

THE BROOKINGS INSTITUTION

SMART GRID'S FUTURE:  
EVALUATING POLICY OPPORTUNITIES AND CHALLENGES AFTER THE  
RECOVERY ACT

Washington, D.C.  
Wednesday, July 14, 2010

**Closing Remarks:**

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## P R O C E E D I N G S

MR. WEST: Okay, we really appreciate all of you in the audience. I know many of you have been here all day long. I think that indicates the great interest that we have seen in this area, and so what we want to do is just have a brief wrap-up session, and we're going to hear from Jason Bordoff of the Council on Environmental Quality and Phil Weiser from the National Economic Council.

I'd like to start with just a few observations of my own having listened to the various panels today, and, you know, one thing that really jumped out at me was Jamie Wimberly's comment that based on the survey work that they have done, 70 percent of consumers say they have never heard of the concept of a smart grid, and so Barbara I know talks a lot about the consumer perspective in all this. We need to do a lot of consumer education, because in fact several other people on other aspects of energy have noted that they're expecting big cost increases in the future not owing to smart energy grids but just because of our aging infrastructure, the need to invest, and so on.

You know, that is potentially a very bad combination. If you combine the fact that consumers don't know very much about smart grid and there are going to be big cost increases in the future owing to other things taking place in the energy sphere, that's something we need to worry about, and we need to kind of explain the notion of the smart grid so that people don't conflate whatever's happening with smart grid versus all the infrastructure things that are going to be happening.

Secondly, George Arnold this morning threw out a number, which I had never heard before but I found it very striking that, if I got this right, there's an average -- in the United States there's an average of 160 minutes per consumer of electric downtime compared to two to three minutes in Japan and Singapore, and I think, you know, at various points today we talked about the need for data; we talked about the need for

performance of metrics. I mean there's a performance benchmark right there, you know. Obviously that's an area where we need to do a better job. Smart energy grids can contribute to that, and other countries already have solved that problem. In fact, Dave Moore noted that his view in the rural areas is smart grids can change what now is a 5-hour outage down to 15 minutes.

Mike Davis talked about peak time issues that came up in a variety of the panels. He noted that 2 percent of the time produces 15 percent of the costs, so even if we can use technology to get more efficient in that one part of the system, that could be a big cost savings right there.

So, I think there were a number of interesting and provocative ideas. I'd like to hear from both Jason and Phil. They're on the front lines as the administration kind of thinks about these issues, moves towards a fall policy framework to address this topic and think about what our country needs to be doing as we move forward. So, let me perhaps start first with Phil, get his observations based on the things that he has heard today and things he thinks the administration should be doing.

MR. WEISER: So, first I want to echo what many have said, Darrell. Your leadership here and Brookings is an unbelievable asset to the administration and our country. The level of intellectual honesty and rigor that you bring is such a huge asset. So, thank you for doing this. Thank you for teaching Jason way back when. He's really one of the stars of the administration. It's great to have him aboard as well.

I am struck by what I guess we had kind of sort of thought, but it was brought home today very well, which is how much we have to learn. I don't know if others had the same stark reminders -- Darrell, you hit those points -- first off, how much consumers have to learn, and one of the questions is what are case studies that we can learn from about teaching consumers and changing consumer behavior? That's a pretty

big question out there.

Another point is what are going to be the inflection points? What are going to be the windows onto consumer behavior whether it's electric vehicles, whether it's effective marketing campaigns, whatever, that is going to get consumers thinking like I think we've heard people say, we have to take responsibility for how we're using electric power, because if we don't, we're going to use it much less efficiently than we can, and we have the technology. Someone said this is not revolutionary technology. A lot of it -- we have it. We just have to put it to work in the right ways, and that has to be usable by consumers in friendly ways, and then that gets to the whole nub of how do you arm consumers with technology that's friendly for them and easy to use. So, there's a lot of work there. We need to get our arms around it and try to help move that forward working with all series of stakeholders, the states being foremost among them. That's my second point.

Regulators have a lot to learn, because this is a very different dynamic than the traditional world of electric utility regulation. This is now in the world of consumer behavior and the world of innovation policy. Those are two concepts that had not been the bread and butter of this universe, and there's a lot of activity that is going to focus on both those two trajectories, and we have an opportunity and a responsibility to try to do our part to help as that continues to develop.

And then, finally, the world of marketplace experimentation. We had a really great array of different actors -- and, Darrell, thank you for bringing them all together. There's a lot of different trials and errors going to happen by rural co-ops, by venture capitalists, by major companies, and that is going to be a period of diffusion of innovations that work, experimentation, and we have to monitor what's going on and see where the opportunities really are. The technologies are still very much developing. We've heard how important the standards are to facilitating the types of transformations that people are

talking about. I think your point about having metrics so that people can make different types of comparisons about what works and how well it works is critical, and for those who didn't hear Richard Newell earlier in the morning, he's another person who's bringing enormous talents to the administration.

So, we definitely have some daunting challenges ahead of us, but it's a very important opportunity, and our goal is to develop a sense of opportunity, direction, and to give people a chance to engage with us, and so I'd like to just end on that very point. There's a lot of bright people out there with a lot of perspective and ideas. We're going to need your ideas, help. Please talk to any of the folks I noted earlier as we go forward. Even when we do this sort of framework, it really is going to be a version 1.0. This is not even the beginning of the beginning. If you thought about again, you know, 2005 is the first trial of a smart grid. This is going to be a ongoing effort as this technology goes forward, so we're really just getting going.

MR. WEST: Thank you, Phil.

Jason. By the way, welcome back to Brookings, and we're pleased you have put your Brown University education to such great use, sir.

MR. BORDOFF: Thank you very much. It's really great to be here today. And thanks again for putting this great interesting discussion together today.

So much has been said I'm not real sure what to say in conclusion, so I'll be really brief. I guess I'll just start by picking up where Mitzi left off with her question, because if that didn't come across clearly enough, that was an oversight. So, I do want to emphasize again I work for the White House Council on Environmental Quality. I spend my time not on technology or innovation in particular but on energy and climate change, and the smart grid is a priority, because the smart grid can help us get to the clean energy future that is so important to this administration and to this President, and any time that I

feel a little, you know, down or pessimistic or start to worry about -- sorry (phone ringing) --

MR. WEST: Could be the President, you know, so.

MR. BORDOFF: I don't think so -- whether we're going to get there. You know, one of the things that makes me very optimistic is how much this President and this administration gets it, understands the problem, and is committed to moving us to that clean energy future, and the President understands that, you know, there can be a critical role for the smart grid to help consumers manage their energy consumption to help reduce demand on our electricity grid to help reduce electricity generation and the need for new generation to integrate renewables, electric vehicles, sort of the whole vision.

It's hard. It's really challenging to figure out how we get to that place, and so that's what we've talked about today, and that's what we in the administration are spending a lot of time on right now. We've heard about the role for consumers and the need for consumers to have greater acceptance and understanding of this technology. You combine that with what we heard about the fact that rates are going up, whether we deploy this technology or not, sometimes it's hard to get people to see the counterfactual. Maybe rates would have gone up even more had it not been for some of these technologies but that's sometimes harder to explain than seeing rates go down. So, if that's where rates are headed, what does that mean for the challenge that we face of trying to make sure that consumers understand the benefits of this technology? And then what role consumers play. So, you know, we spent time talking about comprehensive energy legislation. We talked about sending the right price signals and carbon policy. But is this going to be driven by consumers and their demand for this kind of technology or is it in fact going to be the sort of consumerless efficiency program, you know, that Barbara mentioned? And that takes you to potentially different places in terms of how you work on this.

On the technology side, you know, on George's panel we heard I thought

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some really interesting things that sort of raised the question about the cost and benefits of the different use cases for the smart grid, so the smart grid gets talked about as being so many different things and being able to do so much, and I thought, Larry, you had some really interesting, you know, perspective on where the real value might be, and I think we really need to make sure that we're being driven by good analysis and the best data we have from real world experiments and evidence about where the real value is and what sorts of programs can sort of minimize cost but maximize the benefits to consumers and to society of the social benefits of producing energy consumption and greenhouse gas emissions and all the rest.

So, that sort of takes me, you know, to a place where we spend -- I think we often talk about the vision. We talk about where we want to get to. We talk about what the grid can look like. And then you sort of step back, and our job is to say but what's the role for government and in particular what's the role for the federal government? And that's hard in an area like this where you're really doing a lot of -- you know, the state regulators have a much more significant role in some respects than the federal government does. So, obviously, I appreciate Dave's comment about the Recovery Act money. We've invested significantly in smart grid, because it's a priority. There's a role for the administration to address our energy and climate challenges and internalize some of the social costs there. There's a strong government role for investing in R&D, because, you know, private firms don't capture the full social benefits of their investment. It sort of one of the classic market failures economists point to and one of the most basic roles that government can play -- a role for standards and what George is doing in this with DOE. I think a significant role, as Phil mentioned, for technical assistance to states and many state regulators that one understand better how they can move in this direction, how they can align utility incentives with energy efficiency, and I think we've done there and can do even more.

So, I don't know all the answers yet. I mean, that's part of what this effort that we're undertaking is going to try to do sometime toward the end of the year hopefully and then it'll be an ongoing process beyond that. But to identify what those barriers are, what the market failures are, what the right role for government is at different levels, and then try to set out sort of a clear set of policy recommendations both potentially legislative or using our existing executive authority and see how we can get to where we need to go.

MR. WEST: Okay, this concludes our program, but I want to thank Jason and Phil for sharing their thoughts with us. George Arnold, we appreciate your leadership; and our panelists, thank you very much for joining us here today. And thank you. Bye.

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I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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