

**CENTER FOR AMERICAN PROGRESS**

**THE U.S. AND THE WORLD: WHAT ARE OTHER COUNTRIES DOING  
AND WHAT COULD THE U.S. DO?**

**INTRODUCTION/MODERATOR:  
BRACKEN HENDRICKS,  
SENIOR FELLOW,  
CENTER FOR AMERICAN PROGRESS**

**SPEAKERS:  
JOAN FITZGERALD,  
PROFESSOR OF LAW, POLICY AND SOCIETY,  
NORTHEASTERN UNIVERSITY**

**THEA LEE  
DEPUTY CHIEF OF STAFF,  
AFL-CIO**

**LEO HINDERY,  
CHAIR, U.S. ECONOMY/SMART GLOBALIZATION INITIATIVE,  
NEW AMERICA FOUNDATION**

**JULIAN WONG,  
SENIOR POLICY ANALYST,  
CENTER FOR AMERICAN PROGRESS**

**THURSDAY, MARCH 4, 2010  
WASHINGTON, D.C.**

*Transcript by  
Federal News Service  
Washington, D.C.*

BRACKEN HENDRICKS: Thank you all for coming today. It really is – it is a pleasure to be here and it is exciting to have CAP and the Apollo Alliance come together. I have a long connection to both organizations and have, you know, spent the better part of the last decade working within both to look at how clean energy economy can create real opportunity and really lift the economy, creating both jobs and innovation and new industries.

And I think we are at a really critical moment today in the international debate around energy, around solutions to climate change and around the global economy. And the intersecting crises that we find ourselves in are making the set of issues that we are dealing with here today far more pressing. We are in a situation where we have 15 million unemployed people in the United States of America. CAP just put out a paper yesterday. We called it the “tool-belt recession.”

And although unemployment has dipped below 10 percent in the national economy, if you just pull out the construction trades alone, we have 25 percent unemployment in January. In many states – we looked at the fall from the peak of employment to December of 2009. And we found a number of states that had lost over 40 percent of the construction workforce – in some states, 47 percent – which means that virtually every other construction worker who was working in 2006 is sitting idly on the sidelines today.

The tragedy of that is the investment in the skills, the investment in the economic opportunity. This is the engine of our economy. And it has a profound human face. So this panel is designed to talk about the position of the United States in the world, looking at clean energy as an engine of new opportunity, new competitiveness and the growth of new industries and really trying to understand how the United States can effectively engage in that global competitiveness.

We have a tremendous group of folks here today. I am very excited for the conversation that will follow. We have tried to structure the panel to be fairly open and fairly fluid. We are going to open with some brief remarks from each of the panelists and then engage in a bit of conversation and really open into a conversational question and answer, I think, fairly quickly because the quality of the audience, the quality of the debate, thus far, I think we will get a great deal out of the interaction.

To my immediate right is Joan Fitzgerald. She is a professor and director of the graduate program in law and policy and society at Northeastern University. Her book, “Emerald Cities: Urban Sustainability and Economic Development,” will help set the stage for the conversation that we are having. She has looked globally at best practices, what is actually working in particular places, how things are getting done to build a green economy. And I think there is a lot that we can understand about positioning the American economy on that foundation.

Next to speak will be Leo Hindery. Leo is a managing partner of InterMedia, a New York-based media private equity manager fund, he founded in 1988. Mr. Hindery is an economic and trade advisor to presidential candidate nominee, Barack Obama. He has served in working with Sen. John Edwards, working on the presidential and congressional HELP Commission and has a very, very deep background on issues of trade, globalization and economic development. And I am very excited to hear how we move from this conversation of what is working in particular places to how we build a larger infrastructure, a financial infrastructure, a physical infrastructure to support that sort of innovation.

Then we will hear from Thea Lee, who is deputy chief of staff at the AFL-CIO. She previously worked as an international trade economist at EPI. She has held many, many senior positions within the American labor movement and really is one of the leaders on understanding the issues of trade and good jobs policy. It is a pleasure to have Thea here.

She is a longtime leader in this space and I really welcome her insights on how you take that larger infrastructure and then you look at it globally and what are the rules that actually shape the interactions among states and how do we build a competitive global economy understanding that our choices about domestic policy profoundly shape the playing field of that competition.

And then we will move then to Julian Wong. Julian is a senior policy analyst here at CAP. He arrived at CAP and I think within his first week here, he was giving congressional testimony. So he has sort of hit the land speed record for actually, you know, engaging the national policy debate very, very effectively, finding key issues that really matter. He comes with a long history of looking at China policy and looking at the clean energy sector in China and how that has grown and has brought a great deal to our staff here at CAP.

And Julian is one of the lead authors of “Out of the Running,” which is our paper that we are dropping today, which looks at the United States’ commitment to manufacturing and clean energy and compares it to Germany, Spain and China, three very different countries, and asks some really pressing countries about how we can begin to compete. So Julian can then take that down back into the concrete decisions that we are making nationally.

So I think this will be a very interesting conversation. I think we are going to come at this question from a number of different angles. And I ask you to think about questions that you want to ask and things that you want to bring into the conversation because we really do hope this will be very interactive. So let me turn it over to Joan and very looking forward to what you have to say.

JOAN FITZGERALD: Okay, thank you. The inspiration for “Emerald Cities” actually came in Freiburg, Germany. And we have been talking a lot about China today. But one of the countries in the report that is being released by CAP is Germany, as well as Spain. And I was taking a tour of Freiburg, which is a university town in the southwest corner of the country, looking at their sustainability initiatives and climate change initiatives.

And so the downtown has no cars. It is all bicycles. But the most interesting part was going out via public transportation to a whole new area of the city that was developed called Vauban based on clean energy principles. So this whole neighborhood is 100 percent – 95 percent – renewable energy. People can't park their cars there. There is a parking garage. But they get free passes on the tram system that connects them into the city. So it had all these renewable characteristics.

And then he started showing me the solar panels on the buildings and saying oh, these were made by solar fabric, which is just down the street, and mentioning another one, this was made by a company. And I said oh, it really seems like you are linking your sustainability strategy to economic development. And he gave me this look like well, of course, isn't that what everyone is doing?

And, of course, that is not what everyone is doing. I saw this as something really unique going on in Freiburg. And what I found out when I started to look at Hamburg and Aachen and some of the other German cities is the policies that we are writing about in Germany, the feed-in tariff, the renewable portfolio standard, various subsidies actually started in cities in Germany. And it was the innovation, where the federal government saw what the cities were doing and how successful it was that these policies got adopted at the national level.

And as a result, Germany, since I think, at least 2002, has been one of the leading exporters of solar and wind technology despite having very little resources in either. So the other thing that really captured me on this is that it is not like it had so much resource that this was a natural development. It was a very specific industrial policy. So this was still in the Bush years when I was doing the original research. And I was very curious well, could this happen in the United States.

Since we don't have national policy, could cities actually be innovating in linking either their climate change or sustainability strategies to economic development? So I came back to the U.S. and developed a framework, where I was looking at renewable energy, energy efficiency, green building, transportation and waste management, what cities were doing in sustainability and what possible linkages there could be to economic development.

And I looked at three different types of strategies – what I called linking strategies. Maybe it was just creating a workforce program for solar panel installation. Transformational strategy is one that I was quite interested in, and that is, could we use this to retool existing industries and sectors in the United States to create economic development opportunities, particularly in our older industrial cities? And then a third one, that I called a leap-frogging strategy, which was just creating a new industry out of nothing.

So I went about then visiting cities throughout the country, looking at these strategies and writing them up in the book. So let me start with the punch line, where I conclude, because my last chapter is about well, one, the need for urban planning, but it is about the need for industrial policy at the United States. Yes, we can innovate. There is a lot going on in cities and states. But if we don't have something at the federal level, which has been the subject of our discussion so far, it is not going to take them very far.

But on the other hand, I would also add that if we have federal policy without good policies at the city and state level, it is not going to work either. So we really need to think bottom-up and top-down in this debate. But not only do we need an industrial policy, one of my conclusions is we also need to link our energy policy to an industrial policy and we need to link our transportation policy to an industrial policy. So let me just talk about a few examples that really illustrate what happens when it is only going on at one level.

I actually talk about both Toledo and Cleveland in my book. And I don't think when you say emerald cities or green cities, that comes to anyone's mind. And often when I give this book talk, I ask the question to the audience, do you know where the nation's largest solar thin-film plant is located? I didn't dare start it here because I figured most of you would know. But the answer is Toledo, Ohio. And why is that? How did Toledo get it?

Well, the answer is, several years ago, maybe around 2000 or so, the regional development commission decided to move from a kind of hand-out-subsidies approach to economic development to an innovation-based approach. And their idea was to incubate and start up high-tech companies. But one of the advantages they had was – who knew – the University of Toledo has been for the past 25 years a leading innovator in solar research. And so with money from the Department of Energy, with money from the – a huge infusion of money from the state, worked with researchers in starting up companies.

The other thing that Toledo had was a glass industry. So you think about it. What is the connection? They supply auto glass. Well, the connection is that what do they do with that auto glass? They embed shading materials. They embed – I am losing the word – antennas in the glass. And what is a solar panel if not a glass product? So here was an example of the possibility of retooling an existing old industry in an area of very high unemployment to a new industry.

So the good part of the story, they got First Solar – employs about 700 people there. Another big startup is a firm called Xunlight that was started. They make thin-film panels. It is embedded in roofing material, et cetera. Now, though, continue the story – if I stopped it there, it would be a great story. First Solar went on then to build its next plants in Malaysia, which import product back to the United States and then went on to build plants in Germany because of all the incentives and good programs that we know about Germany having.

So we think about it. Here we have the Department of Energy investing for 15 years in this company. Here we have the state of Ohio investing in the university that invests in First Solar. But nobody thought to put any kind of stipulations on the company or to request that they keep jobs in the country. So as a result of all of those years, about \$150 million of investment, we have about 700 jobs. Similarly, Xunlight has been supported by federal, state and local funds to get its factory started in Toledo. Its next plant is going to be in China.

And so we could look at this and say okay, they are international companies. That is the way they do it. They are acting rationally in the environment that is available. And that is very much true. But it is a policy gap in terms of cities and states trying to create new sectors, new

clusters and not being able to do so because we don't have a national policy and we aren't linking what is happening at the state and local level.

Cleveland is another very interesting case. Cleveland is trying to build an offshore wind industry. And this initiative actually started with the Cleveland Foundation looking at okay, we are in really hard times here. What might we be able to do to develop the economy? What assets do we have? Well, let's look at Lake Erie. And sure enough, they found out that there is quite a bit of wind resource on Lake Erie and are trying to develop a wind industry.

So right now, they are going into testing. It is a Spanish company because there are no U.S. companies that produce these kinds of wind turbines that they are using to test. Now, their hope is by investing a lot of money in Case Western Reserve University and research that they will be able to build homegrown turbine supplier for Lake Erie. That may or may not happen. As we see the levels of investment we have been talking about in China, Germany, Spain and other countries, you know, it is questionable whether they will be able to catch up.

And finally, the third thing that is going on in Ohio is trying to help manufacturers retool for becoming suppliers to wind turbine producers throughout the Midwest. And here, too, it is a story of many of the companies, Vestas, Gamesa and so forth, do not use U.S. suppliers. Part of it is that U.S. suppliers aren't capable of producing.

MR. : (Off mike.)

MS. FITZGERALD: To some extent, it is. Well, we can have a discussion. I am not saying that exclusively, but in a lot of cases it is. And I have some very specific examples. I just want to give one other quick example, though, to take it out of renewable energy and into transportation.

One of the success stories – I don't know if Chandra Brown is still here from Oregon Iron Works that started an affiliated, United Streetcar. And they are producing streetcars wholly produced in the United States and have actually developed supply chains using as many U.S. suppliers. I think they have 70 percent U.S. suppliers.

How did it happen that this company, which was a longstanding company in the Portland area, produce streetcars? Well, the answer is because as part of its sustainability and climate change plan, Portland, Oregon was really invested in transit-oriented development and building a streetcar. And they ended up getting federal money and were able to build a prototype that then they used for Portland and now Tucson, Arizona has an order for seven.

So again, we see an example of how a city's policy was able to ignite and provide the impetus for a local industry. Now, I am not suggesting that every city that builds streetcars or does transit-oriented development is going to develop its own streetcar or light-rail manufacturing facility.

But some of them can. And the bottom line is – I think rather than going through more examples now – is that there are lots of things that cities are doing. And if our national policy

would connect with them, we could create clusters not only in renewable energy, but in transportation of public transit vehicles and supplies, green building supplies in other industries as well.

MR. HENDRICKS: That is wonderful. And thanks, Joan. That is exactly where I was hoping to begin. You know, so often when we talk about global warming, when you talk about the solutions to global warming, we think of national policy in very, very large macro interventions into the economy or international agreements. But at the end of the day, if we are wildly successful in getting a binding global warming agreement in national legislation, if we are wildly successful at negotiating international treaties, at the end of the day, we have to wake up the next morning and actually build a clean energy economy.

And it is this tension about how we actually build the pieces of this engine and actually start to create the jobs, the employers and the markets that will sustain low-carbon outcomes from the orderly, normal functioning of our economy. That really is a very, very deep and particular challenge. And I think that is actually going to be the engine of our global competitiveness. And I like the way you were sort of starting with asset mapping and supply chains and what do particular communities bring to the equation? What do particular firms bring to the equation? At CAP, we have talked about how to build an investment-led clean energy agenda.

And we talked about three things – John Podesta mentioned them in the opening – setting the conditions for the markets through sound regulation, financing the investments that need to be made and building the long-term physical infrastructure that creates the enabling condition for the economy to then unfold on top of that platform. And I can think of a few other people I would like to have walk us through some of those conditions that actually lead to the larger functioning of that economy than Leo Hindery. Why don't you take it away?

LEO HINDERY: Thank you, Bracken. It is a privilege for me to be on this panel with these individuals. I would have joined for that privilege alone. But it is the topic that intrigues me. And I think it is one that we all share and all of us frankly share in this room, which is how to make the United States a leader, which was the title of our presentation in the green economy.

We will have a green economy. One will be built in the United States. The query is whether it will be built by American workers or by foreign workers, whether the capital that constructs it will be American capital or offshore capital. And that is really my interest. I follow Joan's comments well and see that the issue here is almost a cascade. I don't want to start with discussion around the clean or green economy. I want to start with the necessity, the imperative of an industrial policy, as Joan commented as the overlay from which everything needs to cascade.

I take some exception to Bracken's numbers of the problem. Thea and I have spent three, almost four years now focusing only on real unemployment in this country. I use 30 million women and men effectively unemployed, not 15. I use 20 percent effective unemployment, not 10 percent. And I look ahead and suggest, what do we need to do as a nation? It is that we need

to find very, very quickly 21-plus million jobs to get anything approaching a real near fully employed workforce. And the bogey out there is around 20 million jobs.

None of us can figure out the magnitude of the dollars around this industry. But we can pretty carefully and pretty accurately assess that about 20 million jobs will be created over the next roughly 15 to 20 years. And the query to me is how many of those will be American women and men? If none of them are or only a de minimis number of them are, then the challenges that Thea and her colleagues and frankly this nation as a whole confront to find those 21 million new created jobs in the U.S. will be made almost impossibly difficult.

I think that we need as an overlay as well just a much crisper sense of urgency. I don't like it that we approach this only from the green side. Women and men much more capable and frankly much more passionate than I can speak to the imperative of our economy going green. Where I spend, as I said, all of my attention is who is it going to go green with? And I think we are missing a national sense of urgency. And I say it with respect, but I think we are missing it from the administration and from Congress.

The things that we need to do, as Bracken said, to capture a large number of these jobs, the jobs that we are entitled to, in my opinion, are actually quite simple. We need, as Joan was starting to allude to, we need to be just much more capable at the structures that we put in place to spend dollars and then to get those dollars out the door. We need a national infrastructure bank for the country as a whole. But we also need one if we are going to be successful in the green economy.

Some really sad and sobering reports have come out in the last three to four weeks about just how ineffective we are at getting monies out the door from the last stimulus program. It is an embarrassment compared to Julian's comments, which will follow about other countries, most notably China, Germany, Japan, who just do such an extraordinary job in contrast.

Where that takes me as well is immediately leveling the global playing field. We are going to lose these jobs that we are entitled to to trading partners who in many cases cheat. And their commitment to employing a large portion of these 20 million jobs that will be created is evident. Every one of their policies supports it and ours don't. And they compound it as we have written and talked about with behaviors that are simply illegal, subsidies, currency manipulation.

One of the most insidious impediments to our success in this whole arena is a recently passed initiative in China called the indigenous innovation procurement program. There are variations of how those last few words work in Chinese translation. But essentially, indigenous innovation means all Chinese all the time.

To give you some parameters of what that means, our stimulus right now suggests – I am not sure I believe the number – but suggests about \$80 billion going from the U.S. Treasury into these activities. The apples-for-apples number in China is \$217 billion. I am a little concerned about that number because China alone this year, all sources, public and private, will spend about \$400 billion in things green.

The one thing I can promise you is that 100 percent of whatever number we find that China is going to spend will be spent on Chinese manufacturers and be directed into the pockets and purses of Chinese women and men. And I can't predict anything about the \$80 billion that we have on the table. I have no prediction.

And so it drives me to having a reciprocal buy-domestic program no more elaborate, no more onerous and lasting no longer than the buy-domestic programs of our major trading partners. Twenty nations met in Pittsburgh in the fourth quarter, the new re-comprised G-20. Nineteen have buy-domestic programs. One does not. We are the one.

The last thing that I would end on and I come back to sort of how Joan actually started her comments. This umbrella has to be an all-of-government, all-of-industry manufacturing policy. I sometimes get confused as to whether I want to call it an industrial policy or a manufacturing policy. I will simply tell you that most of these 20 million jobs fall under the rubric of manufacturing. So how in the heck can we as a country expect to have a good chunk of them flowing to us if we are also one of those few nations in Pittsburgh that doesn't have an all-of-government, all-of-industry industrial/manufacturing policy.

And I do think we have to be careful, as a closing comment, in what we call green. And I would like to do this more in the Q&A, Bracken, because I don't want to run over my time. But I am apprehensive about trying to solve the green economy only through the wind and solar side. I think that low carbon, natural gas and nuclear need to be part of our solution, more evidently part of our solution.

They also offer substantial opportunities as Thea can talk to in employment that transcend just the wind and the solar attention that Joan mostly devoted her time to. So a real privilege. If we can make the green economy work for Americans, then this session and others will follow are very much desired and we are grateful for them. Apollo and CAP deserve a lot of credit for putting us all together and I appreciate the opportunity. So Thea?

MR. HENDRICKS: I will just turn it directly over to Thea. Just only with a comment that both incoming President Trumka at the AFL-CIO and Thea Lee have spoken very eloquently about the need for a larger strategy, the need to think big and to have a comprehensive vision for the economy. And I think it is very interesting that we are having a number of speakers today talk about industrial policy. That is sort of something that has been sort of off the table and taboo.

Even, I think, the provocative title here, "Picking Winners," this notion of having an intentional approach to economic growth and economic development is something that hasn't really been talked about. And I think that is one of the purposes of this whole conference and this session, in particular. So I really look forward to hearing what you have to say about thinking big in a national strategy.

THEA LEE: Well, thank you, Bracken, and thank you, Leo, for all the kind words. It is truly a privilege to be on this awesome panel and to be invited here today. I would also like to

thank Apollo and CAP, not just for pulling together the conference today, but for the great work that they do day in, day out. And Apollo, in particular, I think was one of the first organizations that really took the hard work of trying to bring the labor and environmental movements together around something as important as investments in our energy future.

And like Leo, I like the title of the particular panel that we have been asked to speak on today, “The U.S. and the World: What Are Other Countries Doing and What Could the U.S. Do?” I want to focus my remarks on the last part of that – what could or should the U.S. be doing to be a leader in the clean energy economy? And like Leo, I like the clean energy economy. It is there; it exists – not a clean – not a hypothetical clean energy economy, but one that the world is moving towards that we can either be part of or be left behind.

And I wanted to add my own four framing questions that I hope I will get to. The first is what is labor’s interest in making this happen and making the U.S. a leader in the clean energy economy? And that is obvious – that is pretty obvious. Jobs, jobs, jobs and more jobs. We need good jobs. We are in a terrible recession and it is a recession that is a labor-market recession, as Leo said.

So clearly, we have an enormous, enormous black hole in our labor market in terms of the number of jobs that need to be created. And we find ourselves at a moment where we have a tremendous opportunity, a fabulous opportunity that there are two things we need to do. We need to make our economy more energy efficient and shift towards renewable and less polluting forms of energy for the sake of the globe. And we need to create millions and millions of jobs. Can we put those two things together into one picture? The labor movement has an enormous interest in answering that question yes.

The second question is, how do our clean energy, climate-change and good-jobs goals intersect with the way we are integrated into the global economy? And that is what I want to talk about. I am a trade economist. That is what I love. That is what I talk about. But I think those issues haven’t been well-treated enough by economists and certainly not by policy makers.

The third question is how do we need to calibrate our own actions by what other countries are doing? And that is why this panel is also important and what I think especially both Joan and Julian are going to talk about, we can pretend that everybody is acting the same way we are. We know that is not the case. And we know it is not the case in very challenging ways and ways that are challenging in different ways for the United States. The challenge of China is different from the challenge of Germany. But they are both crucial to our success in being in the global economy and being a leader in clean energy.

And the fourth one is, again, something I am interested in, which is the role of ideology in this debate. How well has free market economics served us in this debate both about clean energy and transition to clean energy and the way the United States exists in the global economy? Do we have a plan? And I would argue not very well.

So let me jump right into it and starting by just saying briefly that I think – I am looking for it – I have no read Julian’s piece, “Out of the Running,” but it is something that we have seen

a lot of bits and pieces of, the litany of strategies, industrial policies, national economic strategies that other countries engage in on a routine basis because they think to themselves all the time, how can we make ourselves the leader in important technology? How can we create markets at home for things that we know are going to be important in the future? And they do so with a variety of policy tools, whether it is tax policy or subsidies or trade policy or domestic content or procurement policies and so on.

And meanwhile, I feel like here we are back in the United States with a bunch of zombie economists. You know, repeat after me, we believe in the free market, we believe in free trade and meanwhile, the world is moving around us. We are running enormous trade deficits. We are borrowing from the rest of the world and we are being left behind in terms of our ability, our capacity to produce cutting-edge, environmentally forward-looking technology and products.

And when a lot of these strategies start, certainly for Germany back in the 1980s, that was a time when Germany created markets for renewable energy, whether it was solar, wind and so on. And they did so when it was totally not economically efficient to do so. So the economists – you would ask them and say this costs more than other stuff. Duh, that is right. It costs more. But you don't need to be a Ph.D. in economics and, in fact, you had better not have a Ph.D. in economics to figure out that just because it is not cost efficient today doesn't mean it won't be cost efficient in 5, 10, 15 or 20 years. And that is a different mindset from the way the economists have trained us to look at this issue.

So there are two big issues in terms of the global economy that I want to talk about. One is comparative advantage and creating comparative advantage as opposed to inheriting it. And the second is the question of border adjustability, you know, whether – when countries implement environmental policies at different speeds, how do they calibrate that with respect to their global competitors who may or may not be taking the same exact steps at the same time?

So let's start with the comparative advantage issue because I think this is a really important – it is kind of basic. If you are not an economist, it is basic. So you take energy and any idiot can see the market is growing fast and will have a tremendous potential over the next years and Leo has some numbers on that. The United States alone is investing hundreds of billions of dollars both through public sector projects and through private sector projects of ways of, you know, being less reliant on foreign oil and fuel emissions.

So the neoclassical economist view is we don't make it here now. Therefore, we shouldn't and we never will. Well, you know, if you sit around on your hands 5, 10, 15, 20 years ago, it was true and it will always be true if we don't take some steps and meanwhile, we look at what other countries are doing. So our view is for crying out loud, you know, we are missing 30 million jobs, as Leo said.

The jobs hole is vast. The public sector is poised to invest our money, taxpayer money in order to create this enormous, costly, disruptive transition over many, many years. And we can either figure out how to take that public investment and the money that is going to be spent and create good jobs with it or we can do nothing.

And if we do nothing, not only will we be left behind, but there is something – and this is for the environmentalists in the room – the politics of dealing with climate change become a whole lot more difficult. So if you want to deal with climate change, you want to figure out how the United States can be that leader in clean energy, you don't deal with the jobs issue. Good luck to you.

The other piece, the border adjustment piece – but let me say a couple of things about comparative advantage. So, you know, economists take this is a static proposition. You know, they wake up in the morning. What do we have a lot of? What do we do well? What is cheap? What is expensive? And so on and so forth. But I think you can see that the investments that the United States or that any country makes create comparative advantage over time. You don't wake up in the morning with that. You wake up in the morning with what you have invested in.

And on the home front, things like education, training, infrastructure and R&D are obvious. And those are actually the easy parts of it. That is the part that nobody complains about. Yeah, that is good, that is good, that is good. We should have lots of that. But the question is, is it enough? Is it enough if the United States just does all the right things? We invest a lot in R&D.

And I think, you know, what we have seen over the last couple of years is no, it is not nearly enough. It is not nearly enough because you can invest a lot and piss it out the backdoor because all the jobs will go somewhere else. And then you are going to eventually lose the technology, the technological edge and the production edge, as well as the jobs.

So you need to pay attention to the trade piece, the globalization piece, the insertion of the U.S. economy into the global economy. And I understand why multinational corporations take the position that they do, which is we don't want any constraints on where we produce. We want the tax dollar money, we want the government contracts, but please don't tell us where to produce.

I understand if I were the CEO of a multinational corporation or a lobbyist for a multinational corporation, I would say exactly that because that is in their interest. They want flexibility. They want the money. They don't give a shit where the jobs are – excuse me – they don't care where the jobs are. Why should they?

But what about the economists – in principle, smart enough to know better; maybe not. But the government, which in principle is supposed to have broader goals than short-term profit maximization. It is the job of the government to weigh those different interests and to figure out how to get beyond the simple-minded, short-run, static model that tells you we don't have comparative advantage today. Therefore, let somebody else produce the stuff.

But the border adjustment I am going to talk about briefly and then I am going to pass it on to my colleague here. And you all are familiar with this issue. And I am raising it because I think it is part of the trajectory of how the United States is going to deal with becoming a leader in clean energy or not that as we confront the problem of climate change and we confront the fact that the United States is way behind in this issue.

We have been slow. We have been stupid. We have been wasteful. We have made bad decisions. We need to, for the sake of the globe, for the sake of our children, our grandchildren and so on and so forth – I don't have any of those quite yet, but hope to – that we need to figure out how to change the trajectory of the planet.

So we need to take some significant steps to reduce our own emissions. Doing so raises the cost of producing in the United States. Anybody disagree with that? I don't think so. And there are disruptions that are sectoral, geographic and class-wise. But if other countries aren't taking the same steps at the same time that we are, we run a very significant risk of creating a competitive distortion and disadvantage for our own producers.

I mean, that is just basic economics. This is the one where I don't really understand why economists have been so recalcitrant other than they come up against that thing, which is I am an economist, therefore I believe in free trade, I can't give comfort to the protectionists versus what their own brains would tell them, which is if you are going to raise the costs in the United States and this production is potentially mobile, you will lose some of it.

I mean, otherwise, what are you saying? That the producers aren't rational. You know, if it is expensive to produce manufactured goods in the United States because you have raised the cost of certain kinds of energy and it is cheaper to produce it in country X, some will move. So if you have a border adjustment, what you are saying is you want to offset that. You are not telling other countries what to do. You are just saying if your own companies want to move production and bring it back into the United States in a polluting way that you are going to basically take away the cost advantage of doing that.

Now, I have heard economists say well, nobody will do that or it doesn't happen today, it is not likely. I said well, that is fine. You know, if you put a border adjustment in place and nobody actually moves production and tries to bring it back into the United States, nobody will ever pay that tax. So it is irrelevant. It is not a binding tariff. So you don't have to worry about it. So if you put it in place and nobody ever pays it because nobody ever moves, no big deal. Nothing bad has happened.

But if, in fact, you put it in place and it either deters somebody from taking that action or they take that action and they are forced to internalize the cost of moving, then you have captured something. You have changed the incentives facing producers. And if you don't do it and companies move, to move from a clean place to a dirty place, in fact, you have undercut the entire point of the policy in the first place because you have actually made global climate change worse.

When you move the same production from a place with heavy regulation to a place with less regulation, you have increased global emissions. And so you have got the worst of all possible worlds. You have an economic disaster at home. And you have a worse-off globe than you had before. So it needs to be done. We need to pay attention. We can't let ideology – simple-minded ideology get in the way of the practical challenges that we face. And let me just

stop there because I think – I am looking forward to Julian’s presentation. I am looking forward to the discussion with all of you. Thank you.

MR. HENDRICKS: Thank you. Thank you very much, Thea. I also want to thank you on a personal level for solving a problem for me, which is my children refer to my job – they say that I work with the boring men. And so over dinner table conversation tonight when I go home, I can tell them, hey, I ran a panel on zombie economists and I think they will get interested and maybe it will create an opportunity to engage.

MS. LEE: (Off mike) – you work with boring women as well.

MR. HENDRICKS: I work with boring women as well. You are excellent and very good at boredom. But seriously, I want to just really kind of hit on that point again about the difference between a snapshot and a dynamic understanding of the economy. And Bill McDonough is a green architect who is going way back, an early champion of sort of redesigning systems. And he talked about design is the signal of intent and that when you put a design in place, you actually are starting to shape the outcomes.

And I think that really starts in policy. And I think that what Thea was saying about sort of economic policy, having a design impact on the ultimate lived economy that we inherit is a critically important point. So I thank you for putting that on the table. And it is an excellent segue to Julian who has spent the last several months studying the differences in design decisions at the policy level between the United States and its closest economic competitors. And I am eager to hear what you have to say.

JULIAN WONG: Thank you, Bracken. And thanks again to the Apollo Alliance for collaborating with us and putting this wonderful event. This panel so far has been tremendous discussion so far. So what I want to do is in the first half of my comments is just to walk us through some of the findings of Germany, Spain and China and sort of explain the rationale behind our study in this “Out of the Running” paper. And in the final few minutes, just to maybe build upon some of the comments that our previous speakers have put forth.

So, you know, this play on the clean energy economy as a competitiveness strategy has been gaining a lot of attention recently, obviously, in the media. And China seems to come up more often in the news than any other country. But I think we often forget that, you know, this isn’t just something that China is pursuing. The EU has been ahead in this sector for at least a decade or so.

So what prompted us to do this study is to really take a more in depth look at what these countries are doing and really apply and build upon the framework that Bracken and some other of my colleagues here at CAP had set forth in the clean energy investment agenda paper, which I believe copies of which are available behind. And the framework set forth is what Bracken has already mentioned.

The three pillars really of creating a clean energy economy, creating the markets, which creates the demand for clean energy products, providing adequate channels for finance for

research, development and deployment, and finally, building the backbone infrastructure – not just the physical infrastructure like the grid or rail, but also the soft infrastructure like manufacturing incentives, the human capital. And I think that is the lens, that comprehensive lens to which we approach and evaluate these countries.

So we look at Germany, Spain and China, but we make clear – very clear that, you know, there are many other companies that you could include in this study, you know. Certainly, Japan, Korea, Denmark and any number of other countries that you could apply the same framework and probably arrive at very similar conclusions.

So just to dig in the weeds a little bit – and I know John Podesta in his opening remarks summarized the report somewhat. But I think it is useful to sort of like reexamine and dig a little deeper. The first is the markets pillar. How do you create the markets? It is by setting national standards, national goals. And if you look at what Germany, Spain and China have done in this regard, it is pretty consistent. By now, all have national economy-wide carbon pollution goals.

You know, Germany and Spain, they are subject to the EU policies. But Germany has gone a step further by enacting a 40 percent below 1990 levels of carbon emissions, double of what the EU standard is. And China most recently, obviously, announced plans to go forward with a carbon-intensity target, which is slightly different. It is not a cap on absolute emissions, but it is a limit on carbon emissions for business as usual in any case.

All have some form of national renewable electricity standards. The EU standards are well-known, 20 percent by 2020. Spain has gone one up on that by striving for 30 percent. And China has a 15 percent non-fossil fuel target by 2020.

Efficiency, too – let's not forget about efficiency. We have been talking a lot about renewable energy technologies, but let's not forget that if you are going to make an economic case for the clean energy economy, then we need to be talking about solutions that have net-positive returns, and that is efficiency. And certainly, China recognizes it. It is the pillar policy of its energy policy, energy conservation. And likewise, the EU has continent-wide standards to which Germany and Spain are subject to.

The second pillar is financing. And there are a variety of tools and mechanisms that we could discuss that these three countries have in place. The feed-in tariff, obviously, has been quite successful in jumpstarting the renewable energy industries, solar and wind, in Europe. And China has paid heed to that lesson and is starting to implement feed-in tariffs of its own design as well, both in wind and solar.

Obviously, you know, the level of that tariff is obviously something that countries are still tweaking and trying to understand what is optimal. But it cannot be denied that what accounts for this, you know, really steep increase in deployment of solar and wind and particularly in Germany and Spain is in no large part because of the feed-in tariffs.

And then, there is this concept of the green bank that we have been pushing in domestic legislation in the United States. And Germany really is the model for that. They have what they

call – I wouldn't even dare to pronounce the full German name, but the acronym is KfW. The full name is in the report. But what it is is that it provides loans and other types of financing that supports, you know, renewable energy and energy efficiency to programs. And similarly, Spain has its own government-run IDAE entity that is modeled very similar on the KfW.

In China – you know, China is a special case. Obviously, its banks are controlled by the state. And when the state identifies certain priority industries, then, you know, the banks sort of fall in line, at least the big national banks do. And they make available cheap credit. Now, one can argue whether this is sustainable in the long run. There has been a lot of debate. And certainly, Chinese policy makers are starting to rein in on excessive lending. But there can be no question that the number of wind energy projects that we have seen being deployed in China last year doubled again for the fourth consecutive year. It is wind-installed capacity in no large part because of the availability of finance.

Tax benefits, we have talked about that and certainly, investments in innovation as well. And this includes not just Germany and Spain, but also China. And I think it is important to understand or at least appreciate that while China's reputation as an emerging clean energy leader has often been attributed to its prowess in manufacturing, which is certainly true, I think we really need to be looking out for what it is doing in terms of innovation.

And I will address the indigenous innovation issue in just a bit. But make no mistake about it; China is developing long-term strategies for developing new clean technologies. These are long-term plans that span 5, 10, 20 years, so it gets sustained. And I think that is an important point to take note of.

Finally, infrastructure – and this is not just physical infrastructure like grid and rail (ph). You know, a lot of details in the report about what these three countries are doing. But I want to hone in on what Bracken just said. The profound human face of the transition to a clean energy economy, you know, human capital, the role of human capital in this transition is something that we can draw lessons from these other countries, particularly Germany.

And what Germany has is quite remarkable in terms of workforce training. And when you think about it, you are talking about adapting and transforming an economy from an old energy economy to one that is lower in carbon and less pollution will require new skills, new skills and a new education infrastructure. And in large part, Germany has some tremendous programs. You know, it has, for example, invested in – from '09 to 2010, it will invest about \$12.5 billion in building up new education infrastructure that strategically targets key technological sectors including clean energy.

And, you know, with the growth of Germany's clean-tech industry in terms of its workforce, you know, some statistics say that the workforce is growing by 10 percent each year. There is going to be a huge need for reeducation. Spain has similar programs of vocational training. And China – well, we know that, you know, a lot of the – there has just been a traditional focus in science and technology in the school curricula of China.

They are churning out 600,000 technicians and engineers per year to their workforce. And that represents a huge pool of available human capital. So that is a good start. And obviously, the challenge is mobilizing that talent, that human capital and maximizing it towards building the other essential elements of a clean energy economy.

So, you know, so that is it in a nutshell for Germany, Spain and China. And I guess the obvious question is what is the United States doing? How does it fare in regards to these three parameters? And I think, you know, if you just take a look at page five of our report in the last column, I think in each case, you know, if you sort of end up in a pretty similar answer. The United States certainly has programs in each of these buckets. But the conclusions that in many of these cases, they are either short term and not sustained for the long term or they are piecemeal state by state and there is no national standard.

And we have got to realize that ultimately, when you are growing a new technological industry, what you are going to need is some sort of signal to the market to private industry that you are going to have sustainable demand, a stable market. And without those kinds of stable long-term signals, we are just not going to be able to deploy and scale up this technology in this new industry.

So this brings up a point that Thea raised about innovation and whether we can – (inaudible) – of our innovation capacity. You know, there have been quite a number of articles recently written about this U.S. versus China clean energy race and how the U.S. still retains an advantage on innovation. That may be true today.

Silicon Valley is certainly held as a model of innovation. But I think it is worth questioning if that is going to be sustainable in the long run. You know, it is worth asking ourselves if you are investing enough money in K-through-12 education, for instance. Where do our test scores of our kids rank versus other countries and what does that mean for the workforce 5, 10, 20 years down the road?

You know, and like I said earlier, you know, it is also – we also have to pay attention to what other countries are doing in terms of innovation and their increased investments. And while they may not be churning out the intellectual property that matches the Silicon Valley today, they are on a trajectory that is only going this way.

And on the indigenous – so, you know, I think – you know, the indigenous innovation issue in China is certainly one that has been controversial and certainly one that doesn't bode well for the international clean energy transformation and certainly doesn't bode well for U.S. jobs. I would suggest that when we talk about domestic content requirements or government procurement that favors domestically created intellectual property, you know, these are short-term fixes that may have benefits to the economy. But are they going to be long-term sustainable solutions? I just don't know.

You know, the strength of the U.S. economy was built on an open concept, on the movement of human capital, the sharing of knowledge and I would suggest that if you are going to meet the challenges of the climate change challenge and if you are going to meet the challenge of

scaling up the technologies that we need to get our global temperature rise below 2 degrees Celsius, we are going to need as much help as we can. We are going to need to collaborate not just among institutions within our country, but across borders.

And that deserves serious inquiry and addressing the trade barrier concerns is going to be an important part of this effort. So while I don't mean to minimize the importance of open markets and the need, you know, to question policies of other countries that may run up against principles of free trade – I think that is important. But I think what is similarly important is to really hone in on our strategies domestically because, you know, all of these countries are taking steps domestically. And we may not agree with all their strategies, but the thing is they have a strategy and the question is, do we have the similar strategy?

MR. HENDRICKS: Great, thank you. That is a wonderful place to transition. The question – I think we end with a similar question how we opened. Do we have a strategy? Do we have a long-term national vision? Do we have a plan? One thing I really liked in what you just put on the table, Julian, is that the framework that you outlined, it looks at the various policies that are in the debate right now and talks about what is the ultimate outcome in terms of building an effective market.

You know, there is a lot of debate around cap and trade as a regulatory strategy versus investment in the underlying capacities as if there is sort of somehow separate paths that we could pursue. But really, the way that you laid it out, it is very clear that the regulatory pieces, the investment pieces, the job training pieces all go toward creating an ultimate economic outcome.

And I think that comes back to some of what Thea Lee was talking about – about sort of taking on the notion of just an unquestioning approach to free markets and instead starting to ask a question of what creates an effective market and what are the right interventions into the market that might be necessary to create sort of a high road level of competition, more innovation, more investment and actually move toward the outcomes that we are trying to seek.

Let me just first open it to you on the panel if there is anything else you want to sort of put out, things that you want to kind of help steer the conversation. And then folks in the audience, we have got another half hour left in the panel. And I think there will be some pretty rich conversation. But first, if anyone wants to jump in, please.

MR. HINDERY: Just to add – and Julian, I don't want to be a naysayer to what you were saying. There is not an absence of science now nor is there an absence of policies that we should follow that would emulate those of our trade competitors. There is a fundamental absence of a jobs policy and a financing policy.

And as I said at the onset, the only thing that matters to me at this point in time is reemploying roughly 21 million women and men quickly and making sure that the capital that goes into this category is as much our domestic capital, our fiduciary capital as it is the capital of foreign governments.

And I want to just add one comment to Thea's sense of corporate responsibility. I don't know, with rare exception, a corporation who believes that we can survive with a jobless recovery. And the multinational corporation be damned. You know, this country is out of jobs. It is the only thing that matters.

And I just think the entire attention of these panels, these discussions has to be getting our fair share of those 20 million jobs that are going to be created – not our unfair share, just our fair share. And when everybody that we are competing against – with all respect – is a little unfair or a lot unfair, I don't think it is an unreasonable demand.

MS. FITZGERALD: Just building on that in the sense of kind of corporate responsibility. This fall, I attended a meeting of a national German engineering society. And it was very interesting to hear them talk about the renewable energy industry and what parts of it would go to China, what parts of it – but their whole idea was how do we keep the high end in our country.

And that was kind of the theme of the whole conference. And there wasn't any policy that they were saying oh, in order to comply with the policy that says we have to have a certain percentage, it was just a general common understanding among the industrialists that this is what is good for our country and we need to figure out a way how to do it. And I think that is what is missing in the United States with this free trade kind of mentality.

MR. HENDRICKS: Does anyone else want to –

MS. LEE: I am ready to hear from folks.

MR. HENDRICKS: And let me just say first, if there are any reporters who have a particular burning question, we have sort of a tradition of offering the mike to reporters first. But if there is no journalist jumping out of the seat, then – let's go first here and then to the back of the room. That's fine

Q: Thank you. This is for Thea and Leo. Leo, you might want to comment as well. Thea made the point that if she were a CEO in a multinational corporation and the way the game is presently incentivized, she would offshore as well. But her point was that the national government has a broader responsibility to the American people.

So I am wondering has part of our problem been, though, that the multinationals in Wall Street who have the very short-term objectives have captured the national government and the way it perceives policy and also some of the think tanks by the way they contribute and the idea of the think tank usually reflects oftentimes the views of those who fund it. So I am just wondering if you want to comment on that.

MS. LEE: Are we going to take a couple of questions first?

MR. HENDRICKS: Yeah, why don't we take two or three questions and then we can answer them together. Toward the back there.

Q: My name is Jim Barrett (sp). I am a consultant also and an economist. The last thing I want to do is get in an argument with Thea, but one thing you said about these –

MR. : (Off mike.)

Q: No, kidding – about a border adjustment tax. We actually do it all the time. We did it with superfund chemicals taxes before we let them lapse in the '80s. We do it now. If you go to Canada and pay a value-added tax, you can get that back when you come across the border. So if anyone tells you that oh, we don't do a border tax adjustment, we do it all the time. We do it for a value-added tax. I don't know why you can't do it for, you know, pollution-added tax or whatever you want to call it. The argument is just a – (inaudible) – as far as I am concerned.

Q: Hi, I am Phil Mattera from Good Jobs First. And we co-published the other report that was released today – (off mike) – was called “The Glass Half Full” report because of its title – (off mike). But actually, there was some – (off mike) – findings in the report that I just want to mention briefly – (off mike) – comments.

You know, in the report, we looked at the advanced energy, you know, manufacturing tax credit and looked at the list of recipients of the credit. And although that is a great program that is promoting investment in the U.S., it turns out that a significant portion, almost a third of the parent companies involved in that project are also expanding productions in – (off mike) – Malaysia and so forth.

And in fact, we were particularly concerned to see that there are some companies on the list – and one of them to name names, you know, is called SunPower Corporation, which is based in California. It got more than \$10 million in the 48C credits. It gets more than 90 percent of its sales from the United States and from Europe, yet it does virtually all of its production in Asia, you know, in China, the Philippines and Malaysia.

And it seems like their 48C project, which, of course, is in the U.S., may just be a token effort to show that it is doing something in the United States. So my question is what do you do about those kinds of companies, which in a way seem to become addicted to cheap offshore labor? I mean, do you think that you could lure them back with a different, you know, comprehensive energy policy?

Or do you need certain, you know, maybe some sticks as well as carrots, you know, to address those kinds of companies or, perhaps, at least make them ineligible, you know, for particular subsidies, you know, when those subsidies may end up indirectly underwriting their emphasis on offshore activity.

MS. LEE: The three questions go together. I will just leap in and other folks can jump in after me. Pat, you know, your question about the capture, I think you are exactly right that we have taken an attitude, the multinational corporate attitude, which they have papered over as though it is, you know, word from God from neoclassical economists and they have turned it into something which is dominant. And I think this also goes to Phil's question.

I think part of what we need to do is to have an attitude adjustment among our elite media, our government, our think tanks, where people have to take an honest look at some of these issues. And I think maybe it should start with economists. I am going to look at Joel and look at Jim that the economics profession has been negligent. And certainly, there has been some talk about it in the wake of the global financial crisis where many very respectable and still respected economists were kind of asleep at the wheel. I don't know where the hell they were. But they were not paying attention and they didn't predict and they didn't seem to have any concept that our economy was on track to a complete disaster there.

But I think particularly with respect to these issues about the global economy and the insertion into the global economy that it is not enough to say that our companies are happy or that the companies want it or that the companies are funding the research that happens even at universities, not just at think tanks, to a large extent. And I know I have been at a lot of university trade conferences that are underwritten by big corporations. And the conclusions of the corporation – of the university conference are suspiciously similar to those of the companies that are sitting around the room. And I think that is unfortunate.

Jim, you are right, of course, about the border adjustable tax. It is not hard. It is not hard to administer. It is not hard to conceive of. And I think it is a broader issue for the United States as well that a lot of our competitors have value-added taxes of some kind or another, which is rebated at the border and imposed on imports.

And the United States doesn't have that. We tax our corporations in a different way. We tax profits, which the World Trade Organization has ruled we can't adjust for exports or imports. And so we are left in a very disadvantageous position with respect to that. And it might actually make life easier in terms of dealing with some of these other issues like the environmental impact. But let me let the other panelists jump in as well.

MR. HINDERY: Can I just add a comment that sort of, Pat, comes to your comment, which is it is easy to say that you are for a green economy. It is politically perilous not to be for a green economy. And I recall an event that Thea spoke at in conjunction with a woman from the U.S. Chamber fairly recently. And I questioned them from the floor because the woman from the Chamber started off by lauding the green economy and just wanted Thea to know that she was all for this whole initiative.

And then I asked her, I said, but you resist with every fiber and every dollar buy domestic, the jobs aspect of this. And she said oh, gosh, you know, that wouldn't be free trade. And I just think that as a principle and particularly as we confront the gross implications of the recent Supreme Court decision, if we don't get this right really fast, these jobs, these 20 million jobs – it is a static number. Whoever captures one gets to keep it. It is not 20 plus a few more. It is 20.

So if we wake up in a year's time or five years' time and they are all gone and now our population is better educated and oh, gosh, we really rue the day and we will put in all these

policies, it is too late. It is a static number. It is a bucket. And the bucket can get emptied very fast and it doesn't refill between now and roughly 2030.

MS. LEE: And isn't it also true, Leo, that if you get the first job, your chance of getting the second job are better?

MR. HINDERY: Right.

MS. LEE: So it is cumulative.

MR. WONG: I wanted to address Phil's question. So I read the report, "Winning the Race," great report. I think, you know, when you examine cases of companies relocating, you know, whether it is R&D facilities or manufacturing facilities to Asia and other developing countries, you know, I think it is worth questioning the assumption that they are moving only because the wage structure is low.

While that may be the case for many examples, particularly China, then we have got to look at why is – (inaudible) – you know, locating its manufacturing facilities in Malaysia as opposed to China? Why is REC, a Norwegian solar manufacturer relocating its, you know, building the biggest wafer fab – solar wafer fab in Singapore, which is one of the most expensive wage structures in the region. Why is Vestas building its R&D facility in Singapore?

And I think that, you know, companies obviously move for a variety of reasons. In the case of Singapore and Malaysia, it is not just a relative lower wage structure compared to the United States. But certainly, it is the workforce, the skilled workforce that they have. And they have been investing for decades quite frankly and to get to this point where they are able to provide that high-skilled human infrastructure support.

And similarly then, we have to also start looking at countries who are starting to move their R&D facilities to the likes of China where, you know, the common perception is that it is notorious for a lack of IP protection. Now, I think there are two ways to look at it. And I am not quite sure what the answer is. I think the indigenous innovation policies might be one compelling factor that because if you don't make your IP in China that it is not going to be – (inaudible) – favorable government-procurement policies.

But the other stated reasons that some of these companies provide is the benefits of collocating innovation activities with manufacturing, right? The synergies that are involved with getting your engineers to speak to your scientists and tweaking design, product design. That is a big benefit.

And the final thing I will say is when we talk about what it is going to take to bring back manufacturing to the United States, I don't think we can look at – you can treat the clean energy sector as just a monolithic sector. We cannot be looking at a sector-by-sector approach, looking at a component-by-component approach.

And what I mean by that is while it may make sense to ship small wind components or solar panels across the Pacific Ocean because, you know, they are relatively compact and modular, does it start to make sense to be shipping, you know, two megawatt wind turbines? Does it make sense to be shipping enormous containment vessels for the nuclear industry, right?

And that is where we can be strategic about what components where we feel the local circumstances, national conditions, taking into account issues of transportation and labor productivity that makes sense for the United States to focus building up its manufacturing capacity.

MR. HINDERY: I have got to add, since 1980, I have heard educated people argue that it is education that is holding us back. It is the biggest canard in the world. China's differential in manufacturing goods. Ninety percent of it is due to subsidy currency manipulation in the environment; 10 percent is due to labor. It has nothing to do with the education component of the United States.

And for 30-plus years now, CEOs have said well, just fix the education in the United States and we will be there with you. If I were king tomorrow, it would take me 20 years to fix it. I wish somebody would make me king. I would like to have the opportunity to fix it. But that is not the problem here today. It is they cheat. They cheat with buy-domestic programs that don't mirror anything we have in place. They cheat with subsidies. They cheat with currency manipulation. And these jobs are going to be gone.

And it is just – it is just so unfair to the American worker to say gosh, educate yourself and everything will be fine. It is so unfair. You know, again, I say this – I was chairman of Teach for America for 7 or 8 years. I know about education in America. That is not the reason we are going to lose these jobs. We are going to lose them because they are going to get stolen from us.

MS. FITZGERALD: Just to continue on your theme, I think in many ways just because of the examples you cite in your report, Phil and Greg, that we have lost solar panel production already. But I don't think we should assume that because wind turbines are big that we have less chance of losing that.

And some of the interesting cases in my book are port cities along the West Coast and in Texas that their economic development strategy is to retool their ports so that they can accommodate larger wind turbines. And so it makes sense as an economic development strategy for these particular places. But obviously, it doesn't work nationally.

MR. HENDRICKS: Let me just jump in for one second because I actually – I didn't hear Julian's comment to have been saying that the failure to educate American workforce was the driver for investment in Asian production. I was hearing him make a point that within Asian production, there is relative differences among educational levels. And I think there is actually two things that we need to kind of keep our eye on.

One is protecting – sort of baseline protections and having a floor. There are certain things like child labor. There is, you know, fundamental protections that we want to build, unfair trade practices, currency manipulation and first having an aggressive approach to make sure that those sort of really crude and sort of strong violations are not taking place.

And then there is a second piece, which is there is a set of positive attractors that make a manufacturing economy more likely or less likely to unfold. And they include intellectual property, education, infrastructure, investments, access to finance and these sorts of things. And I think that the biggest failure in American – I think that the American manufacturing strategy has really kind of lost sight of both things.

And I think that we have lost sight of protecting against uncompetitive behavior among our closest competitors. And we are failing to pursue a proactive strategy of doing the things that are completely attainable in terms of having a smart, proactive strategy to encourage domestic production of this. And I think we are letting down American workers on both counts. And I think that is really a shame and it is something that is at the heart of the current anger and frustration among American working people who are feeling incredibly insecure.

MR. WONG: Yeah, I mean, that is how I would have put it. You know, it is not that education alone is what is attributing to the failure for the United States to compete. But it is really a whole suite of different factors. And that really is the essence of what we are trying to get across in this report is that we need a comprehensive suite of policies across the value chain, across different spheres of economic development building blocks.

MR. HENDRICKS: So I guess we are going to open it up for more – another round of, you know, three, four questions. And I also – just let me put one question out that I would love to hear folks talk about is one thing that has been interesting in the debate recently is conversation about the green bank. Leo mentioned the infrastructure bank, the notion that we can create institutions to drive investment, to help scale all of these technologies. I think if you could – okay, there is one person in the back and then Joel.

Q: So I have heard nuclear mentioned a couple of times today. And Obama's 2011 budget has 54 billion in loan guarantees scheduled to go to that. And as far as I have been able to determine – maybe someone has better figures – but the 2008 solar PV industry worldwide pulled in like 37 billion in revenues.

Is nuclear, which the plants can take up to a decade to build – even France has started having problems making their nuclear industry competitive. And as we know, they are very favorable to nuclear energy. Why is this anything other than a complete waste of time and money to a politically powerful interest group?

MR. HENDRICKS: Great. And just down in the front? Joel Rogers?

Q: This is not about nukes – Joel Rogers – it is a question for Leo. You said repeatedly it is 21 million jobs and they are sort of fixed and all we want is our fair share. Question is why are they fixed? I'm just not sure of your assumptions. And what is our fair – how is our fair

share calculated? On the basis on world GDP, population, carbon emissions, what? How do you determine the fair share?

MR. HENDRICKS: If you could just give everyone – more people a chance to talk.

Q: Hi, Lisa Hoyos from the California Apollo Alliance. So if there is one takeaway I keep hearing on the various panels today, it is we need national industrial policy now, although for those of us who are organizers, we will need a better chant.

But my question is of the nine – and this chart is really helpful on page five of your report – of the nine industrial policies, I wanted to know how many – basically, there is eight where we don't have a comparable policy of the nine. So of those eight where we don't have a policy, how many of those are in the potential climate bill that is evolving, Kerry, Graham, Lieberman? And for those that aren't, what is the organizing plan or the vision for how we get those instituted?

MR. HENDRICKS: And maybe one more over there?

Q: Hi, Andrew Eil. I am a consultant for the International Finance Corporation. I have a question for Thea Lee following up on the question about the border tax adjustments. And I also am very sympathetic to having targeted industrial policies and creating comparative advantage and understand and share a lot of the frustration for conventional neoclassical economics.

At the same time, it seems to me that you may have oversimplified a little bit some of the aspects of border tax adjustments. And I would like to, in particular, bring up two questions. First of all, the question of the legality of having border tax adjustments from a WTO standpoint, which distinguishes between product and process, taxation and regulation. And the second is a little bit less technical. And that is looking at the impact on consumers of border taxes and if you have a particularly diffuse instrument that is applied to the whole energy industry, whether that is effective enough at stimulating manufacturing and whether that offsets the impact on consumers.

MR. HENDRICKS: Great, so does anyone want to weigh in? I heard a question on nuclear power, a question on whether jobs are, in fact, static and what is underlying the assumptions around the 20 million potential jobs from clean energy and what a fair share is? A question on how to – among the specific policies, what is actually moving? And then the particular question on border adjustment. Does anyone want to take on a piece?

MR. HINDERY: I had sort of two of them, I think, Bracken. Let me just try to do them quickly. In terms of static jobs, I am now at that point in my life where I measure things by my longevity or the end of it. And the 20 million is between now and 2030, when I expect to be out of here. (Laughter.) And so there will be other jobs as the globe matures. I just am looking into the medium term.

The measurement is actually quite simple, which is the 20 million is a combination of manufacturing jobs and operating jobs for the resultant facilities. It is surprisingly weighted towards the manufacturing side. It is fully two-thirds of the 20 is in what you and I would consider to be a manufacturing job.

Once these facilities are up, they are surprisingly low in terms of operating personnel. And I can argue that it is even higher than two-thirds, one-third. So I get sort of something on the order of 12, 13 million jobs. How do I define what is fair of that manufacturing? We know what the developed economies are going to look like over the course if they all evolve relatively similarly. We know how many – how much green is going to be here versus how much green is going to be in France, in Germany, et cetera, in the EU.

I can sit down with you later and show you what I thought would be a fair share of that 12. And, you know, but that is the problem is that – and it comes to this women from the alliance's question. I just don't think it is imprudent for us to use the green as where we stop in this industrial policy question. I really do see it as a cascade that we have to have an industrial policy. And people say well, what does that mean? And it means that if you have one, then Julian's list of policies would be automatic in my mind.

Thea and I would come back to you with corporate tax reform. We would come back to you with R&D reform. We would have education initiatives. We would go after VATs. I would have a national infrastructure bank. If I had a policy, then everything for me flows. If I don't have a policy, I can't justify any of the steps.

On nuclear, the query for me is whether – first, I don't believe in their experts who are more informed than I, but I think I am pretty close. We can't go green with just biomass, solar and wind. We have to do it in low carbon, natural gas and virtually no carbon, nuclear. Sure, it takes 10 years because we don't have an industrial policy that allows for permitting and advancing the building of these facilities.

I am very sensitive all through the '08 campaign of disposal. I understand all the risks. But I have absolutely convinced myself that we can't go green without a nuclear component. And I am struck in part by the capital and resource intensiveness of nuclear and natural gas versus biomass, solar and wind. It is sort of – we are almost going back in sort of policy and industrial policy of a different sort.

MR. WONG: Well, to the question about what is in the bill and what is not, I guess, well, first off, another name that we could use for industrial policy is maybe a little more clumsy, but cohesive and comprehensive economic development strategy.

MR. HINDERY: (Inaudible.) Put that on your placard and wave it.

MR. WONG: Or CEDS, CEDS for short. Between the various bills, you know, Bingaman's bill that goes a lot into grid and a hint of what we have seen in Kerry-Boxer. Of course, we don't really know for sure what is going to be in Kerry, Graham, Lieberman, but they have given some indications.

Quite frankly, a lot of – we have seen elements of a lot of these policies tabled in either discrete bills or more comprehensive proposals. And certainly, the House bill contained a lot of

these. It doesn't have a feed-in tariff, obviously. But I would say just about everything else is included.

So, you know – and, you know, our position is that we – you know, I think our prescription is pretty much summed up in the final chart on page 38. And that really is a summary – actually the report that Bracken and other colleagues put together, the same people I referred to earlier, the clean energy investment agenda. And so that is what we hope to see or some semblance of it.

MS. FITZGERALD: The one thing that we aren't considering in any of the bills is a feed-in tariff. And you could argue that that the most important thing that Germany, Denmark and Spain have implemented. But you could also say that in the U.S., it probably wouldn't work as a national –

MR. WONG: Right, there are state experiments. There are a number of –

MS. FITZGERALD: There are now and even city experiments, but that, you know, it would have to have some kind of regional adjustment to it.

MS. LEE: Let me say a little bit about the national economic strategy. That is how I like to think about it. And, you know, I totally agree with Leo's points about that other things fall into place once you have a vision and a coherent way of looking at the world.

And I think part of what is missing – and let me just say one thing that is a little bit critical of the Obama administration is I think that the domestic piece of it, they are on the right track. You know, there is a major, major public investment and green energy investments and it is trade piece which is missing. But there isn't a thought of how to integrate our trade policy with our domestic economic strategy. And you are not going to succeed with the domestic goals if you don't fix the global element of it. So that is the one piece.

Thank you for the question about the border tax. And let me take on both of those pieces. The first one about the legality from a WTO standpoint, I think it is murky. It is a little bit murky. I would argue that you could fit it into the health, human, animal, plant, life piece, article 20G. I am more familiar with 20E. So you could fit it – I could make an argument. I am not a lawyer. I am certainly not a trade lawyer. But I could fit it into that. I could make an argument that this is necessary to the protection of human and animal and plant life.

But it raises a different issue, which is what the heck is wrong with the WTO that here we have an organization that sets multilateral trade rules. What could be more important for that organization than to make sure that this issue is addresses, that countries can do what they need to do. They can take the steps to mitigate climate change without being in violation of their WTO obligations.

So I would sort of turn it around and say if there is even a question – and, of course, there is. I know there is a question about the WTO legality. Put the onus on the WTO to fix that and not the onus on us to go slow. And the other thing is – and you all know this if you are trade

nerds – that if, in fact, there is a dispute about whether it is legal or not legal and so on, for crying out loud, do it. It will take the WTO five years to fix it. And by the time they get around to it, maybe people will have come to their senses and figured out that we need to change the WTO underlying policy.

On the second piece, the impact on consumers, I mean, I would agree that this policy, if done right, has to be very targeted. You know, it shouldn't be diffuse. It should be, you know, the product coming across the border is the product, which is made in violation of some standard, some set standard, which is transparent, is consistently applied, is not different for foreign production than it is for domestic production and in that sense, doesn't violate the basic principles underlying, you know, WTO rules, which is that you shouldn't use trade rules to advantage your domestic producers and pretend that you are doing something about climate change. You really need to be fair about how you apply it.

And if you do that, then I think the impact on consumers, in fact, it is more expensive to produce things in a way that doesn't put emissions there. So that is going to raise prices. If you just say well, let consumers buy the cheap stuff from country X instead of buying the more expensive stuff made domestically, you are undermining your whole policy again. So you can't use consumer impact as an excuse for not doing that. Thank you.

MR. HENDRICKS: Let me just speak. I want to speak very briefly to two of those points and then I think we are going to come to a close. I just did want to kind of come back to the question on nuclear power because I think the way that the question was raised raised a really interesting point, which was the comparative investment and looking at the current investments in nuclear versus these sort of fledgling early phase technologies and then proven technologies that are moving to commercial scale. There is a huge investment need around the clean energy, renewable energy and efficiency space that is at an early phase of development and we are dramatically under investing there.

And you can envision early aggressive subsidies in renewable technologies that could, in fact, sunset as the technologies become mature and really commercialized and deployed in a way that the nuclear path requires a very, very long buy down of the risk in order for financial markets to want to invest in it. And so there is kind of a different impact long term on the economy.

And it raises a question that I think, you know, next year when we come back together, we should touch on, which is, you know, once we decide to do this, there are a bunch of choices we are going to make next year and the year after and the year after. And that gets into the design nature of some of the things we are challenging, some of the questions we are addressing.

So once we commit to a clean energy path, we have a lot of choices about the energy technologies themselves and then about how we build them and how we create jobs off of them. And lastly, I didn't want to get away from the jobs question and the manufacturing focus without really again hammering home the energy efficiency point, which is those jobs, you don't have to worry about whether they are created here or abroad. These are skilled jobs in our communities and they are created by using less.

And if you are trying to balance energy on the grid, you can produce evermore energy for evermore leaky homes and buildings or you can just reduce the demand that is required. And that is a wonderful place, I think, to end in terms of thinking about the opportunities. It gets back to wear Joan began. All of this really boils down to how investments unfold in our communities, how we invest in workers, in the productivity of the economy and our long-term growth path.

It starts in places and the decisions that we are making here and now. But these choices are profoundly affected by regional economic development strategies, by national and international choices. And I hope that with all of this information, we will be able to be a little bit more informed consumers and angry voters or whatever we need to be to get the job done. So thank you very much for coming out and giving your time. (Applause.)

(END)