THE BROOKINGS INSTITUTION

OPPORTUNITY 08:

A NEW POLITICAL CLIMATE FOR GLOBAL WARMING

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PANEL ONE:
THE CHALLENGE OF CLIMATE CHANGE AND ENERGY SECURITY

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PANEL TWO: THE POLITICAL CLIMATE

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P R O C E E D I N G S

MR. ANTHOLIS: -- is to focus attention on the top issues that the next President should address. The project features over two dozen essays by Brookings scholars and our extended family of writers on the major public policy issues that will shape our prosperity, our society and our world.

Today, we're going to focus on an issue that stretches across all three of those domains of public policy, climate change. I'm told that Lyndon Johnson once said if they're going to blame you when it's raining, then I sure want to take credit when the sun is shining.

Evidently, he said this about the economy and not the weather itself, but times may be changing. Presidential candidates now may try to take credit for actually doing something about the weather. A whole crop is now stepping up to the plate to try to get credit for affecting climate and stopping climate change.

Today, we'll have two panels that will try to get a better handle on what are the main climate change issues that the candidates should be grappling with and some of the specific proposals that the candidates are putting forward. The first panel will be a Brookings panel that will address the new dramatic attention to climate change and lay out some of the issues that the candidates and their surrogates in the next panel will be facing. The second panel will feature representatives from the McCain, Clinton, Edwards and Obama campaigns and will be moderated by ABC News Political Director Rick Klein, Editor of "The

Note."

Today, I'm joined by two of the country's leading thinkers and writers on climate change. David Sandalow, immediately to my right is the Energy and Environment Scholar in Foreign Policy Studies here at Brookings. David served as Assistant Secretary of State for Oceans, Environment and Science at the State Department and was jointly Senior Director for Environmental Affairs on the National Security Council and the Associate Director for Global Environment on the White House Council of Environmental Quality.

David is one of the most fair-minded public servants that I've known, working on this issue. He has major fans in a wide range of political leaders including Al Gore, Richard Lugar and Chuck Hagel, the famous author of the Byrd-Hagel Resolution which was a major obstacle during the Kyoto negotiations. David is the author of a forthcoming book on ending America's oil dependence as well as an Opportunity 08 paper on the topic which is available at the back of the room.

Gregg Easterbrook is a visiting fellow here as well as a contributing editor at *The Atlantic Monthly*, *The New Republic* and *The Washington Monthly*. Among the vast range of topics Gregg has written on, including professional football, he has been a careful student of the science of global warming. Having studied debates about what we know and don't know about the climate for over a decade, often to the frustration of environmentalists, the title of his June 2006

policy brief in Governance Studies says quite a lot, "Case Closed: The Debate About Global Warming Is Over." He has also written the provocative cover story of a recent *Atlantic Monthly*, "Global Warming: Who Loses and Who Wins."

We'll have this discussion for about 45 minutes and have questions from the audience. I thought I'd start by focusing on the science as well as some of the other issues and just simply asking our colleagues here: What has driven the dramatic increase in attention? Why is climate change suddenly something that Presidents would want to take credit for addressing?

MR. SANDALOW: Well, Bill, let me just start by answering this way. Remember the date, September 28th, 2006. I think it is going to be remembered as a turning point in the global warming debate, and here's why. On September 27th, 2006, Governor Schwarzenegger signed AB 32 which is cap and trade legislation for the State of California -- by far the most aggressive and far reaching climate change legislation ever enacted in this country. I pick the next day as the pivotal date because, on September 28th, the newspapers in California and around the country said that by signing AB32, Governor Schwarzenegger sealed the deal for his reelection.

Now for those of us who have been working on global warming issues for 10 or 20 years the notion that signing a global warming bill could "seal the deal" for a politician's reelection is quite revolutionary. It reflects the underlying trend that Bill is pointing to.

Since September 28th, 2006, we have seen a pretty astonishing report from the world scientists. The Intergovernmental Panel on Climate Change reviewed thousands and thousands of peer-reviewed pieces of literature and came up with the conclusion that evidence of warming is "unequivocal," that it is highly likely, in excess of 90-degree certainty, that the warming that we have seen so far is caused by human beings and human activities. They went on to detail a range of conclusions. They point out, for example, that the last time temperature was as high as it is today for a sustained period, sea levels rose by about four to six meters as a result of glacial melting. There's a long list of other conclusions on the science.

To take another minute, if I could, in terms of your broad question, Bill, on why this has received such broad attention. In addition to the science, I guess I would point to four factors.

The first is the business community. What we've seen from the business community over the course of the past year has been quite astounding. In addition to General Electric and Wal-Mart and other major companies such as that signing on to the notion of binding cap and trade legislation in January, we have just in the past month, seen General Motors signing on to that notion too. For those who have paid attention to this debate for a long time, the notion that GM would be signing on to binding cap and trade legislation is pretty revolutionary.

Obviously, the Democratic takeover of Congress has propelled this issue.

There are now so many hearings up on the Hill on this topic, it's difficult to keep track of all of them. Speaker Pelosi has been quite forward leaning in terms of pushing this issue.

But I would point to a fourth factor as well -- Republican support on this issue. Just yesterday, we had two Republican governors on the pages of *The Washington Post*, declaring the Administration's conduct on this issue "unconscionable," -- their word. We have a huge number of Republicans including Senator Lugar and others who have really been pushing forward with aggressive policies.

Finally, and then I'll give Gregg a chance to talk, I don't think you can point to the important factors driving this debate without prominently mentioning Al Gore and *An Inconvenient Truth*. This has all happened in the wake of *An Inconvenient Truth*. It's now the third highest growing documentary of all time.

I think it's done two things, probably. It has educated a lot of people who knew nothing about the issue. It has also raised the salience of this issue for those who were paying a little bit of attention. For those people for whom global warming was one of ten issues that they were mildly paying attention to, this movie has dramatically elevated it.

Those are some quick factors, I think, driving the debate, Bill.

MR. ANTHOLIS: Gregg, tell us a little bit about the truth, particularly in terms of where you think the science is on what we know and don't know about

the impacts of climate change.

MR. EASTERBROOK: Impacts, well, we don't know anything about the impacts.

The science on the world getting warmer now is pretty solid. For me, 15 years ago, I was very skeptical and I didn't pull that skepticism out of the air. All the major science academies of the western world were very skeptical, 15 years ago, the National Academy of Sciences, the American Academy for the Advancement of Science and so on. Roughly five years ago, the science academies started to say it looks like global warming has been proven, and over the last two years, all of the major science academies of the western world have said it is their belief that human impact on climate is now proven. So, to me, it was perfectly reasonable to be skeptical once about the concept that there's a human effect on climate.

You do also see it in the political system. I have several friends in the Bush White House. Five years ago when you tried to talk to them about this, they would all say: Oh, it's so uncertain. We need more science.

As recently as a couple of years ago, they would say, did you see the Michael Crichton novel about global warming, at which point you would sort of put your head in your hands and say, it's a science fiction. Buffy the Vampire Slayer did a great episode on global warming too. I wonder if they saw that.

But in the last year or so, people at the White House level have completely

stopped saying this. They now say, yes, we're convinced it's really happening, but we don't want to have to deal with this, which is an understandable human emotion.

Now, when you ask about what science can tell you about the impacts, my guess is that science cannot tell us anything at all about what the impacts of climate change will be. It's all speculative. We can't tell you what the weather is going to be next week. We certainly can't tell you what the climate is going to be in 50 years. There's a huge range of possibilities for climate change.

I know it sounds like they're the same thing, but climate change is much more important than global warming as a threat. If we just knew that the world would get somewhat warmer but the climate wouldn't change, that's not so bad. The world got a degree warmer in the 20th Century, and that was probably good for us overall, but the climate is likely to change as well, and that could be dangerous to a lot of parts of the world. It's totally inconceivable to know what the effect will be.

There will be some winners. Some societies or some places will be a lot better off in climate change. Some will be a lot worse off. The globe as a whole, it's hard to tell.

My main line on this is we not only don't need to know what the impacts are going to be, but we really don't even need to think about this because it's so totally unknowable. All you need to know is what you can be sure of, and what

you can be sure of is that there's now some human impact on the climate. It's likely to make us unhappy, and this justifies the first wave of greenhouse gas reforms. So you do the first wave of greenhouse gas reforms, and then 10 years later you reassess the situation.

To give you one quick example, the Stern Report that the British Government did on climate change that came out last fall tried to project what the effect of climate change would be on the global domestic product in the 23rd Century. I mean what a total waste of time, a completely meaningless figure. If we can guess right about the next 10 years, that will be remarkable.

MR. ANTHOLIS: Let me ask about that then a little bit and shift to the discussion about policy that in particular the surrogates for the candidates will be having. A lot of the discussion about policy in order to deal with climate in an economically effective way sets a target and timetable that extends 30 or 40 years from now, and it's a pretty dramatic one. Eighty percent below 1990 is going to be the standard issue from a lot of the campaigns that we'll hear from today. There are some that are even more dramatic than that.

So if we're only acting in 10 year timeframes, how can we get out to that 30 or 40 year target?

MR. EASTERBROOK: I think all those targets are completely meaningless except in the very limited extent that the debate over targets may inspire people to take political action. The targets themselves are meaningless.

What you need to do is price greenhouse emissions so that there's an economic price attached to them that's enfolded into the cost of goods and services that people buy, so that you give inventors and entrepreneurs a financial incentive to defeat greenhouse gas emissions. Price the emissions. Let human ingenuity come into play and then 10 years from now, we can think about this again.

Washington D.C. loves models and projections because we love to believe that we can predict the future. Our track record at predicting the future is awful. It's not even clear that we can influence the future. The last institution or organism in the world that you'd want to trust to predict your future is Washington, D.C.

But it is fair to say that greenhouse gases are probably not to our benefit. Let's price them. See what the market comes up with. Then at some point in the future when the science is stronger, we can reassess.

MR. ANTHOLIS: David?

MR. SANDALOW: I agree with a lot of what Gregg is saying, and I would like to celebrate that fact. In particular, I'd like to celebrate our agreement on the basic proposition that the case is closed on the underlying science of global warming, which Gregg is emphasizing. Also the point that you just made about the most important policy step being pricing carbon in some fashion. That, more than anything, is most important.

I don't believe that you are correct, Gregg, though, in saying that the future impacts of the rise of heat-trapping gas in the atmosphere are unknowable. I think that the IPCC's Working Group II report -- for those who are into this subject -- belies your claim. It's a careful study of what's known, and it comes out with a broad range of conclusions about the type of impacts that are predictable and quite knowable. They include sea level rise. They include severe damage to unmanaged ecosystems. We can talk some about that.

This notion that global warming can be good for you in part --, it reminds me a bit of saying being a grossly obese couch potato reduces your risk of sports injuries. That is true as far as it goes, but that doesn't mean that it's a net positive. It also doesn't mean that saying it is particularly constructive, in terms of getting somebody off the couch to actually improve their health overall.

To go back to what I think is the most important point -- we have a good body of science on the impacts of global warming. We have never seen greenhouse gas concentrations in this range in all of human history. They are accelerating at rates that are wildly unknown in human history, and the potential threats are very serious.

MR. ANTHOLIS: In terms of making reductions, we've seen these targets and price signals that various politicians have put forward as recommendations. They seem to indicate that the United States would take a pretty big leap forward without the action on the part particularly of developing countries where

emissions are growing pretty rapidly. The famous Byrd-Hagel Resolution, one of the key elements of it was looking for steps from developing countries.

Give us some sense of how that has changed. Are American political leaders likely to move forward without action by developing countries?

What is our fair share and what should their fair share be?

MR. SANDALOW: That's a hard one. You can answer that. I'll do it first.

To the question, will the United States likely lead without specific action from developing countries, my sense is that the political dynamic has changed a lot in 10 years on that and that the likely answer is yes. I would point to, for example, the bipartisan agreement of the National Commission on Energy Policy which came up with an approach that had broad agreement across the political spectrum. It said the United States should lead and then we should do a review after five or so years and see how other countries are responding to our lead. My sense is that that has become the central tendency of the dialogue on Capitol Hill right now.

Ed Markey had this great line about how you can't preach temperance from a bar stool. I think there's a sense, there's an understanding that for the United States to act, we should not insist upon simultaneous action by developing countries.

At the same time, one other point on this, I think there is a big sense around

the globe that the biggest barrier to global action on this issue is the failure of the United States to act. One way of saying that in another way is that if the United States acts, we will prompt a lot of additional action around the world, so there is a multiplier effect. Every ton that's reduced in the United States will prompt additional reductions around the world.

MR. ANTHOLIS: Gregg, is that likely? Do you think China and India will just simply pay attention to what we do and follow our lead or will they just ignore it and continue to grow at their own pace?

MR. EASTERBROOK: No. Actually, they already are.

I agree with David that the United States should act on its own for domestic reasons regardless of what the rest of the world does. It's all but certain that Chinese greenhouse gas emissions are on track to swamp our emissions soon regardless of what we do, but that should not stop us from acting. It was just 10 years ago that people were predicting that China would swamp the United States sometime in the middle of the 21st Century. Five years ago, people were saying, well, geez, it's going to happen in about 2015. It's going to happen next year, and this is going to happen regardless of whether we act or not, but this is not a reason not to act.

The reason that we would act domestically here in the United States is America is the center of innovation in the world in technology. We're better at it than anybody else is. This is mainly a technological challenge. We need

innovation to fix greenhouse gas emissions or possibly even to subtract them from the air is now being talked about. Those innovations are most likely to come from the United States.

We're Americans. We love challenges. This is challenge. This isn't going to end the world. The greenhouse effect is a challenge that must be overcome. What are Americans really good at? Overcoming challenges.

So we start here. We enact some domestic program, hopefully, a sensible one that gives people an incentive to invent devices and come up with economic solutions. Then assuming that we do, and the history of air pollution issues is that Americans are really good at this. Remember, smog seemed unstoppable until we decided to stop it. Acid rain seemed unstoppable until we decided to stop it. We've had real good results in both of those categories and very cheaply, much more cheaply than projected.

So we decide to stop greenhouse gases here. We come up with something cheap. Then we can turn to the larger world and say: Aha, now we have something cheap. Now, let's everybody use it.

I think the larger world will be happy on that day.

MR. ANTHOLIS: Let me focus the conversation a little bit on oil. Oil is only one of the sources of greenhouse gases in the United States, but it's one that gets a lot of attention for a number of different reasons, national security reasons as well as transportation reasons. Now that we see the average price of gas is up

to about $3.20 a gallon, I think was the report this morning, Americans are very focused and paying attention to oil. But it strikes some observers that in order for us to really cut greenhouse gas emissions from oil, the price of gas may have to go higher.

Give us some sense of that, David. You've written an Opportunity 08 paper on ending our oil dependency. How much does oil figure into America's greenhouse gas emissions?

MR. SANDALOW: It's about a third of the problem, so it's a very significant piece. Here's an area where I think there is maybe the biggest bipartisan consensus.

Actually, last summer, I had lunch in this room with Newt Gingrich and about 30 other people, and he fielded questions on a wide range of topics. About a month later, I had dinner with Howard Dean, also with about 30 people and fielding a range of topics. I asked both of those men the same question, which is what should we do about oil, and they basically gave me the same answer, Newt Gingrich and Howard Dean.

Both of them said huge national security issue. Both of them said ethanol is an important part of the answer. Both of them said we need a Manhattan Project type research program. Both of them said the fuel efficiency of our cars must improve. So I think there is quite a consensus on the topic of oil.

Thank you for the plug on my paper which is out there, and you can take a

look at it.

I think 25 years from now my grandkids are going to be looking at my kids and saying: What? You mean you couldn't plug in cars when you were a kid? That's so weird. What did you do? You had to go out to the gas station or something like that?

I think we have a wave of technological innovation that's coming. I think electric cars are going to be very good for greenhouse gases. That's not widely understood. Even if you plug an electric car into a coal plant, you are producing fewer greenhouse gas emissions than if you run an internal combustion engine on oil, and that's because electric motors are so much more efficient than internal combustion engines.

Ethanol is actually pretty good for greenhouse gases if you make it out of some feed stocks. If you make it out of corn, it's only slightly better than oil from a greenhouse gas standpoint. If you make it out of sugar or so-called cellulosic sources, it's a lot better. So there's a lot of things we can do on oil.

MR. ANTHOLIS: Gregg, do you have a sense of the technologies around either cars or oil and how quickly you think they will develop?

How important is the price signal? Do we have to have gas at $5.00 a gallon before car manufacturers or consumers start shifting their patterns?

MR. EASTERBROOK: Well, there's been some shift already. I mean you've seen the sales of SUVs. The SUV fad is ending.

In the short term, whether they should be done with prices or federal regulations is worth debate. You all know that some aspects of gasoline demand are inelastic. In the short term, there are a bunch of proposals in Congress, one from the President, one from Barack Obama, some others, to require annual improvements in the fuel efficiency of automobiles. We should have done that 20 years ago. I mean it's amazing how long it's taken to get around to that. That definitely should be done. It's a very doable technical objective with the technology that exists today.

Now, what will draw out the great inventions of the future in automobile design, I'm not sure. When you get to the larger question of how to combine the national security concerns of our oil imports which are a real concern with how to discourage greenhouse gas emissions, basically all economists agree that a fossil fuel tax, at least a gasoline tax, but a fossil fuel tax would be preferable to carbon trading schemes. I mean the case for a tax as opposed to trading schemes is overwhelming in terms of simplicity and market signals and all those things that economists like.

If you had a revenue-neutral carbon tax or gasoline tax where you'd pay more for your gasoline but some other tax would go down and especially you'd want to target the payroll tax that affects average people most. So if gasoline went up to $5.00 per gallon, but the average person's payroll tax went down, society would be better off, and we'd get the auto market pushing in the right

direction.

But I've just said the word, tax, and it's a word that you're not allowed to say. The current Congress is not going to impose a tax. We're more likely to get a cumbersome regulatory scheme, and I think we just have to accept that that's the political reality.

MR. SANDALOW: Just two quick points, first, I'm reminded of a really good article that Gregg wrote on SUVs about two or three years ago which I just had the pleasure of rereading in *The New Republic*. Is that right?

MR. EASTERBROOK: Yes.

MR. SANDALOW: If anyone wants to look into SUVs, go find Gregg's article.

MR. EASTERBROOK: That article, the title was "Axle of Evil."

MR. SANDALOW: It's superb.

Second, Gregg makes the point that demand for gasoline, in particular, is very inelastic, and there's a reason for that. The reason is there are no substitutes. It's kind of astonishing. If I'm thirsty and I don't feel like water or orange juice, I go get coke. I go get milk. I go get something else.

If I want to go some place and I don't want to use gasoline, I can't do it. That doesn't seem odd to us because we grew up it. Our parents grew up with it. Our grandparents grew up with it. It just seems like the way the world should be, but in fact it's quite astonishing. There are no substitutes out there.

So when the price of gasoline goes up, you have two choices basically -- you pay more or you drive less. I think actually that is the fundamental issue when it comes to oil. If we solve that problem, a lot of other problems could be addressed.

MR. ANTHOLIS: David, one thing about plugging into the electric grid to power a car means that not only is it drawing energy from coal which does emit greenhouse gases but also it draws energy potentially from nuclear power. So a lot of advocates of nuclear energy have been saying, hey, this is a good way of addressing climate change. Does that work? Is nuclear really part of the climate change future?

MR. SANDALOW: I think it's a very live part of the debate and one of the really interesting divides that we're going to see politically over the next number of years. If you go up to the Hill and talk to moderate Republicans about climate change, a lot of them are talking about nuclear and saying: We think that climate change is a very serious issue. Why wouldn't we expand nuclear in order to address it?

I think anybody who cares about the climate change issue, in my opinion, has to be open to nuclear power. If we could generate large amounts of base load electricity without greenhouse gas emissions, that would be hugely beneficial for the global warming issue.

At this point, nuclear technology has big problems associated with it and

not the least of which are Wall Street and Main Street. These things are hugely expensive to build, very difficult to finance and just try locating a nuclear plant anywhere in the country right now. The public acceptance of this technology is very, very low. There are also unsolved problems in terms of nuclear proliferation and waste disposal. I think there are some real issues in terms of the growth of nuclear technology, but if you care about global warming, it seems to me you'd have to be looking at how it might be possible to solve those.

MR. ANTHOLIS: Gregg, thoughts on nuclear?

MR. EASTERBROOK: I'm certain that we're going to see a lot of new nuclear power plants built in the 21st Century, and they'll be amazingly technically advanced over the ones we have today. Remember, most of the nuclear power plants that are in existence today were designed in the 1950s, and the very last ones were manufactured in the late 1970s. We're using real old technology in nuclear power plants, and I'd rather see us switch to new technology.

But we're going to see a lot of all kinds of electrical manufacturing facilities in the coming century. The basic estimate is that even if there's a huge increase in the efficiency of our use of electricity across the board, which I hope there will be, global electric power production needs to double or triple depending on where the human population peaks in the coming century, not only to supply the needs of the West but, much more importantly, to supply the needs of the

developing world where electricity is scarce. The generation of electricity is going to increase very dramatically. The living standards of the developing world are going to increase very dramatically. I think most developing countries are going to be successful at increasing their living standards very dramatically.

The people who sort of scratch their heads and say, well, the developing world can never live like us and on and on. They're going to all live like us amazingly fast. So global production of electricity is going to go way, way up.

It's going to be a huge knowledge challenge to the world because we are going to simultaneously be concerned about reducing greenhouse gas emissions and making an enormous increase in the amount of electricity we generate. I think both things are going to happen at once, but it is going to be an enormous knowledge challenge.

MR. ANTHOLIS: One more question, then we'll turn to the audience for some questions and comments.

Without doing political handicapping of the horse race ahead, give us your sense. David touched on how the political forces in favor of addressing climate change have grown, increased interest from the business community and others.

There are still some pretty strong opponents out there. Labor unions are still quite concerned and have talked about posting an energy tax on the border for those countries that haven't adopted greenhouse gas emissions like China and India. Congressman Dingell from Michigan still calls the Kyoto Agreement the

most, I believe, idiotic agreement ever signed by an American President. Many of those opponents are on the Democratic side as well.

Have the opponents to climate change gone away? Where will we be seeing a pushback in the next 18 months?

MR. EASTERBROOK: I think in the coming election, everybody is going to say that they're in favor of action on climate change. I don't see any candidate who won't say that.

The question will be whether they favor a substantive reform or some kind of symbolic action and whether they favor a wise program or a foolish one because there could be a big difference between the two.

If you look at the recent political history, in the 2000 campaign between Gore and Bush, the existence of global warming was not controversial. Both sides believed in it. But whether to do anything was a clear political distinction. Gore said yes. Bush said no.

In the 2004 campaign, you had the same dynamic. Neither side challenged the danger of global warming as an issue, but again Kerry said do something, Bush said don't.

I think, in 2008, all candidates will say we have to do something and the question will be whether the action is substantive or not.

MR. ANTHOLIS: So, David, are there benchmarks or markers that we should be looking for from the candidates to see if they're really serious about

this?

MR. SANDALOW: Let me just say as an historical footnote that actually George Bush in 2000 did say that he wanted to take this issue on, but it wasn't until he came to office that he said something different.

To answer your question, Bill, I think it has to do more with the level of attention than any specific policy selection. I think you will see, over the course of the next year, some candidates paying a lot of attention to this issue, other candidates paying less attention to this issue, and that's where the main divide is going to be.

MR. ANTHOLIS: Great. We have time for some questions from the audience. Two of our colleagues here have microphones if you could wait for a microphone. Tell us who you are and where you're from and then ask your question.

QUESTIONER: Hi. Brooks Yeager with the Climate Policy Center here in town.

I want to direct a quick comment to Gregg and also then ask a friendly question because the comment is a little critical.

MR. YAEGER: Hi, Brooks Yaeger with the Climate Policy Center here in town. I want to direct a quick comment to Gregg and also -- and ask a friendly question, because the comment's a little critical.

I've always admired your writing for being -- keeping up with the science, but I think in the case of looking at impacts, you're not keeping up with the science.

I was a conference in Ann Arbor two weeks that was organized by Rosina Bierbaum, the former deputy science advisor to President Clinton. It had about 8 -- 80 really top-flight academics of all sorts in science, and basically we're already seeing impacts. We're already seeing ocean acidification as directly related to climate change. People are starting to look at what that might mean, but there's no good news there. We're already seeing impacts of the Arctic. Sea ice is already receding. There could be a whole new world for navigation, but it also means a lot of other problems for wild life and Inuit communities up there. We already know that sea level is going to rise. There's no way out of that fact.

If you meant that we don't know what the ultimate impacts are going to be or how they're going to unfold, I think I would agree with you. But certainly there's a lot known about impacts.

The second -- the question was this. You've always been interested in the future of technological research, and I think you're right and others are right, including Newt Gingrich who said that we're not going to get out of this problem without defending a whole new slate of technology.

Some people feel that the current energy research and development apparatus of the Department of Energy and elsewhere in the federal government is

not sufficiently tuned up to make that charge, and they're supporting something called an ARPA for energy, modeled after the Defense (inaudible) Research Project Administration. I wonder what you think of that idea and what you think of the current research effort.

MR. EASTERBROOK: The idea of the federal government trying to do the applied research (inaudible) terrifies me. It's -- this is a formula for decades of delay. All you have to do is look at the windmills that the federal government designed and subcontracted with Boeing in the 1970s, these enormous things that look science fiction contraptions and, more importantly, never worked and were never cost effective. The wind energy business has started to take off in the last decade, because private entrepreneurs in companies started designing machines for market conditions.

The federal government is good at regulatory issues and in enacting laws, enforcing contracts, defending the borders. Probably government should stick to what it's good at. We should price greenhouse gas admissions to give people a financial incentive to devise the technology and then allow private researchers and private universities and people on their own to figure out what the solutions will be.

The government has to price this problem, because there's no -- you know, the economic theory of this. Its greenhouse gases are a free good right now so why should anybody do anything about them. Once government has

priced them, then you've got a financial incentive, but private parties, private companies, venture capitalists, loan entrepreneurs, cranky inventors working in their basements -- that's where the big ideas are going to come from.

MR. ANTHOLIS: Gregg, just to push you on the impacts point, too, maybe with a little bit more edge to it as well there, a group of retired generals recently came out with a report saying that, you know, climate change impacts could pose real national questions -- everything from the spread of disease to destabilizing already shaky places, and even in some of your own writings -- in *Case Closed* you mentioned some of those impacts, too, so I was a little bit surprised when you said we really can't know the impact. Do you want to elaborate on that a bit? For instance, there was a debate in Congress last week on whether or not federal intelligence agencies should be paying more attention and we're spending more money on these kinds of things. How do you feel about that? Can we know anything more about the impacts? Is it worth studying?

MR. EASTERBROOK: My point is that we can't project what the impacts on human society are going to be. To say that the oceans have gotten a little warmer, which they have -- they've gotten slightly more acidic, the rate of glacial melting is faster than people had guessed and seems to be accelerating -- that's detecting what's happening now. To guess what the impacts are going to be on society several decades down the road, I don't think anybody can do that. I

mean, I know that there are lots of -- thousands of pages of computer projections on this, but will any of them be accurate?

You would think that high latitude lands would become more valuable in a warming world, and that's -- if you look at the globe, almost all the high latitude territory on planet Earth is in the northern hemisphere by -- just by accident of geography, so you would think that the United States, Russia, Canada, Scandinavia, and Greenland would benefit, while equatorial nations, which already tend to be poor with a few exceptions, would lose, but you can't know. I mean, if the climate change is a huge question mark, you would think that it could pose some national security questions certainly worth watching, but we've already got a national security issue with our dependence on oil, and we don't need computer projections to prove that to us. We should act on the national security issue related to energy that we already know about.

DAVID SANDALOW: I think Brooks said it well. I just don't think that's consistent with the science, which points pretty emphatically to rising sea levels, which are going to have impact on dense concentrations of human population on the coasts, and greater drought in tropical areas, which is going to have big impacts. There are lots of others. On the research point, I agree with Gregg that the federal government should be very cautions about getting into supporting any technologies that are near-term commercial. But there is a whole range of investigation or work that needs to be done on technologies that don't

offer financial return within time frames that are interesting to the private sector, and I think that's the appropriate role for the federal government and where we ought to be spending money.

MR. ANTHOLIS: Other questions. Woman in the back midway. Yeah, right.

MS. MULLEN: My name is Mary Mullen. I work with the Bosnia Support Committee. You did touch a little bit on nuclear. I was wondering -- countries like France that use so much nuclear energy -- what do they do with the waste? This waste must be damaging in some way. What do they do with it?

GREGG EASTERBROOK: They store it in French restaurants, right?

(Laughter)

I thought you knew that. It's stored in French restaurants.

DAVID SANDALOW: I'm no expert, but I think there's a storage facility in Northern France.

GREGG EASTERBOOK: There is, yeah, and a lot of it's stored onsite at the reactor sites, which is where -- by the way -- where U.S. utilities are storing more of their reactor waste right now is at the reactor sites, pretty much usually in the parking lot. You drive into a nuclear reactor station, you'll see a big

honeycomb of concrete and you say what's that and they'll say that's our nuclear waste. It's sitting in the parking lot. And the same thing in France.

DAVID SANDALOW: By the way, you know, I'm no expert but neither were the candidates running for the presidency of France. In a debate they had about a month ago, both of them got wrong by wild amounts the percentage of nuclear power that France uses in electricity. I think one of them said 50. I believe Sarkozy said 50 and Royal said somewhere on the order of 20, and it's more like 70 or 80.

GREGG EASTERBROOK: It's, like 80 percent.

MR. ANTHOLIS: As an interesting footnote on this and one of the great debates coming up in Europe in the coming years is going to be their next wave of mission reductions. They took a very ambitious looking set of reductions in the Kyoto agreement, but they were able to do that in part because France had gone to nuclear in the '80s and '90s. Britain had shut down its coal mines during the Thatcher era and East Germany's economy essentially shut down because of the fall of Communism, and those three big countries in Europe had already essentially cut greenhouse gas emissions, even though neither of -- none of them really intended to. In the next wave, they're now having to cut into their coal use, their auto use, and they're going to actually have to start really tightening their belt. Even with that, they have put out a pretty ambitious reduction target

and have said that they would -- if the United States calls their (inaudible), they would then increase their ambitious target, so, something worth watching.

In the back here. In the middle, right there, yes.

MR. SMITH: (Inaudible) Smith at D&A, We have a --

MR. ANTHOLIS: Could you turn it on.

MR. SMITH: Just following up on the point that you were just making, William, last year there was, I think, a $30 billion -- $30 billion in greenhouse gas emissions. Credits were exchange internationally, most of that tied to the European Union business trading program and all of it tied directly or indirectly to the (inaudible), which expired (inaudible). I think there is a fair degree of speculation that the United States does not do something to make (inaudible) agreement, a lot of that will begin to disintegrate (inaudible) project to reduce greenhouse gas emissions if the United States had also (inaudible) tied to giving advice (inaudible) see anything coming out of the United States that would link us to (inaudible). That might then create -- allow for continuity in this greenhouse gas emission treatment.

MR. ANTHOLIS: Turn the mike on and see -- for those who couldn't hear the question I'll reframe it in a more provocative way.

Some people say that without success or agreements to Kyoto it falls apart like a ponzy scheme. People are betting now on returns they think are

going to happen in the future or reductions that will happen in the future and if they don't happen the things people have down now end up being meaningless.

MR. SANDALOW: I just want to say Bill Antholis has written a very interesting opportunity on paper which touches on these issues, and I would commend everybody taking a look at it.

I think one of the very interesting questions of the next several years on climate change diplomacy is whether we proceed from a top-down or a bottom-up direction in the global carbon markets. One direction that it would be possible to go is some global successor agreement to Kyoto, which looks a lot like Kyoto and maintains these agreements to trade carbon rights.

Another possible direction is that Europe keeps its system and, say, California has a system which already could be plugged into the European system. We get maybe some provinces in China to do the same thing. Eventually the U.S. as a whole catches up and it proceeds in that way. You know, in the international trade liberalization regime, we really started with a group of bilateral regional agreements before we worked up to a binding WTO, and one could imagine a scenario where the same type of thing happens in the climate regime as well.

MR. ANTHOLIS: Gregg?

MR. EASTERBROOK: You know, it's possible that the United States could eventually join some sort of daughter of Kyoto trade year successor

treaty. Complex multilateral agreements often fail in the first, second, and even third round and then eventually work out. It's certainly not going to be Kyoto. It just -- it's not going to happen. David did years of wonderful work on the Kyoto negotiations, that it's just -- the United States never joined Kellogg Briand treaty and weren't going to join the Kyoto treat either, but what I see as a possible sort of progressive near future for the world is you -- first the U.S. passes some kind of domestic greenhouse gas restrictions here.

Second, over the course of some reasonably short amount of time, like, say, ten years, which is fast as these things go, we invent something here in the United States that makes the cost of addressing greenhouse gas emissions much lower than it is today.

Third is then we turn to the world and say okay, now we've got something cheap, now we're willing to enter into an international agreement and help spread this cheap stuff that we've got that solves the problem. But that's the sequence of events where things turn out well in my mind, and of course I don't know what the innovation is going to be, but I feel confidence that it's coming.

MR. ANTHOLIS: I think we're going to take a short break now. I see a lot of questions out there. I hope you'll keep them and direct them at the representatives of the candidates. I want to thank David and Gregg. You know, Brookings, our core values are quality, independence, and impact; and I think in the two of these gentlemen you certainly see not just really high-quality thinking

but independence but independence of mind and a focus on having impact, so I want to thank them and thank you all and thank our next panel, which will start in about five minutes.

(Recess)

MR. KLEIN: Hi everyone. My name is Rick Klein, I'm a senior political reporter with ABC News, and happy to be with you this morning, and thanks, everyone, for attending. This panel is going to be a little bit different than the last one. We're going to take some of the lessons we learned before, some of the things we know already, and move it into the context of the 2008 Presidential Campaign.

And as you all know, this is an issue that's very ripe right now. We're not hearing a lot about it yet in the 2008 campaign, but we will continue to hear about it, and we've seen really this entire issue change over the last few years in a pretty extraordinary way, where there really isn't a major debate in Washington anymore over whether climate change is happening, it has moved to what we're going to do about it.

But there's been, I think most would agree, very little action on that front, and that's really where our panel comes in. We have representatives from four of the Presidential campaigns. I should also note that we extended invitations to the Romney and Giuliani campaigns and they declined to send participants, although they did express an interest in perhaps doing so at a later date. So I'd like to just

briefly introduce the panel, and we'll get a discussion going, and then leave a lot of time for questions at the end. Starting right here on my right, we have Todd Stern, a Policy Advisor for the Hillary Clinton Presidential Exploratory Committee. Mr. Stern is part of the Wilmer Hale practice here in Washington and a Senior Fellow at the Center for American Progress.

James Kvaal, Policy Director for the John Edwards campaign joining us today from Chapel Hill; thanks a lot for making the trip. And Denis McDonough, Policy Advisor for the Obama for America campaign, also with the Center for American Progress. And via video conference, thanks for joining us, John Raidt, who is a Senior Policy Advisor for John McCain and a long time aide to Senator McCain.

I'd like to start the discussion, just instead of opening statements, just asking everyone to go down the line with one particular question, and that is, what the single most important thing that the next President can do to address climate change. What are we going to see in the first hundred day, say, of the presidency of the various campaigns that you represent? Mr. Stern.

MR. STERN: Well, I would say most broadly, Rick, that -- I think that Senator Clinton would completely reverse the approach that this Administration has taken by reasserting the White House leadership, both the domestic, front, and abroad, and recognizing that we have a moment here, I think we have a genuine moment of challenge and opportunity with respect to the climate and energy issue.

This Administration has been in a state of denial for the last six and a half years, and both oil dependency and the greenhouse gas problem has gotten a lot worse. I think Senator Clinton is a believer in solving problems and a believer that the American people rise to the challenge if they're given that challenge and they're given some leadership.

I think there's three ways fundamentally that you can reduce greenhouse gas; one is to significantly improve the efficiency in the way to use fossil fuels, second is to substitute out other kinds of fuel, other kinds of energy instead of fossil, and the third is to capture and sequester omissions from fossil, and she's going to move on all three fronts.

And I think decisively three I think main areas, policy areas in which she's proposing to do that, one is an aggressive cap and trade program, another is significant, robust efficiency standards for cars linked together with manufacturing incentives so that Detroit can get onto the field in a competitive way with respect to high efficiency cars, and then in addition, she propose a strategic energy fund which is really designed to kind of divert, move incentives away from oil companies into clean energy.

And then finally, I think that she's quite aware that this is a global problem that's got to be addressed globally. And I think the only viable way to go with that is, first of all, to reestablish U.S. credibility by enacting a convincing program here at home, a convincing mandatory program, and then in addition, an

active effort diplomatically, at all levels, not just the broad UN level, but also the smaller groupings, like the G8, and in an aggressive bilateral diplomacy, in particular with China and other key countries.

MR. KVAAL: I would certainly agree with what Todd said, that this is both a huge challenge and a huge opportunity, that's how Senator Edwards sees it, as well. Global warming requires some dramatic changes without really rethinking how we power our economy in the coming decades.

We're going to have potential for tens of millions of refugees every year, ultimately hundreds of millions of people starving to death. So this is something that we need to start acting on now, but it also creates a tremendous opportunity for us by building what he calls the new energy economy.

We can create new jobs across American, we can revitalize rural areas with bio fuels, wind and solar, we can revitalize our manufacturing industry, we can take advantage of the same innovators that led the internet boom and are now investing in clean tack in Silicon Valley.

I think the single most important piece of that is putting a price on carbon omissions, to send the signal that our economy is going to be run different in the future. Senator Edwards has endorsed a goal of reducing carbon omissions by 80 percent by 2050, and that's based upon what the latest science says is necessary to prevent the worst impacts of global warming. So he thinks it's important that we take the steps that are necessary to protect our climate and not begin compromising

before it's over. He also has proposed auctioning off $10 billion of these permits to finance the new energy economy fund, which would invest in renewal of energy, energy efficiency, and also help some industries make the transition to the new energy economy, the auto industry and the coal industry in particular.

So that I think is the single most important thing that he has proposed. And from the reaction that he's getting out on the campaign trail, I think people are ready for it. One of his biggest applause lines is that it's time to ask the American people to be patriotic about something other than war and to try and make the transitions we need to address global warming and shift to cleaner for energy.

MR. McDONOUGH: Thanks, Rick. If I had to put a word on it for Senator Obama's efforts on energy and climate, it would have to be urgency. I think that he recognizes very clearly that this is an urgent problem that we've now lost far too much time in addressing and that it can't, frankly, wait until he's in the White House, but when he is in the White House, he will make this a principal assignment that's handled, issue priority area that's handled from the White House itself that will allow a multi-faceted domestic energy conservation efficiency effort, coupled with a very aggressive international diplomatic effort, to make sure that no only are we taking the right steps, but the next generation of leading admitters are doing the same thing.

Let me just give you a couple of examples. I think, as both Todd and Jim said, that the easiest step that we can take is also the cheapest, which is

efficiency. There's no reason that we can't save as much as 20 percent of the energy that we currently consume in this country by just being more efficient about how we use it.

Secondly, we have to ultimately look for alternatives to fossil fuel. And Senator Obama, again, is not waiting for 2009, January 20, 2009, he's actually moving now. He just introduced a very innovative alternative fuels standard, a low carbon fuel standard, that seeks to incentivize the use of lower carbon alternatives to oil and gas for our transportation fuels by setting -- mandating a very aggressive target at 2015 and 2020, so that we get to that point in 2020 where we're already well along the way toward the notional goal that Jim just talked about, which is an 80 percent reduction over 1990 levels by 2050.

And then lastly, it's just, as I think you'll hear from each of us, far past time for the United States to not only join the rest of the world, but lead the rest of the world in an effective cap and trade system that mandates very aggressive reductions, but also creates the incentives and creates the capital to make sure that we have revenue to fund the next generation of low carbon alternatives, be they electricity alternatives, transportation fuel alternatives. At the end of the day, the cap and trade is the start of that effort.

And again, he's not waiting for 2009 to do that, he's aggressively supporting as many proposals as he can in the Senate to get that done. And I think

you'll see during the debate, in the Senate in June and July, his aggressive efforts to do just that. So at the end of the day, if I could put one word on it, it's urgency.

This is a problem that's far past its prime. There's not even any debate about whether it's a problem or not, which is actually progress in Washington, but it now has to be confronted with the urgency that it demands.

MR. KLEIN: Mr. Raidt.

MR. RAIDT: Rick, thanks again for letting me join you, I appreciate the opportunity. I think if I would have to choose one word, it would be leadership. We're at a very critical time where the confluence of three great challenges, and the national security implications of climate change, the economic security of climate change, and the environmental challenges, we have this confluence of these three great challenges, and it's really going to take leadership to bring all sectors of a society together to move forward in a responsible way. Senator McCain is certainly no newcomer to this issue, he's been talking about it for a long time, and had a proposal in the Senate a number of years co-sponsored by a number of his colleagues including Senator Lieberman, and so he's been with this for a while and will continue to show the leadership necessary to move forward.

MR. KLEIN: I'd like to get into a little bit the way that we're going to see this issue play out in the politics of the primary campaign since we're in the midst of that right now. And I'd like to start with you, Mr. Raidt.

I happened to notice the other day, the Associated Press had been asking the various presidential candidates to name the last book of fiction that they read, and Tom Tancredo a Congressman from Colorado who's running for President said, Inconvenient Truth by Al Gore.

Now, Tom Tancredo is, you know, not among the top tier of candidates right now, but there is a major segment of the Republican Party who continue to believe that global warming is not occurring. Obviously, James Inhofe's greatest hoax that was perpetrated on the American people line has become famous.

Does Senator McCain plan to challenge the other candidates on this issue, to say them it's no longer a question of whether it's happening, we have to move beyond the debate, and to get beyond the slogan on it? Can he do that without risking some kind of backlash in the Republic Primaries?

MR. RAIDT: Yeah, I don't think he worries about backlash. He believes what he believes, he believes the facts are clear, the consequences warrant -- are moving forward, and other candidates are going to believe what they believe, and the best he can do is stick by his convictions.

He delivered a speech a couple of weeks ago at the Center for Strategic International Studies where he laid out his views about the importance of climate change and that we are past the debate on science.

There's always a rhythm to these issues, they go back to clean air after any of the major environmental laws that have been passed have been

beneficial. First there's the denial that there's a problem, and then once that is over with, then people start talking about the fact that, well, let's study it some more, and then there's the voluntary aspect of it, and then it becomes partisan, and then finally, because the public is demanding something, we get over the partisanship and actually pass something that's necessary.

So I think this issue is going to take that same path as these others have, and I think Senator McCain will just continue to focus on what the facts are and what he sees as the path forward that's best for the country and let other candidates speak for themselves.

MR. KLEIN: Coming at it from the other side of the political perspective here is the idea of a carbon tax. And we heard Greg Easterbrook talk about it a few minutes ago, and certainly it's what all economists who studied this issue will tell you is the most effective way to go if you really want to control omissions.

It's not enough to do cap and trade, maybe you compare it with cap and trade, but really, a carbon tax is where it's at. We're hearing that from Senator Don on the campaign trial. To this date, I don't believe he's got anyone with him; why not? Let me ask the surrogates for the -- the Democratic candidates, why not a carbon tax, is it just too politically difficult to get through, do you think it's bad on policy grounds?

MR. STERN: Well, you know, I think that a carbon tax is certainly an idea that is out there and a lot of economists look at. I don't think there's quite as much uniformity as you might suggest. I think there's two ways fundamentally to, in effect, impose a price on carbon.

I think everybody, Denis or somebody said here that, or James, that what's crucial is putting a price on carbon so that people in businesses and everybody in the country acts accordingly and makes judgments accordingly. I think that's clearly right. You can do that through a carbon tax, you can do that through cap and trade. I think that cap and trade has a significant advantage over carbon tax in that you get a lot more certainty with respect to the ultimate goal, which is to limit the amount of omissions. So in a cap and trade, you say omissions can go to X level, and you have a greater level of certainty in doing that than you would with carbon tax.

Senator Clinton has a lot of focus actually on taxes, but her focus is on reorienting the way tax incentives work right now, which are way too heavily skewed toward the oil industry and oil companies, and her strategic energy fund proposal or legislation that she's proposed in that regard would, again, would reorient those tax incentives toward clean energy, and her sense is that that's the best way to go right now.

MR. KLEIN: James, why not do both?

MR. KVAAL: Well, I'm not sure I see the advantage of doing both. You know, they are -- I think this idea out here that if you were brave and honest that you would be doing a carbon tax is not necessarily true.

As Todd said, a cap and trade -- well, I mean the way I look at it, a carbon tax is a tool to get at your goal by raising the price of carbon, but it doesn't actually set the goal itself. A cap and trade system sets the actual goal and provides some certainty that you will actually achieve the level of omissions that you're looking for. It's not -- you don't have to guess at what level of tax to set. So I think that's a big advantage of a cap and trade, especially when we're dealing with an issue as important as global warming, where we really don't want to step across the red line and create, you know, the vicious cycle of feedback effects that could be irreversible.

Another advantage of a cap and trade system is that it's consistent with the rest of the world, and so I think it's going to be easier for us to go to other countries and put our commitments on the table and show that they're comparable to their commitments if we have a global cap and trade system.

MR. KLEIN: Denis, I'd like you to address, and also if you can talk about how do you avoid the pitfalls in the European model; do you have any ideas?

MR. McDONOUGH: You know, Rick, it's a good question. It's astounding to me that sometimes when it's time to emulate something that's happening in the rest of the world, we say that, well, they failed at it so we're going

to fail at it, too, when, in fact, the American -- more often than not is that regardless of how the rest of the world does that, we can succeed at it.

And I think the cap and -- the EEUETS is a perfect example of that. I think that there is gallons of ink being spilled on American papers at the moment about how failed that system is, and as a result, how failed our system would be, as well, when, in fact, a more pertinent and more accurate experience is the sulphur market and the acid rain market in the northeast and over the last two decades here in this country, which got to reductions by using a cap and trade model, got to reductions much quicker, much more cheaply, and much more effectively than we might have -- than all the nay-sayers were saying at the time.

So at the end of the day, I think we ought to certainly take advantage of the experience that has been developed in Brussels through the EEUETS, but there's no reason that we should think that the country that came up with a very effective model on acid rain cannot do exactly the same thing as it relates to carbon omissions.

MR. KLEIN: John, if you want to address what you think about a carbon tax.

MR. RAIDT: I would; and obviously, Senator McCain has been a foremost proponent of cap and trade. The problem with a tax is that it won't work, it'll end up just raising money for the government, for bureaucrats, there's no guarantee where that money would go as opposed to setting a standard that has both

economic and environmental integrity and letting America do what it does best, and that's innovating -- to meet a goal.

This idea of just slapping a tax on, it doesn't hold water, and I don't think it has support among the public, nor does it have support in Congress. So cap and trade is a market driven, proven, we've done this before, we can do it again and get it right.

MR. KLEIN: I wanted to talk a little bit about other energy sources that we could be developing here, and a couple of questions, first with regard to nuclear; do you see a role, do your candidates see a role, a major role for nuclear energy as part of an effort to achieve energy and dependence? And we'd love to throw around the slogan about energy independence, energy security. There's been a lot of concerns about nuclear over the years, have those concerns been answered? Maybe to vary it up, we'll start with Denis, if you don't mind.

MR. McDONOUGH: Well, I think that Senator Obama believes that, particularly in a carbon constrained economy, where we are taking account of the -- urgently taking account of the impact of carbon omissions on the world, that nuclear should be on the table. At the same time, however, there's a lot of different things that -- principally three big variables that need to be addressed, and first, obviously, is some kind of resolution on waste.

Senator Obama has been very solidly against using Yuka, and it seems to be that the insistence of the Administration on that has helped create this paralysis on getting some other workable solution.

Obviously, there has to be a very aggressive effort to increase public confidence, and waste is one variable of that. And ultimately, we also have to make sure that we're doing a better job on reactor safety. So, look, it's got to be on the table, particularly in a carbon constraint, but it's not going to get there unless we can resolve these three outstanding questions.

MR. KLEIN: James, does Senator Edwards see that nuclear is part of the equation?

MR. KVAAL: He's said that he does not think that we should be building more nuclear power plants until we resolve the waste question. Obviously, there are a lot of problems with the Yuka Mountain depository, which is what we've been pursuing now and spent billions on, and there are still questions about whether it can be kept safe from water, which is a primary threat, of course.

And so in his view, we should not be building more nuclear power plants until we know that we can dispose of the waste safely.

MR. KLEIN: Do you think that's realistic, Todd, to talk about this without talking about nuclear?

MR. STERN: Well, no, I think Senator Clinton thinks that nuclear has a role. I think, once again, there's a lot of violent agreement running around this

room. But I think that her view is probably quite similar to the one that Denis just expressed with regard to Senator Obama.

Nuclear right now supplies 19 percent of our electricity. If you imagine that those plants just faded away, you'd have 19 percent of the nation's electricity that suddenly was -- if it wasn't replaced by renewables, it would potentially cause more greenhouse gases going to the atmosphere. So you've got plants that exist, you've got plants that have to get their licenses in some cases renewed. I think that it needs to be part of the equation, but you've got four big issues which are cost, safety, proliferation, and waste, and all of those are going to have to be dealt with.

So I think that Senator Clinton sees this as part of the equation, but with some very difficult questions that need to be wrestled, but that we need to wrestle with, not just that we should say they're tough questions, so we shunt it aside, but that we've got to wrestle with them.

MR. KLEIN: John, any thoughts on nuclear? And let me throw a clean coal in the mix, too. There's another one that we see some disagreement, whether it even exists, whether clean coal technology is realistic to expect.

MR. RAIDT: Right; first on nuclear, Senator McCain has been a long standing proponent of nuclear power. He doesn't believe you can be serious about the problem of global warming and not serious about the nuclear part of the answer, and as Todd had mentioned, is 19 -- 20 percent of our current electric

production, and the fact of the matter, it will be going away, because as the plants start decommission, that's going to get a lower and lower and lower figure, and unless we build more plants, it's not even going to maintain its 20 percent figure, which again, in this carbon constrained world, it's vital that it be a part of the mix. So when you look at other countries, whether it's Belgium, or France, or Japan, and see the percentage that they're using, America knows how to -- we've got over 100 plants, we need to be able to replace and build more to meet our goals. And I think that's why you see a lot of former opponents of nuclear power taking another look at it.

The former head of Greenpeace has become somewhat of an advocate, and others, so it's clear we have to do this.

SPEAKER: -- whether it even exists, whether technology is realistic.

SPEAKER: (inaudible) long-standing proponent of nuclear power. He doesn't believe you could be serious about the problem of global warming and not serious about nuclear as part of the answer. As Todd had mentioned, it's 19 to 20 percent of current election production and the fact of the matter is it will be going away because as plants are decommissioned, that's going to get a lower and lower and lower figure and unless we build more plants, it's not

even going to maintain its 20-percent figure which again in an carbon-constrained world it is vital that it be a part of the mix.

When you look at other counties whether it's Belgian, France, or Japan and see the percentage that they're using, American -- we've got over 100 plants and we need to be able to replace and build more to meet our goals and I think that's why you see a lot of former opponents of nuclear power taking another look as the former head of Greenpeace has become somewhat of an advocate and others.

One more thing on nuclear, Senator McCain, among the first items that he -- remember Congressman Udall was a great advocate of the environment, he and Udall worked together on nuclear power and building plants that can be standardized and Udall saw the importance of nuclear to the future given air quality and climate, et cetera, and so it is important to move forward.

On the coal issue, we've got to be able to use our abundant resources of coal. As a matter of energy security, it's just essential. Senator McCain in his speech at CSIS talked about countries, including China, being able to use our abundant coal sources in a way that meets our environmental needs--it's essential.

SPEAKER: Clean coal? Yes.

SPEAKER: Rick, let me just put one thing on the table, too, before we go to -- which is the overall usage of electricity in this country can

actually come down. I think you have heard that in as Todd would say violent agreement. In California they use half the per capita kilowatt that the rest of the country does. Denmark has seen robust growth over the last 10 years despite the fact that their energy usage has basically remained the same. So efficiency is vital.

Secondly, on clean coal, I think that Senator Obama has been very clear that coal will have to be used in this country. He has also been very clear that things like coal to liquid should be on the table when we can sequester the carbon greenhouse gas byproduct of that technology. Last year China brought online as much electricity capacity as there exists in the entire U.K. So in 1 year China has brought on so much robust electricity capacity to fuel that growth in that country and it is overwhelmingly powered by coal. So if we can't get the technological advances and the innovation that will lead to not only our using coal cleaners but also then leading the world to use coal cleaners and in so doing generate jobs on this side of the ocean, then I think we're all going to be in a world of hurt. So clean coal technology is definitely on the table. It's going to take some leadership in the White House, and that's exactly what he's going to do.

MR. KLEIN: Any other thoughts of any of the panelists on coal?

SPEAKER: Yes. I would say unlike nuclear where nuclear plants are very expensive to build and take a long time to build and are never going to be a large part of our solution, like it or not, we're going to be using a lot of coal for a

long time. We have a lot of it. So we need to find a way to use coal in a way that does not contribute to global warming.

Senator Edwards has proposed requiring all new coal plants to be built with the technology we need to capture carbon emissions so that those carbon emissions can be pumped underground. We don't have all the technology we need to do that successfully. Senator Edwards has proposed spending a billion dollars a year to accelerate that technology as quickly as possible. But at the same time, we need to start building coal plants now that have the capability to capture these carbon emissions because if we let coal plants get built now without that capability, we're locking in decades of very high carbon emissions levels.

SPEAKER: A few points on coal, and we do have a little moment of disagreement on this point, not on the broad front. The broad front is coal is absolutely a critical part of this equation. Eighty percent of our electricity is generated by coal which translates into about a third of all of our carbon emissions in the economy. They were not that many years ago talking about coal as part of the solution. Coal is sort of a dirty word in more ways than one, but it is a critical part of the equation now because it's a plentiful and cheap fuel and we're not going to banish it overnight or even for the next decade. So we have to pursue it.

The elements of the technology are all there. What hasn't happened is that they haven't been put together and demonstrated at scale and in

full-blown demonstration plans. That's got to happen. The MIT report, a very good report, came out recently on the future of coal and calls for I think something like five domestic facilities, full-scale facilities in different geologic circumstances and overseas as well. Senator Clinton has called for $3-1/2 billion I believe to support RD&D, research, development and demonstration for such plants as part of her strategic energy fund and this needs to go forward rapidly.

The one little point of disagreement I would say is that I think Senator Clinton would be at least skeptical about the coal to liquids equation. Coal to liquid is a high-carbon creating form of fuel. If you don't sequester the carbon, it's about twice as polluting as oil, and even if you do sequester 90 percent of the carbon, it still going to be a bit more polluting than oil.

We have two challenges here which is oil security, we want to depend less on foreign oil but less on oil altogether for national security and other economic reasons, but also the climate challenge. We don't want to solve one, the oil security problem, while creating a bigger problem on the climate front. So at least some healthy skepticism on the coal to liquid side.

MR. KLEIN: One more round before we move to questions. This round I would like to start with our one Republican. Sorry to pick on you here, John. What can the next administration really do, and tell me what specifically President McCain would do to exert leadership on this question? Because as we know when we talked about the growth in energy use in China and India and

others, if we do this alone, we are not going to be addressing climate change. We can get others to follow our lead, but that's a lot different. As step one obviously we're doing what we're talking about on this panel. Step two I would imagine is getting the world to follow. What can President McCain do on that level?

MR. RAIDT: That's correct, and as Gregg had pointed out, we didn't anticipate that China's image would exceed ours for quite some time -- happens next year, it may even happen this year. What Senator McCain has said is that there are many reasons domestically why we need to have a cap and trade system and reduce greenhouses again as a matter of energy security, as a matter of environmental security, and as a matter of economic security. The technologies and the processes and energy sources that this would need going forward, that America should be at the forefront of developing those. So I don't think he thinks we should wait until the rest of the world acts for us to exercise traditional American leadership. So there are plenty of domestic reasons why to do that.

I think that as we do that for our own reasons, reaching out, and as president I'm sure this is what he would do, reaching out to other countries not only as a matter of commerce, but here, we have the way to do this, to be able to have the abundant economical and environmentally safe technologies that we can sell the rest of the world.

And then I think one of the things that his bill does is allow us offsets from other areas. In other words, if you have a cap and trade system, that

you're able to buy credits elsewhere. I think that naturally will involve other markets, et cetera, but I think it is a matter of, one, doing it because it's the right thing for America to do, exercising our leadership, and then working with other countries to bring them in not only just as a matter of politics but a matter of commerce.

MR. KLEIN: How about using trade pacts as a way to bring environmental standards and force other countries to boost their standards?

MR. RAIDT: That is always a very sensitive issue because free trade is an important thing from any standpoint and it's always difficult when you complicate it with a lot of other issues that tend to make trade agreements never happen which is a negative for the United States. But I think on its own merits, the rest of the world is perceiving a need and an interest in doing this. I think just as you get over the learning curve and the urgency that is apparent to us, it's going to be apparent to other countries as well. I know China has a long, long way to go as does India and other countries, but I think they are going to come to see the importance of this for their own self-interest as well.

MR. KLEIN: How about President-Elect Edwards? What will he do to exert world leadership, to get the world to go along?

MR. KVAAL: There is no question that it's a critical part of solving this problem. He says that the first step is of course to get our own house in order and we are now one of three countries that is not signed on to Kyoto. So

the first step is to start making some real commitments of our own to restore our own standing.

The second step is to offer to work with some of these countries and share the energy efficiency and the clear energy technology that we're developing and that is something that will not only help them along the road but also create markets for exports for American businesses.

Finally, yes, if we're having trouble bringing along, he has said many times that he believes trade deals should have labor and environmental standards and he is open to making global warming commitments a part of that.

MR. KLEIN: Denis?

MR. MCDONOUGH: I think that Senator Obama would see trade agreements and environmental standards as a very useful tool. I also think that when you looked at, Todd talked about developing the technology for carbon sequestration, the European Union currently has a pilot project that they're working with China on. There is no reason that we shouldn't be looking for ways innovatively to develop this technology overseas, obviously keeping in mind our intellectual property rights which is also astounding why the administration took 6 or 7 years to enforce the existing WTO agreement with China.

And then just some very simple things. The Export Import Bank reported last year in its annual report that it supported the export of $16 million in low-carbon energy from this country and upwards of $4 billion in hydrocarbons,

simply backwards. At a time of huge profits for the oil companies we have the full bureaucracy of the American government aggressively supporting the export of technology for hydrocarbons. It's not the way it should be.

Consider further that the United States, the biggest economy in the world, if the fourth-largest producer of wind technology. It's lower than that on solar. These are tomorrow's technologies. You're looking at according to the Stern Report in any case by 2050 a half a trillion dollar market year on year. We ought to be getting a piece of that market, but we ought to be doing it today using the tools that are at our disposal, not underwriting the export of hydrocarbon, highly carbon-intensive technology, but looking at tomorrow's technology and tomorrow's jobs to make sure that we're doing it.

MR. KLEIN: Todd?

MR. STERN: First of all, I agree emphatically with the comments that Denis just made. I think that we ought to be using our export credit agency and I think we should be encouraging other OECD countries to be doing the same thing. I think we should be encouraging the World Bank to do much more in the way of financing the right kind of energy and not the wrong kind of energy. I think all of that is absolutely right.

On the broader and diplomatic question I think again there are two fundamental things that need to happen. First is that the U.S. simply has to establish its own credibility here and that means enacting a really serious and

convincing domestic program. I don't think these things happen in sequence, I think these things happen in parallel, but that's got to happen so that the U.S. has a voice at the table based on what's doing itself.

Secondly, it has to in fact reengage in a way that it absolutely has abdicated. There was sort of a signature moment early on. I digress for half a second, but Bill Antholis and I wrote an op-ed in The Washington Post a month or so into the administration saying that Bush could be Nixon in China on this issue, but he of course went exactly the opposite direction.

The U.S. has to get back into the diplomatic area at all levels which is to say not just at the broader multilateral level, although it does need to go there, but it also needs to engage at smaller groupings. Tony Blair at the Gleneagles G-8 meeting 2 or 3 years ago brought in several of the top developing country emitters, climate change was a central focus of that meeting, and brought China, India, and Brazil and some of the others into that meeting. That is an important kind of forum for interacting and I think that the U.S. has to develop a very serious bilateral approach to key countries and in particular China. China and the U.S. are the 800-pound gorillas here. There is just no question about that. We have a common interest and this is an area where a real partnership is possible done the right way, but the issue has got to not go to the bottom of the talking points and the bottom of the list of the president's priorities, but have to be a

central part of U.S. diplomacy at the bilateral, the small multilateral, and broader multilateral levels.

MR. KLEIN: I would like to turn to questions for the remainder of our time here. We've got about 20 to 25 minutes, so hopefully get some of them answered. Feel free to address questions to individual panelists or to the panel more generally. There in the middle in the gray shirt?

MR. MEYER: Thank you guys very much for coming. My name is Richard Meyer from American University. Tom Friedman has been writing a lot about the climate and energy issue lately and he has been quoted as saying green is the new red, white, and blue. By this obviously he means that the focus on green and environmentalism, specifically on sustainable technologies, alternative energies, and leadership on the climate change issue could really propel America and specifically the candidates running for president forward in the race for president.

Specifically he means by this we can create new jobs, keep America competitive in the international world on a globalized scale through new technological exports, and also build new diplomatic relationships. He characterizes this as a national security issue, global warming as a health issue, it's a religious issue, and it's an energy issue.

I wonder as a general question about how all the candidates feel about taking this approach looking at this. I guess I'll just throw it all at you guys since I'm nervous up here. Thanks.

MR. KLEIN: Does that contradict what anyone is talking about here?

MR. STERN: I entirely agree. I think Senator Clinton would entirely agree with that general orientation. Tom Friedman has been one of our most important writers in this area. It's not that many years ago when it was very difficult where the national security did not recognize this issue as really a central part of their focus and I think is dramatically changing. I was saying to somebody before the panel began that we are I think really in the middle of a tipping point kind of moment and more and more people have seen that. Bill alluded to the really interesting report that a group of I think 11 former generals and admirals put out recently which focused entirely on the national security threat not of the oil problem, that's also very real and very legitimate, but of the climate change problem per se and talked of climate change being a threat multiplier of security risks particularly in unstable states.

So it is kind of uniquely maybe a problem that knits together economic national security, environmental, and if you will moral concerns, and I think Senator Clinton sees it that way.

MR. KLEIN: Any other responses?

MR. KVAAL: I would just add that it certainly has been a centerpiece of Senator Edwards's campaign. It was one of the very few priorities that he mentioned when he announced that he was running for president last December when he gave a very detailed speech on it and one of his first policy speeches was global warming. But also it is important to recognize that's much more than a political issue, and for Senator Edwards he sees this as something that can't wait after the election and so he has tried to involve people in addressing the climate change issues now. He is running a carbon neutral campaign, he is not the only one I don't think, but he announced that he going to attempt to have a zero emissions political campaign. He has a group of volunteers called One Corps which has held I think two National Days of Action to use energy more efficiently and address global warming issues. And he went to the National Step It Up rallies that were held last month. So it is a very important political issue, but it's also much more than that, it's something that we all need to start addressing now.

MR. MCDONOUGH: I would just say that I think Senator Obama agrees fully with the Friedman doctrine. I think frankly something that's even more interesting that was written in the popular press in the last couple months was the *Sports Illustrated* edition that was fully dedicated to this challenge and that the world's largest ski resort in Bolivia will no longer be skiable in the next several years. Mr. Friedman is from Minnesota as am I and when I was home at

the holidays there was no ice fishing this year for the first time that I can remember in a long time.

So this is a challenge that is here now, hence the urgency, and for each of those reasons we have to do something about it.

MR. KLEIN: John, any thoughts? Does Senator McCain see this as a patriotic issue?

MR. RAIDT: Absolutely. I'm at the University of California at San Diego with the venerable Scripts Institution and a lot of the early climate research was done under contract from the Office of Naval Research. This is a national security issue on many angles. We talked about the consequences and I think Tom Friedman has mentioned that as well. But I think the important thing to focus on is that the details matter. What we do and how we do it is going to have consequences and usually they have unintended consequences and so we need to be very careful how we move forward.

I would just say from a Republican perspective too one thing I think we do have to be careful of is the age-old issue of throwing money at the problem. I think Senator McCain's view is that government's role is to set a framework, set standards, and allow the private sector to use its skills and capital flows with innovation to meet it. We have been through six major oil shocks since World War II and I think in recent history the big issue is you have an energy bill and that usually makes a promise to spend a lot of money and here we

are in ostensibly the same position that we were at the 1972-1973 oil shock. So we need something that changes it and we've got to stick to our principles.

MR. KLEIN: Right here in the second row, blue shirt.

MR. FLANAGAN: Thank you. Mark Flanagan from the State Department. I just had a quick question for the entire panel if you don't mind. France, Europe in particular, but France especially most recently has taken some strong action with new President Sarkozy appointing Alain Juppe as a very powerful new Minister for Sustainable Development basically linking environment, transport, and energy policy. In terms of your administrations, would you look more toward a reengagement with Europe on climate change issues and what would your administrations think of this type of more concrete action from the federal level? Thanks.

MR. KVAAL: I think that President Obama, I don't know if he would create a Ministry for Sustainable Development, but there is just no question that this has to be a fundamental part of every agency in the government. This has to be, again sticking to this urgency, something that at the end of the day informs all the decisions that are made at various agencies.

Now I think that at the end of the day also that the North Atlantic Alliance was fundamental to the last several security challenges that threatened us during the 20th century, and into the 21st century this is one of the principal threats. So there is just no question that we ought to be working more closely

with our European allies, learning from their mistakes, frankly, but also learning from their successes.

MR. STERN: I would make one comment. Absolutely I think we have to be engaging in a very serious way with our European friends. I don't know that you were specifically asking about whether we ought to be creating a similar kind of agency here, but I just want to comment. I think that the U.S. system the kind of interagency process that done right gets thrown out of the White House can be very effective and was actually a strength for us back in as I recall back from the time that I served with President Clinton and worked on this issue, because we were able to bring together agencies that had an economic focus, that had a science focus, that had a diplomatic focus, and an environmental focus, and have everybody in the room at the right level and hash out and hack out what the policy should be. And I think that I very much recall a perspective being at Kyoto in 1997 and Buenos Aires in 1998 where a lot of the other governments in Europe really had kind of offshored the issue to their environmental agencies, period, without a lot of input from the economic side of the equation, and I thought that wasn't useful. I'm not saying that the Europeans ought to do it the way we do it, they've got their own traditions, but I think if you've got the right kind of leadership, which is to go back to a word I emphasized at the very beginning for Senator Clinton, I think that the right kind

of leadership out of the White House can absolutely make our system work and work well.

MR. KLEIN: Further questions.

MR. RAIDT: I would just say on that issue, too, that classic bureaucratic fights should be a thing of the past. All the oars should be pulling in the same direction where our national interest is involved, and I think with respect to the question from the audience, cooperation is important where it make sense, but I think also competition can do a lot. Again, where we see this as a means of capturing markets and trading the products and the processes and everything that goes with it that the world demands that that can get a lot done too. So we do need cooperation where it makes sense, but let's not forget the competition aspect of it as well.

MR. BEEBE: Shannon Beebe, Department of Defense. I wanted to a little bit to the CNA report and view the environment and climate change through a security paradigm. Conspicuously absent from what we have discussed is what we can do here and now from an engagement standpoint with areas that are most affected by climate change, most affected by environmental shock. A lot of my work deals with Africa and of course the floods over there, the droughts, things like that, when Anthony Zinni was Central Command Commander he had a team that dealt with environmental security as an engagement strategy and his saying was, "I do two things as a commander, engagement in war fighting. If I do

engagement right, I don't have to worry about the war fighting." I'm just curious why there hasn't been more discussion of leveraging a dynamic taskforce or partnership not only within DOD but across the interagencies as well as the World Wildlife Fund and some other agencies to go in as a proactive type of a paradigm and in a constructive manner as opposed to an exclusive type of foreign policy and a destructive type of paradigm. I would like your thoughts on that.

MR. KVAAL: Actually, Senator Edwards is giving a speech tomorrow at the Council on Foreign Relations in New York that addresses a lot of topics, but this is one of them and you may want to check it out.

MR. KLEIN: No preview?

MR. KVAAL: Wish I could. I don't do foreign policy.

MR. KLEIN: We've talked a little bit about this as being a security issue and a defense issue as well. How does it interact do you think?

MR. STERN: I think that in the CNA report as I alluded to earlier, the report talks about climate change being a threat multiplier and part of what it's talking about is precisely the kind of vulnerabilities that the questioner referred to, things like water shortages, things like disease, the vulnerability of countries for example in sub-Saharan Africa is quite dramatic. The way paradoxically or just unfortunately I suppose this issue interacts with the world is that countries that are the poorest and countries that are the most in need are precisely the countries that are at the greatest risk. So I think that an absolutely vital part of the diplomacy,

and I think this is going to be very much part of Senator Clinton's approach, is going to be to factor in countries that are at real risk.

The reality is we have to talk about in the vernacular of this issue, both mitigation and how to reduce the carbon footprint here and all over the world, and adaptation because there are places where like it or not if we did everything right tomorrow, the climate system is such that there are already built-in problems that aren't going to go away and they're going to get worse and we are going to have to spend real energy both at a human level and a national security level.

There is an interesting article in *The Atlantic* from April I think that talks about some of the climate underpinnings to the Darfur crisis and these are very real problems, very real national security problems both at a human and national security level and we've got to pay attention to that.

MR. KLEIN: Questions?

MR. RAIDT: If I can comment on that, Senator McCain has talked quite a bit about the link between security and its nexus of climate and fostering global security which is a direct assault on our national security. General Jones who is the Commander for EUCOM talked about the importance of the interagency in doing what he was doing within his AOR and having not only DOD at the table and the Department of State, the Department of Homeland Security, and Energy, and Commerce and a whole other agency to be working within the

AOR as -- to help solve issues, to help be an early alert system to what problems that the locals perceive and try to stop problems before they arise, and I think that's definitely the approach that Senator McCain would be interested in (inaudible) president.

SPEAKER: Rick, let me just say one thing on this, too.

MR. KLEIN: Sure.

SPEAKER: I mean, I think that Senator Obama couldn't agree more with what you said. I mean, you have at the moment -- the OECD did a recent set of case studies where it said that 60 percent of some existing ODA in some countries is at climate risk. So, 60 percent of what we're investing today is not even taking into consideration the likely meteorological impacts of a change of climate. So, be that mitigation or adaptation or simple overseas development assistance, we have to do a much better job of that. So, I think you'll see him calling for exactly that kind of assessment to make sure that at least when we're digging the hole here we stop digging to make sure that we're investing the little researches that we are investing at the moment in in the right way.

And then additionally over that -- that's why he's called for a doubling of the foreign assistance and overseas development assistance accounts so that we can invest in exactly these things so that you don't get into the failed states and the dark corners where some of these very threatening characters lurk and where they plan.

MR. KLEIN: Right here on the end in the tan blazer.

MR. SAMUELSON: Hi. Darren Samuelson, reporter from *Green Wire*. In the 2000 presidential campaign, President Bush said that he supported poor pollutant legislation controlling CO_2 emissions from power plants. Although I didn't really question him on it and it really wasn't a campaign issue in 2000, hearing you all today, you're all sounding very similar at least from one Republican and the three top Democratic front runners. How do you make this more than just a teach-in for the American public and actually make this a presidential campaign issue?

MR. KLEIN: That's a really good question, and I'd add one element. I mean, do we run a danger If the candidates -- if the major party candidates agree on this, do we run the danger of missing an opportunity? I mean, if this isn't a point of distinction between the candidates, will it not become an issue in the presidential race to the degree that people really understand the challenge and what has to be done about it?

SPEAKER: I think that's one of those good problems. I think if we have, you know, strong commitment, I think the strong commitment you've seen from all the Democrats is really something that's quite exciting and unprecedented, and from some of the Republicans as well, and if we have a general election where the question is how fast and how quickly do you cut carbon emissions, I think that's great.

MR. KLEIN: But does that -- I mean, to throw it out to the other panelists, does that change the equation in Congress if we have a White House (inaudible)?

SPEAKER: I think the Republicans should nominate Tom Tancredo

(Laughter)

MR. STERN: No, I -- you know, I think it's -- I actually think that -- as I said before, I think that a -- that there's really been quite a dramatic move among the public between 2000 and now, which is borne out in the wrong manner of polling, which is borne out by just looking at magazine covers that are on the newsstand every other month, whether it's *News Week* of *Sports Illustrated* or *Vanity Fair* for the third time or -- and obviously the success of Vice President Gore's movie and the likes. I think that this issue is -- has moved way up on the scale.

If you end up -- I mean, if John's candidate, Senator McCain, is a Republican nominee, for example -- I mean, he's got a great record on these issues and if any of our candidates is nominated you're going to have -- you're going to have a lot of agreement, so you're not going to have people fighting so much, but I think it will still be -- I think this is a -- this issue has caught fire in a completely different way than was the case seven years ago and so that it will still be

important, but obviously if they're not sparring over it, it will have less juice in that respect.

SPEAKER: I think Todd's right. I would only say this. I think we -- but I don't think any of us do, but let's not underestimate the difficulty when you get into the details of how this happens. I mean, there is a certain -- and you get -- commerce and industry are coming around. You can -- obviously since 2005 -- that other date that's important in climate history was that since the Senate resolution that passed saying let's have mandatory constraints that don't significantly harm the country -- all that is very good stuff, but when we get into the details of exactly what's required and then the special interests on K Street and elsewhere start bubbling up, I expect there will be fights, and we all know this is, again, a very serious economic and environmental business. If this were easy, we'd have done it a long time ago. So, I think there will be plenty of time for dissent -- healthy dissent.

You know, I think some of the skepticism that's expressed by others -- you know, it -- whether it's Tom (inaudible) -- and that's good for the system. I mean, we should be able to answer the hard questions and be able to answer those who still need to be convinced. And, again, the critical massive support within the public, which is the key to getting something passed, is rising. But this is going to be difficult stuff.

SPEAKER: I would just say that I mean I think that -- I've been in Washington only about ten years, but I've never seen an issue that the capitol was so far behind the public on. And it is so evident, and I think each of the candidates hear this when they go out to campaign, they hear it at home, they hear it in letters.

I would just say two things. One is President Sarkozy -- we heard about him before. One of the top three issues he mentioned -- he's the conservative candidate in France. One of the top three issues he mentioned he was going to dedicate his presidency to was climate change.

Second thing is I happen to be in London late last year when Tony Blair gave his last Queen's Day speech, which is where he outlines his plan -- writes (inaudible) plan up in a speech and the Queen delivers it to the Parliament. It was going to be his last and it was his last Queen's Day speech. A tremendous political brouhaha broke out, because the Tories got to the left of Labor on climate. Labor was not setting a hard enough, fast enough, soon enough targets to reduce carbon emissions. I think that's a good thing, so at the end of the day I think that political change where it's hard to tell that on this particular issue the difference between the conservatives and the liberals in many developing economies -- I don't think that that's far from where we are, and I don't think that's a bad thing by any means.

MR. KLEIN: Yeah, right down the middle.

MR. TROTSA : I'm Charles Trots. I'm a free-lance economic consultant. Just a few days ago for some of us there was some interesting news, and that is what some of us think might be (inaudible) something like a climate problem, and that is the move by the Administration to have the law to sea ratified. It's only 30-some years since that was, I thought, courageously put together bipartisanly in the 1970s, but it was torpedoed by President Reagan, and nobody had the courage to try to bring it up again except on the periphery. But it's encouraging, because that was the realization that the oceans were common property resource. The atmosphere is also a common property resource, and that battle went through a number of issues. It's not just trying to save the manganese nodules and pay royalties on those, but it had to do with fish stocks. We've lost the (inaudible) in the Grand Banks and the (inaudible) banks. Those stocks are now, some people think, beyond resuscitation.

Do you think that this is a joke? Or is there a really serious attempt, because this would be one way to rally the full international community into a common approach to the climate change problem?

MR. KLEIN: Any thoughts? I see a couple of signs here. Anyone?

MR. McDONOUGH: Senator Luger certainly made this a signature issue. Senator Obama serves on the Foreign Relations Committee. Senator Luger has been pushing this treaty now for several years, and at the end

of the day here we -- it's 67 votes, so at the moment I think there's pretty widespread support for it. I don't know if it's got 67, but I think adding the climate change view toward it certainly won't hurt.

SPEAKER: Just one small comment. I echo what Dennis said and just say as a general matter that any movement in the direction of being able to actually ratify these sometimes quite good treaties that get done internationally would be terrific, and if you -- it could at least serve as a useful precedent (inaudible).

MR. KLEIN: One last question. Yeah, there on the end.

MR. DOBSON: Chad Dobson from OXFAM . It was good to hear about K Street being raised when we talked about the details, and I guess I'm wondering from the panelists how we'd make sure that the forests in this country and abroad are being considered during the transition and as we move forward in this, because they don't have the K Street lawyers and I'm concerned that when we deal with the details they may not have standing that we need.

MR. KLEIN: (Inaudible)

MR. STERN: First of all, I want to make clear that I did not -- was not for a moment suggesting that there wouldn't be all sorts of fights. I just was suggesting that if the Republicans actually managed to nominate John McCain that there wouldn't be so many fights between the presidential candidates. There's always plenty of fights as these issues go forward.

With respect to the question, though, I think a number of the bills that have been proposed so far, for example, include elements of -- (inaudible) trade bills I'm talking about -- include elements in which some of the permits that would be distributed would be auctioned as well as just divvied up. An auction -- and some of those auction's funds would be -- it would be particularly set aside for people who are hard hit, for people who are poor, and I think that kind of -- Senator Clinton is a co-sponsor of a couple of those bills, and I think that -- I think that that kind of orientation and that kind of focus is important here, and it's obviously important abroad.

I mean, the question from DoD raises a similar kind of question. I mean, we cannot -- we will not be successful internationally if this issue is perceived as being in sharp conflict to the needs of development. I mean, there's an enormous number of people around the world who don't even have electricity. I mean, there's a shocking of number of people who live on extraordinarily low amounts and so these issues -- this can be done.

I mean, there -- we don't have to replicate the industrial revolution pass that we took to energy. There are better ways to get energy, but the message can't be you're not going to get it, we do have it or that the way to fix climate change is to keep you down. It's never going to -- it's just not going to work, and it's not the right thing to do, and I think that would be Senator Clinton's orientation.

MR. KLEIN: Senator (inaudible) says a lot about poverty, but I haven't him talk about this issue as it relates to poverty. What do you think?

SPEAKER: It is, obviously a central issue for him -- poverty -- not just in the United States but around the world, and I do think that the good news here is that there are substantial resources available to address some of these questions. If we -- you know, if we were to sell the carbon emissions permits, by some estimates that's $50-100 billion a year that's available, and there's a lot we can do with those resources. Some have suggested payroll tax cuts to help low-income people adjust to higher energy prices if there are higher energy prices. You know, some of the -- there's clearly some industries in some areas that are going to feel the transitions more than others, and that's true here in the United States and it's also true in other countries which, seen from the IPCC reports, the impact is disproportionately felt in poor countries, and in some ways we're fortunate to be living where we are. So, there's no question that those distributive questions have to be central as we're designing how (inaudible).

MR. KLEIN: Okay.

SPEAKER: I would just say that the world's poor don't necessarily have K Street lawyers, but they do have OXFAM , they do have Catholic Relief Service, they do have very aggressive advocates who are looking at exactly this question and have raised it in this context, which is people least responsible for the greenhouse gas stock that's currently in the atmosphere are

most vulnerable to the immediate impacts of it and are least able to spend money to mitigate it -- at the end of the day are ultimately going to create a whole series of national security threats not only in their own countries but here. So, it's -- an instance of overlapping national interests here, and I hope that we can get down to work, resolving it.

MR. KLEIN: John, some final words?

MR. RAIDT: I would say particularly there's costs on both sides. There's the cost of inaction and what global warming does and it affects some of the most vulnerable populations cross the world, and then there's the cost of action -- are you raising the cost of energy? That's what makes this -- you know, you have to be very careful about what we do and how we do it, and I think the great hope is inhibition driven by cap and trade , talking about in telephony countries that never had the money to put in lines for telephones, this technology skipping, going right to sell. It's cheaper, it's easier, and our hope is that the inhibition driven by cap and trade , what America is great at, to develop the types of products and energy sources and ways of using energy that are cheap, economic and have both -- have environmental integrity and that that is something that as a great hope that I think we can afford to.

MR. KLEIN: Well, good.

Thank you very much to our distinguished panel today. Thanks to Brookings for fostering us. Thank you all for coming. I think this was an illuminating discussion, and we appreciate it. Thank you.

(Applause)

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