argue states should continue to be involved in these regional discussions because there's a variety of modeling going on. And in the west, as I said, we were convening 13 states from around the west and 8 Republican governors, 5 Democratic governors, we had modeled for 7 states what it would look like for compliance with the Clean Power Plan using a group called Energy Strategies out of Salt Lake City, we were modeling the other 5 states. We were not going to model California because they're a variety of groups that are doing that, but we were modeling those 12 states out of our 13, and quite frankly was beginning to give states sort of this comparator, this analysis where they could look at what would be necessary to hit their target. And to answer some of the very difficult and technical questions, should we go mass based, should we go rate based, should we be involved in a trading regime as opposed to just go it alone. Those were the kinds of questions that modeling was beginning to answer for states across the country. For the 47 states that had the target, they were beginning to be answered.

So you had resource planning, you had modeling, you have this sort of idea about certainty for utilities as they go forward, and then this rule is a little different because it's an air rule. So you had air regulators writing a rule that really was about resource planning and required air regulators to work with utility commissions in a way different than they have in many instances. When I was governor I signed into legislation a bill called Clean Air Clean Jobs where we actually required a gigawatt of coal to come down in the metro area and transition it to natural gas. And it was mandated by the

legislature that the utility commissioners and the air regulators would work together. This is something that doesn't always happen at the state level, but was going to be required by the Clean Power Plan. And for our purposes, for utility commissioners to be in the business of helping write plans with air regulators, or vice versa, or doing their work in tandem, but doing it together, it makes every bit of sense for state to continue doing that. One of the complaints from the states that we took back to the EPA was that there just wasn't enough time; that the deadlines were too tight to write that initial plan by September 2016 and then submit a final plan by 2018. Many of the people that I know that have been involved with the EPA for a very long or with environmental rules looked at this and said this is really tough stuff. In the west we had the regional haze rule, governor, that took 15-16 years to try and get to a final place. This gives us the luxury of time of saying this is how we can go forward, this is the kind of modeling that you can use to compare these various approaches and look at how you get to the place that the Clean Power Plan is trying to get you to.

What I feel badly about is that this conversation had become so partisan about the EPA or the Clean Power Plan. It should not be political, it shouldn't be partisan. But what I feel good about is in spite of that partisanship I just sense a growing sense on the part of governors across the land, both democratic and republican governors of understanding the need to do this. And a lot of that comes I think from the public support for doing it, and some of it comes quite frankly from just some of the natural causes of climate change that we've seen and we've experienced. This book I write I begin by talking about the four million dead pine trees in Colorado that are dead because of the pine beetle because it has two life cycles and it's never had that before. And the pine beetle has two life cycles because of climate change. And it's just one example, one small example of what states are experiencing around the country. And

whether you're a democratic or a republican governor natural disaster, things like wildfires, or hurricanes or other kinds of extreme events, or even just the changing of the biosphere, they don't look to partisan politics and decide where the impact should be visited. And that's why I think we see republican and democratic governors a like looking at this and really understanding they need to move on it. And it's why the Clean Power Plan provides a framework for them to continue doing that.

And the last thing I'll say before I take questions is if the Clean Power Plan goes away I have a sense this nation is still going to move forward. It's going to move forward on this issue. States will continue to look at how they decarbonize. There is -- as my book says, there is this energy revolution happening in the United States of America and it is about planning for a carbon constrained future. And my hope is that the Clean Power Plan lives and that is our framework for going forward. It's not the final thing we have to do by any stretch of the imagination, and the people in the Environmental Protection Agency will tell you that. It's not our last act with respect to climate change, but it really provides a great framework for dealing with greenhouse gas emissions and it will provide great momentum for us as a nation to move forward and actually meet our targets that we have declared in the international declaration submitted to Paris.

So with that, again, thank you for being here today and I'll take five or ten minutes of questions.

MS. TSAO: Stephanie Tsao at Argus Media. I write about renewables. Thank you for being here. I had the pleasure of seeing you speak also at NASEO a couple of weeks ago and you talked a lot more today about resource planning. Can you talk about what kind of deadline you see the 13 states you mentioned, the west, dealing with -- because some of those plans are one or every two years. Is there more emphasis now going forward in terms of planning to think about decarbonization through those

plans?

Thank you.

GOVERNOR RITTER: Well, let's take Colorado for instance. In Colorado Xcel Energy provides about 65 percent of the electric power to customers around the state. They are one of two investor owned utilities, but they're definitely the biggest by far. And they actually delayed the filing of a resource plan pending the Clean Power Plan declarations. So the utility commissioners said to Xcel, it doesn't make sense for you to file something next year while we're in the middle of sort of planning for implementation as we get closer to September 2016. Now they have to file that resource plan and they have to do that really without the benefit of knowing whether the Clean Power Plan is going to survive the litigation. And I think for Xcel's purposes I suspect what they're going to do is they're going to plan based upon believing the outcome will be positive for the Clean Power Plan. If you look at what they publicly announced about what they're going to file for their integrated resource plan, it very much sort of meets what they would need to have as targets for going forward and reducing emissions. Xcel is a pretty interesting company. Since 2005 we have a 30 percent renewable energy standard for investor owned utilities in Colorado. We also did this Clean Air Clean Jobs Act. Between those two things, if you look at their 2005 emissions, their 2020 emissions, they reduce them 35 percent over that 15 year period. And it will be 35 percent by the time 2020 rolls around. But they did this at almost no cost to consumers. The Clean Air Clean Jobs there's also some economic modeling, said well this is going to be very expensive for our consumers. You know, people who are opposed to it came into the utility commission said, you know, this is going to cost so much money. Even Xcel's own modeling said it's going to about \$1.70 a month on the average rate payer's bill. It's \$.05 a month is what it costs, \$05. So \$.60 over the course of the year to the average rate

payer. It's far cheaper than they expected. The price of wind has come down dramatically, the price of solar has come down dramatically, and the price of natural gas has stayed fairly low over time. And so we've seen this tremendous reduction in Xcel's emissions, and we've seen it without really a cost to consumers that you would consider really significant. Over time our costs have actually become cheaper relative to the rest of the country and with a very serious sort of push on a clean energy agenda.

So utilities around the country are going to have to do I think something similar. I think they're going to figure out, okay, what will the commission accept, look at what the cost to rate payers will be, work with legislators if necessary. But I would say that a variety of the utilities are going to treat this as the framework for going forward in their own resource planning because of the possible eventuality that it is.

MR. KUCKRO: Thank you. Hi, my name is Rod Kuckro, I'm the Managing Editor of E&Es Power Plan Hub, which you may know.

GOVERNOR RITTER: I do.

MR. KUCKRO: What are you thinking about how the stay is going to affect investment by manufacturers and investors in clean energy facilities and that states that have decided not to go ahead with any planning versus those who are fully committed to going ahead with the decarbonization?

GOVERNOR RITTER: This is the arena where the Clean Power Plan is just one thing. So there are a couple of other things that have happened that are significant and an example of a state where something sort of bad happened, and we can talk a little about that. The passing, the extension of the Investment Tax Credit and the Production Tax Credit actually really helped with respect to a near-term clean energy future. The Clean Power Plan and the Clean Energy Implementation Plan, the CEIP, where you get double allowances for early implementations in low income neighborhoods

and in tribal lands, that kind of thing was really going to help sort of build up in places and states that decide to do it because they go double the allowances for doing that. And it was really a significant incentive, CEIP -- the "I" is the incentive. So that was important and that's helpful, right, that the CEIP was there, but to have the Investment Tax Credit and the Production Tax Credit have a greater future, they're going to wind down over time. I think the ITC goes away in 2024, the PTC in 2022, and it's gradually declining over time. But that, in my experience, is very much going to provide the kind of incentive to sort of fill this gap while the stay is happening.

If you saw what's happening in Nevada, a pretty interesting thing. The utility commissioners in Nevada sort of decided to change the rules around net metering and then in a second decision they decided not to grandfather in the people who were under the old set of rules and really expecting to generate some additional income from that metering. And with that there were several solar companies that said we're leaving Nevada. We've got other places we can go where there's a level of certainty in terms of our business case for clean energy and that's what we're going to do.

In our state we have Vestas manufacturing, wind manufacturing, one of the biggest turbine manufacturers in the world. They are in Colorado because of public policy. They're not there because of the Clean Power Plan, they're there because over time we've signed several really important pieces of legislation to say we have a clean energy culture in this state and manufacturing is welcome here. And Vestas is a great example of a Danish company making a decision to locate in a specific state because of public policy.

One more question. She said the question has to be short so I'll also try to make my answer short.

MR. HILL: Thank you very much. Terry Hill with the Passive House

Institute. So we know how to build energy efficient buildings, right? We also know that what's left after you do that, you've got plug loads and a lot of that in now direct current. So is anybody looking at a clean slate -- you've done a lot of modeling -- anybody looking at a clean slate approach to the grid that factors in the inherent megawatts in the buildings and looks at distributed generation really?

GOVERNOR RITTER: So I would probably farthest ahead of that is the State of New York. They have the Reform Energy Vision project, REV it's called. Richard Kauffman, formerly with the Department of Energy, is directing that for Governor Cuomo. And really they are looking at transitioning the business model for utilities as a part of that. When you're talking about this sort of clean approach, it would work in terms of taking down emissions, but we very much have to find what the business model is for utilities as a part of that. This energy revolution that I talk about, it is something that will happen as a shift. There's not going to be a shutdown of the way we do business one day and then we start a whole different thing the next day. But I would say that over time distributed generation and energy efficient buildings are going to be a big part of our future and we'll shift toward that.

The last thing I'll say is really interesting places in the world that don't have energy, we are investigating. And in CSU is involved in looking at a project in Rwanda about building micro grids that are DC grids in villages in Rwanda, building capacity to both construct the and maintain them and then over time tying a variety of micro grids together. Places where there is not an energy system, where there is not central distribution, particularly where there's no energy delivered to places, there is really I think both the ability and the ambition to provide distributed generation to folks who have no energy at all and to be able to demonstrate the working of a micro grid, even the working of a DC micro grid, and the importance of doing energy efficiency in tandem.

So thank you very much. (Applause)

MS. MORRIS: Thank you. So thank you again for joining us, Governor Ritter. I'm a firm believer in what you just said, that we are on a future of decarbonization, whether the current policy gyrations work out one way or another, it really is the path forward.

So I'd like to introduce our distinguished panelists. I am very delighted to introduce you to Governor Christine Todd Whitman. She served as President George W. Bush's administrator for the EPA from 2001 to 2003. So she's lived through life at the helm of EPA. She was the first woman governor of New Jersey, serving from 1994 to 2001, and she's the author of a 2006 best-seller called, "It's My Party Too", and I love this from the blurb, "a voice for the radical moderates of the republican party." And she now co-chairs the Clean and Safe Energy Coalition. Thank you, Governor Whitman for joining us.

I'd also like to welcome Greg White, to my right, who is the recently selected Executive Director of the National Association of Regulatory Utility Commissioners. And he brings to his new post and our discussion today his experience as a Commissioner in the State of Michigan.

Jonas Monast directs the Climate and Energy Program at Duke University's Nicholas Institute and he's been working with states and their deliberative process around the Clean Power Plan. So we can hear from him.

Josh Linn is a Senior Fellow at Resources for the Future and he has just gone back to RFF from the President's Council of Economic Advisors where he was involved in the White House discussions around the Clean Power Plan.

And finally, my colleague, Philip Wallach, who is in our Governance Studies Program here at Brookings. And he has written about the political and legal

hurdles of the Clean Power Plan.

So welcome to all of you distinguished panelists.

Governor Whitman, I think I'll start with you. Since you've been at the helm of the EPA, would you care to reflect on your observations of EPA's endeavors under the Clean Power Plan and your thoughts about what states should be doing now in this uncertain environment?

GOVERNOR WHITMAN: Well, certainly. And thank you very much for convening this and having us here because this is such an important topic. And it's always a pleasure to hear Governor Ritter. But let me say that I think EPA was as flexible in this regulation as it was possible to be given the Clean Air Act. Most people forget how prescriptive Congress was when it designed and wrote the Clean Air Act, telling us when you could consider cost benefit analysis, when you could not and, you know, when you might. Sometimes you have to, sometimes you can't, and other times you might. How they figured that out in their wisdom so long ago I'm not exactly sure, but they did. And so EPA is told when it has to do certain things. And when you try to be flexible about that, the Governor said that we usually were hauled into court for any major thing, we were hauled into court for just about everything. Any time you made a regulation one side or the other was mad at you and would take you into court. And one of the things we found was every time you tried to provide some flexibility in order to solve a problem, not to get around the requirements of any part of the Clean Air Act or the Clean Water Act you'd get hauled into court and really the courts had very little choice because the law, the enabling legislation was so prescriptive. In this instance I think they've pushed the envelope as far as they could in allowing for flexibilities for states to determine whether they wanted to do the mass approach or the rate based approach, to look at how they were going to do it, not telling them which sorts of power they should,

and frankly one of the things they did recognize, which I was very pleased about, was not just clean renewables, but also the role that nuclear plays as clean power, as the cleanest form of base power that we have, and it's reliability and the recognition that bringing on the new facilities, the new reactors could count toward a state's overall requirement under the Clean Power Plan.

I would agree with Governor Ritter. I think the states are going to, for a large part, go ahead and continue to move toward some kind of clean carbon economy. We're going to see that in the future. You have it not just from the regulatory and governmental point of view, you also have it from the business point of view. It's not just utilities that want certainty, it's also major companies that want certainty. And for our international companies they have to operate in a world where carbon and carbon reduction and clean air and climate change are very, very important. And they're going to be required to meet very strict standards around the world. They would like to see some certainty here so they know how to plan because as with the utilities, they're making decisions now as to where to invest, where to locate, how much money they need to put into new models for their energy. So it's something that I believe is going to come.

And just one final point, I've almost given up hope in talking about climate change and the importance of climate change as a national security threat beyond just what it means to the world as far as clean air, but we also ought to remember that the most recent study that in 2013 over 5.5 million people died from dirty air. That's over 90,000 here in this country, which is almost 3 times as many people as were killed in traffic accidents in 2013. And we get all kinds of rules and regulations about trying to make our roads safer and our cars safer, but this is clean air, indoor and outdoor air. Obviously we're not as bad as China, we're not as bad as India, but 93,000 people, almost triple the number of those killed in traffic accidents, is a significant number about

which we should care.

MS. MORRIS: Thank you very much, Governor Whitman. I want to turn to you, Greg, in your role at NARUC. What are you hearing from your members across the states and how are utility commissioners coming to these latest developments with the Court stay? And then what do you see as kind of the longer game plan?

MR. WHITE: Well, thank you, Adele, and thank you to Brookings as well for convening this group and including NARUC as well as part of it.

You know, so our states, our members are across the board on where they may be in terms of the Clean Power Plan because that's a very specific regulation that requires compliance. But I think as a group these are conversations that have been taking place for quite some time, predating the actual Clean Power Plan. And those conversations are going to continue. And I think that's probably the most important point that we can make is that there was a recognition through resources, through technology, that we had the opportunity to move towards cleaner energy resources in this country and many states recognized that. Governor Ritter alluded to that, opportunities for investment. States are often looking for those opportunities and this was just one that happened to fit neatly into a long-term economic plan for the states. And so the Clean Power Plan is just part of that in my view is simply accelerating the time frames that I saw rather evolutionary move towards cleaner energy technologies that was taking place.

So those conversations are going to continue, the planning will continue. I do think that there will be a pause in terms of developing specific plans for implementation, compliance plans. And to some degree that may very well be welcome, the opportunity to sit back just a little bit and think about things more critically. Those plans were coming very, very quickly. Having been involved with some of these conversations for a couple of years back when I was a commissioner, I was very

concerned that we weren't where we needed to be for state implementation plans that would be filed yet this year. So I think some states are viewing the stay as an opportunity to take a step back and think critically. Meanwhile the conversations concerning clean energy resources and economic development within states is going to continue unabated in my view.

MS. MORRIS: Thank you very much, Greg. So, Jonas, you are an attorney by training so we'd love to hear your take on the Supreme Court stay. And you've been working with states in the southeast as they've been grappling with their options under the Clean Power Plan. Can you tell us what kinds of conversations you've been having in your perspective on where they go now?

MR. MONAST: Sure, I'd be happy to. I mean the first thing that the stay taught me is don't predict what the Supreme Court will do because I, along with many others, got that wrong. What we do know now is that at the time the stay was issued five Justices and now four remaining Justices thought that there was some argument -- and there were a lot of arguments put in front of the Court -- at least one of those had a likelihood of success on the merits. We don't know which one of those arguments Justice Kennedy -- and he's really the one we're talking about here -- which one Justice Kennedy thought might succeed on the merits. Now that there's a potential for a four-four split for quite some time, it's not clear what that means going forward. Which means just like Governor Ritter pointed out, a tremendous amount of uncertainty.

So I think the impact of the stay as Governor Ritter pointed out initially there were reactions from a group of states saying we're going to keep going forward, this is important, and we've already invested resources. We're going to keep working on the Clean Power Plan. Another group of states has said we're going to go at a slower pace, we'll see how things go, and then a much smaller group of states initially said we're

putting this entire process on hold.

But I think it's important to understand those questions were about the specific regulatory process called the Clean Power Plan. Even the states that are saying we're putting the Clean Power Plan sake water process on hold also were saying we recognize these problems, these challenges aren't going away and it really is not just about the Clean Power Plan. This is about the future of electricity and what it means to achieve an affordable and reliable electricity sector while complying with things like the Clean Power Plan and additional Clean Air Act rules coming down the pipeline, and dealing with uncertainties about the future of the existing nuclear fleet, and answering questions about how much do we want to be reliant on the natural gas to provide, you know, a dominant amount of our base load power, and what do we think the future of electricity demand is going to be. So each of those other challenges that are still on the table depend very much on public policy answers. And I think that the Clean Power Plan created a forcing mechanism to bring utility regulators and air regulators and utilities and affected stakeholders to the table to really start engaging about what do we want the future of the electricity sector to be. And I think there are a lot of challenges that are still going to bring people to the table, although that table may not be organized specifically around the Clean Power Plan.

MS. MORRIS: Thank you. Josh, now kind of as our resident economist panelist, can you comment on the economics of both the Clean Power Plan, the pause, and then its implementation? And maybe specifically talk about this question of the retirement of nuclear plants. One concern might be that if states are too focused on achieving a particular target by a particular near-term date that they might deploy capital in a way that's less than perfectly consistent with a deeper decarbonization later.

MR. LINN: Yes, thank you. And first let me start like the others by

thanking you for organizing the event and inviting me.

I'd say first of all I think it's worth starting with a bit of perspective on sort of what the Clean Power Plan is, and what it seeks to achieve. That, you know, carbon dioxide emissions from the power sector have been declining for a lot of the reasons that Governor Ritter discussed and, you know, may continue to do so even without the Clean Power Plan. The Clean Power Plan actually would require emissions reductions or is expected to do that at a slower rate of decrease than we've already seen. So from that perspective, you know, we're sort of continuing the trend we're on with greater use of existing technologies, right, broader use of renewables, more of a switch from coal to gas and things like that.

So what this means is that in principle the Clean Power Plan could be implemented at low cost. And many of my colleagues at RFF and elsewhere have done some modeling and suggest this shouldn't be that hard from a cost perspective to achieve, at least in the aggregate level. The total overall cost shouldn't be that high on a per ton of reduction perspective. But easier said than done. And so Governor Ritter also mentioned a lot of the discussions going on at the state and the regional level. And it's a real challenge to states about how do they actually do this, right, that the challenges are much broader than for other regulations from the EPA. And it's going to take some effort and some work for them to come together, you know, (a) to achieve those emissions reductions and (b) to do so at low cost. And so that's where I think the importance lies in sort of identifying the sort of best options for reducing costs and also working together. There are going to be huge gains to trade across states, both in power trading and emissions credit trading and the like. And so the more states can realize these opportunities the better. And they'll be able to realize this opportunity of showing that emissions can be reduced and done so at low cost. Because I think there is a real

fundamental question of like can we do this. That's going to be really important to address over the next decade or so.

So then just turning very briefly to the question about nuclear, you know, I think it's a big question about what happens as the older plants -- and maybe some of the nuclear plants are going to end up retiring in the next decade or two, you know, what are they going to be replaced with. And Governor Whitman mentioned a lot of the flexibility that the Clean Power Plan provides, and in general that's a great thing having this flexibility. You can identify what's best for yourself. But some of this flexibility also raises some questions of you have some options of what you can replace the nuclear with and still be in compliance with the Clean Power Plan. And so whether you replace it with new renewables or a new natural gas-fired plant. Either one could work depending on how your state tries to comply, but obviously those two options have much different emissions implications. And so that's going to be something for states that they I think should be mindful of when they're dealing with these sorts of events that may come up over the next, as I said, 10 or 20 years.

Thanks.

MS. MORRIS: Thanks. So there's a concern over stranded physical capital. There may be some stranded political capital here too. Philip, do you want to chime in on what you think the Clean Power Plan means for the politics around climate policy and the stature of the United States within the UN Framework convention process? We just completed the Paris accord. What do you think recent developments mean for our broader dialogue?

MR. WALLACH: Sure. Thanks, Adele. So I'll start domestically and work my way out to internationally. I think I wanted to add a fourth "P" to Governor Ritter's. We had the President, Pope, and public. It seems to me that politics really is an

independent thing from public opinion in this case and we've got a party, republican that is not on board with the Clean Power Plan. It's not quite 100 percent true anymore, but it's nearly 100 percent of sitting republican officials around the country have not been giving their approval to this big plan that is the crown jewel of the Obama administration's climate plan. So that just represents a big problem. I've started saying political sustainability is the hardest thing about coming up with a workable climate plan. And that's not just true for the United States, that's true around the world. And we saw the Kyoto Protocol; countries when it got too costly were inclined to withdraw from that. Figuring out how to have a climate plan that can stick even when the political winds change is really tough. And that's the challenge now. I think the United States was able to go into Paris and project this sense that all the wind was in the sails of the Obama administration moving forward and providing some international leadership on climate, and that was very important to the dynamics of the negotiations in Paris. I think the danger with the stay and of course with the 2016 election is that the wind will seem to go out of those sails and that internationally countries will start to think maybe this isn't going to be something that the United States is going to stick to and maybe it's not something that other countries will bear such a huge reputational cost if we don't end up to our INDC.

So I think that's the challenge going forward. The Clean Air Act was always going to be a very poor foundation to build U.S. climate policy on because it just is designed for other purposes 45 years ago by now. And at some point we saw the environmental community and the United States decide to sort of throw their weight behind this approach, and it's always had potential problems because it requires the courts to decide that the best system of emission reduction for a fossil fuel plant may include subsidizing renewable energy. That's sort of the equation at the heart of the

Clean Power Plan and it's always going to have been a bit of a tough sell. We don't know how the DC Circuit is going to rule. I think people have prejudged that. They've said there's two Democratic appointees on the panel that they drew, that means it's all over. I'm not so certain myself. It really is a difficult thing. So I agree that the EPA has definitely been doing the best it can with the tools at its disposal and it really deserves to be commended for the work it's done. At the same time the tools are lacking and that's going to continue to present problems going forward.

MS. MORRIS: Do any of my panelists want to comment on anything the other panelists have said?

MS. WHITMAN: Well, certainly, I do. I agree with it being an imperfect tool under the Clean Air Act. And that I presume is the basis for -- it is the basis for the challenge. Using 111(d), is that the right way to go. But I also think that we've got to remember that we have, as has been pointed out, we have been doing a lot to reduce our overall emissions. It's been a voluntary approach, but it's worked. Even back when President Bush was elected, one of the things I argued when I went over and then came back actually from having gone to my first G8 of the environmental ministers and we decided we were going to make the broad announcement that not only were we going to get out of Kyoto, which was no surprise because Bill Clinton hadn't -- I mean, you know, the Congress -- there was no appetite for Kyoto in the United States and it hadn't even gone up there. But when we said we're also by the way not going to regulate carbon which had been part of the campaign promise, something that the President had done when he was governor of Texas, the way we did it -- and having just one over and promised all these ministers that yes, we were still going to go forward and regulate carbon, and they thought, okay, that gives us some basis for us to take hope and now we'll start to move forward. At point in time only Romania had actually ratified Kyoto until

after we got out of it in the way that we did, but when we blew up the carbon it was very much -- I always use the indelicate term of flipping the bird to the rest of the countries who cared deeply about climate change and deeply about carbon. But they're going to look at us now and say you're doing the same thing again. And we didn't -- what I had argued for at the time is just take all the things we've been doing and repackage them. Say look at what we're doing on carbon, because that message is not out there at all. I think we're beyond that now. We need to continue down a path that says we are actually going to have some certainty, and that's why I feel so strong. As we talk about the mix, and I think it's in all of the -- I firmly believe it's in all of the above strategy -- I would like to see nuclear. And CAEnergy is putting together a clean energy resource center that will allow states to see what exactly the impact will be if they retire some of their nuclear of they were to bring on one more nuclear reactor, how it would impact the targets that they have under the Clean Power Plan. It's just a tool to be one part of how you decide what kind of mix you're going to have. Because we all want the renewables, we all want to have to be able to depend on those things that are renewable, and we also want conservation. But we've got to get there in a pretty demanding short time period. And that's going to take in all of the above strategy.

MS. MORRIS: Well, I think we're running short of time so I should open it up for audience Q&A. Do we have anybody with questions? David? And can you identify yourself and wait for the microphone? It's coming right behind you.

MR. BOOKBINDER: David Bookbinder, Element IV. I'd like to know if any panelist has a reaction to EPA's revised methodology for the U.S. greenhouse gas inventory they released today showing recalculating historical and current emissions several hundred million tons more annually?

SPEAKER: I don't have a reaction. In fact that's -- I didn't know that until

you said that. But I will just say I mean that just highlights how important it is to get the data right when you're designing a policy tool. And I'll also say for something like this it also highlights the importance of having a mechanism for going back and making sure that the data that you originally based your target on was the right data. And if the data weren't correct, revising based upon currently available data.

I mean with the EU ETS, I think it's quite clear from this that regulating a pollutant like greenhouse gas emissions requires not just getting it right in the first place or doing something, it requires retrospective review.

MS. MORRIS: And I would just chime in to say that if we do have data issue in the United States they are modest compared to the data issues around the world. We were just -- you can see it on our website, we modeled to the Chinese commitment in Paris and data issues were a serious impediment to try to analyze the Chinese commitments. And so I would just say that it underscores the importance not just of domestic measures to get our data right, but international cooperation in improving the quality of everyone's data.

Any other questions? Yes, right here. Wait for the microphone.

MS. SARFATY: My name is Mona Sarfaty. I run a program on climate and health at George Mason University. And I wanted to thank Governor Whitman for pointing out the important health implications of clean energy, mentioning the 93,000 lives in the United States.

And I guess I want to make a pitch for including that more prominently in discussions about clean energy because I think that by and large the public is not still aware of the implications of fossil fuels in terms of dirtying the air and the water and how that plays out in destabilizing the climate and in affecting people, the very young, the very old, people who have any kind of a respiratory condition, a cardiac condition, and people

who have allergies because of the longer pollen season. And of course all of that is aggravated by the wild fires and the current flooding and the sea level rise and so on. And so that connection between clean energy and better health and also climate change and health is one that I think speaks more directly to the public. The center that I'm at has studied what Americans think about climate change since 2008 and if you just ask for kind of open questions, you know, about what they think climate change is doing, a very few of the members of the public actually have health right at the top of their mind. But then if you ask them a question, you know, a closed question and give them a choice they recognize that it does. But when you give them a paragraph to read that points out that there are these very significant health implications, it plays well. And it plays well not just with that part of the population that's aware of and concerned about climate, it plays well all the way over to the right --

MS. MORRIS: Is there a question in there?

MS. SARFATY: Yes. Sorry. So I did want to know from actually the members of the panel what you think the potential is to work in the health impact of energy choices in the work that everybody is doing because I think this is really just an important piece of the picture.

MS. MORRIS: Josh, do you want to talk about how that featured in the regulatory impact analysis?

MR. LINN: Yes, sure. And I think this is a case where it might be useful for me to try to distill what was in this regulatory impact analysis so that nobody has to go out and sort of wade through this kind of material.

In the Clean Power Plan analysis the EPA did and the cost benefit analysis, just like with other greenhouse gas and climate related rules like the CAFE standard, the fuel economy standard for vehicles, they consider the effects of other

pollution, other types of pollutants that are emitted in the process of burning the fuel. So for coal, you know, they'll include the effects of emitting particulates and the effects on local air quality. And so those benefits are counted. And, you know, in fact account for a very large share of the overall benefits of reducing these emissions. And so there certainly are these additional benefits to reducing emissions from burning gas and from burning coal. And to sort of try to sort of make a broader connection, I mean this is true not just in the United States but all around the world. I mean there are countries that are thinking about reducing their carbon emissions, they will also realize these co-benefits because there are lots of urban air quality problems, like Governor Whitman mentioned. And lots of countries are dealing with similar problems and sometimes worse. And so it can make sense to reduce these emissions for a lot of different reasons, you know, climate just one of them.

MS. MORRIS: Let's take one more question. How about right over there; the lady with her hand up. This will be our last question.

MS. CANE: Hi, I'm Sofia Cane from the Global Call for Climate Action. Given the Paris agreement ratification is coming up in a couple of months and the stay will only potentially be lifted in June, what are some ways that we can talk about the U.S.'s role not being minimized in the Paris process while getting around this new hurdle?

MR. WHITE: Well, first of all I think there is no chance the stay will be lifted in June. The way that it was written was that it's a very unusual thing that it will have to work its way all the way through the Supreme Court, unless the Supreme Court were unexpectedly to deny -- that will be day when the stay is no longer effective. So chances are the stay is going to last all the way until the Supreme Court finishes and renders its judgment in 2017 at the earliest, or more likely '18. So I think the stay has

effective life for the next couple of years really, or at least a good 18 months probably. So I think the international negotiations and international dynamics have to proceed with that in place. There's no way to sort of wait it out because that's a long time in terms of these things.

MS. WHITMAN: Again I think this is where we'd look to the states and start highlighting what's happening at the state and local level, because there is a lot happening. And utilities and businesses. I mean there are many businesses now that have stepped forward with no regulatory or legal requirement and have set targets for themselves to reduce their greenhouse gas emissions, their water consumption, because it's good business. They're reducing costs, it gives them a way to differentiate their products from others. And a lot of them are doing a lot of significant stuff. So that's I'm afraid what we're going to have to do, is we're going to have to highlight very real progress being made, but not at the federal level. It's going to be at the local level, at the state level. It's real nonetheless. It's not going to be as satisfying though because it doesn't lock us in the way it was anticipated, but it's still something. It's a message that we can get out there. Won't make them happy, it won't satisfy everybody, but it's real.

MS. MORRIS: Any other concluding thoughts from our panelists? Greg or Jonas?

SPEAKER: Well, maybe I'll offer a concluding thought and I'll say in answer to the question. I think it makes the talking points harder, it makes it a more complex story to tell, but Governor Ritter mentioned the production tax credit and the investment tax credit, and that's going to drive emission reductions. The Department of Energy has continued to invest in energy innovation, energy research. That's an important part of the story to tell. States are going to continue to look at renewable energy policies that are going to have an impact on emissions. So it becomes a more

complicated story to communicate, especially at the international level. But I think especially between now and 2025 many of us thought that emission reductions that were going to take place were likely going to be driven by other things anyway. It's really the Clean Power Plan starts kicking in in an important way post-2025 more importantly than pre-2025.

MS. MORRIS: Well, thank you very much to all our distinguished panelists and again to Governor Ritter. Thank you. (Applause)

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