

THE BROOKINGS INSTITUTION

AMERICA'S ENERGY FUTURE: NEW SOLUTIONS TO FUEL  
ECONOMIC GROWTH AND PROSPERITY

Washington, D.C.

Wednesday, May 18, 2011

PARTICIPANTS:

KEYNOTE REMARKS: BIPARTISAN SOLUTIONS TO AMERICA'S ENERGY  
CHALLENGES

THE HONORABLE MARIA CANTWELL (D-Wash.)  
U.S. Senate

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## PROCEEDINGS

MR. ALTMAN: It's my pleasure to introduce our keynote speaker, Senator Maria Cantwell of the State of Washington. And we're fortunate to have her with us because Senator Cantwell is a leader in energy policy in the Senate for a variety of reasons, but she is the chairperson of the Energy Subcommittee of the Senate Energy and Natural Resources Committee, so she runs the key subcommittee in the Senate on energy.

During her time in the Senate, she's worked on a range of clean energy tax credits, she's worked on training opportunities for the workforce of the clean energy future, she's worked on protecting the residents of her state against price gauging, and she has quite an impressive record on a range of energy issues. And she's now working on issues like increasing hydro production, the Smart Grid, and providing greater consumer choice on affordable energy.

She also has introduced quite an important piece of legislation, together with Senator Collins of Maine, so it's bipartisan legislation in terms of its sponsorship, and that is the CLEAR Act. And the CLEAR Act, as you'll hear, is a different approach to controlling emissions and, in some respects, perhaps a more promising one. I might also note

in what is certainly a revolutionary step, the Act itself encompasses only 39 pages.

Senator Cantwell is here today to talk about her bipartisan approach to energy policy and to a lot of the problems we discussed here this morning in terms of the panels, and so it's my pleasure to welcome Senator Cantwell to the stage.

SENATOR CANTWELL: Well, thank you, Roger. It's great to be with you today and thank you for that introduction. And thank you to Brookings and the Hamilton Project for inviting me here today. It's good to be here with my former colleague, John Warner, who I certainly appreciated working with him on so many issues. And it's great to be with so many leaders in the energy industry and innovative thinkers who are at this conference.

I heard a little bit of the last panel discussion, and I know that you have been coming up with some incredible ideas here this morning on how we move forward on shaping energy policy in the future. This is an important and timely conference because I really believe that we have an opportunity for a more diverse distributed energy system and that it is one of the preeminent challenges that we face, but it is also a huge economic opportunity for America. And getting the policy right is key to whether America is going to continue to prosper in global competitive challenges

that we face, and getting it wrong, I also believe, could have dire consequences and endanger America's status as a super power.

In my opinion, we are going to get to a 21st century energy system one way or another -- that's because there's going to be less and less fossil fuel and more and more demand; OPEC will continue to increase its hold on the world's remaining fossil reserves; and the environmental impact of fossil fuels is only going to increase.

The question is, are we going to get there the hard way or are we going to get there the smart way? That is to say the next 30 years can be a rollercoaster ride of price volatility with the end of the ride leaving us in the same place we are today, needing to diversify, or we can start now with a gradual diversification and protect our economy and consumers in the meantime.

Let me be clear, the hard way is keeping the status quo. The chief economist for the International Energy Agency was very direct in this point last October when he said, "The era of cheap oil is over, and each barrel of oil that comes to the market in the future will be much more difficult to produce and, therefore, more expensive."

Yes, it's true, we can find more oil if we drill deeper and deeper in the waters further and further offshore, and we can squeeze out

more and more oil from the tar sands or shale, but all those options greatly increase the cost and the environmental impacts.

The reality is that today we are overly dependent on conventional oil fields discovered back in the '50s and '60s, and that production from those fields is declining 4 to 6 percent a year, meaning the world will need the equivalent of 5 new Saudi Arabias to meet demand in 25 years.

It is important to know that this supply crunch starts happening at the very same time that world oil demand is expected to increase rapidly. According to the International Energy Agency, not only will oil demand grow by 25 percent by 2030, but 93 percent of that new demand will come from non-OECD countries, mainly China and India. So not only will there be more people demanding access to a shrinking oil supply, we will be fighting China and India for this finite, currently irreplaceable resource. Even a top Saudi Arabian energy official recently expressed serious concern about world oil demand when they said that it could peak in the next decade, which explained why they were working to diversify their country's economic base.

If Saudi Arabia is diversifying their economy, surely the United States should be diversifying its. According to the International Energy Agency, investment totaling \$45 trillion might be needed over the

next half a century to prevent energy shortages and greenhouse gas emissions from undermining global economic growth.

Another inevitable reason that we should act, in this Senator's opinion, is the role of EPA in limiting greenhouse gases. We all know that the 2000 Supreme Court ruling on *Massachusetts v. EPA* was groundbreaking. The impact of that ruling is just starting to play out. Some may have thought that stronger Republican majorities would be able to spike progress on Clean Air Act enforcement, but in the Senate, recent efforts to overturn EPA could not even secure a simple majority. And I am confident that as long as Barack Obama is president, he will never allow an attack on EPA's responsibility under their endangerment finding. So as these greenhouse gas regulations start to kick in and begin to bite, I believe that this will create pressure on Congress to consider solutions that provide regulation, but also provide for a gradual diversification off of CO<sub>2</sub>. Because there is only one thing that there is agreement on in the United States Congress today, and at least in the Senate, and that is that it is preferable to have Congress legislate a more flexible, market-oriented, cost-effective way of reducing greenhouse gases rather than simply allowing EPA to act.

So my point is this, instead of waiting 30 years to get to the point where we really wish we were off of fossil fuel and to start to

gradually reduce our reduction, it's like we are a 55-year-old who has been gorging on fast food every day, and after 30 years, the doctor tells us that our arteries are clogged, that the options are to go on a crash diet or do a dangerous bypass procedure or maybe staple your stomach, severely limiting your consumption, all of those very unpleasant, risky options.

The smarter way to move forward is to wean ourselves off of these habits and to institute new habits. You do this gradually to give yourself and our economy time to respond to the new system and to make adjustments. But while you are starting a more diverse diet, you start to focus on healthier, stronger ways to avoid costly actions in the future. And let's face it, right now America is CO2 energy obese. We are just 4 percent of the world's population, but we use 25 percent of the world's fossil fuel.

The healthy diet we need is a predictable path forward that provides the certainty that all businesses need to survive. Doing nothing or half measures or trying to drill our way out of the problem when we have less than two percent of the world's oil reserves means that America could stay shackled to this rollercoaster ride for the next 30 years. But done right, and given a generation of more free market orientation, we

could come up with smarter, more efficient ways and more distributed energy sources.

The smart way is to figure out how we provide that true energy price discovery, not just the price at the pump or what's on the electric bill. And the smart way to create that predictability in the rules of the road, I believe, is to have a gradual transition for America to that new energy paradigm, one that unleashes the level of private sector investment we hope to see for the future, but minimizes the risks. To me, that means we want to clearly lay out a path for the future so that investors know what's coming.

Michael Livermore said in a 2008 study on locking the green economy that, "Carbon pricing will cause immediate adoption of existing energy efficiency measures and spur investment and research and bring new technologies to the market, and that these technologies would help in instituting significant energy efficiency impacts, and a potential of annual net savings of \$37 billion to the U.S. economy. The present value of this savings would exceed a trillion dollars."

So, the smart way to create an energy policy, in my opinion, is to figure out the predictability and accurate price signals that we want to have to unleash that tremendous amount of new capital investment, an energy policy that creates critical sustained incentives needed to capitalize

new technology and innovation and entrepreneurship, and one that leads the United States to become the market leader in this 21st century energy sector. According to a recent Pew report, 2.3 trillion will be invested in clean energy power assets over the next decade. Having been in the software business, I like to say that the opportunities for clean energy technology are even bigger than the market opportunities for the Internet.

Let's face it. We have made some progress in the last several years. I think that's good news, because over the last seven years, we've enacted two major energy bills, passed a number of other small provisions, like clean energy tax credits, and dedicated about 90 billion to clean energy in the stimulus bill on smart things like Smart Grid and energy efficiency.

All those policies did help us move the ball forward, and three measures in particular -- 1, increasing fuel economy standards; 2, renewable fuel standards; and 3, energy tax credits -- did something very important. They created jobs, they created new market opportunities, and they generated economic growth for our economy.

The Energy Information Agency says that CAFE increases in RFS -- the renewable fuel standard -- in the 2000 energy bill were the first policies that actually reduced our nation's dependence on foreign oil after decades of trying. Together they will reduce greenhouse gas emissions

from cars and trucks by 28 percent by 2030. So, nationwide that is a 5.5 percent reduction in all of our nation's greenhouse gases. Or, put another way, that's like reducing the same amount of emissions that Canada produces today.

My point is that while there was opposition to these policies when we passed them, senators can now see that America can reduce carbon pollution without the sky falling or economic ruin.

Detroit is producing a wide range of fuel-efficient vehicles that consumers are liking and are helping them with their probability for shareholders, and the old talking points that helped to block these efforts in the past -- that it would cost us jobs, that we couldn't produce the cars, that it would make the cars unsafe -- that all of those things, you know, have proven to be bogus allegations. I don't hear any of my colleagues, including the ones from Michigan, complaining about fuel economy standards. There aren't any bills out there calling for the elimination of fuel economy increases set through 2016. And the flipside of these policies: they are actually spurring America's innovation in creating new market opportunities for all of us.

So, that's why I think that the way to a smart transition to this 21st century energy policy is a sensible diet that will help win a majority in the United States Senate, one that is gradual, predictable, that unleashes

private sector investment to growing our economy. That's why I introduced a 39-page CLEAR Act proposal, along with my colleague Susan Collins, which embraces these approaches, diversifying our nation's energy supply, using an accurate price signal to harness the focus of the free market, and securing the most cost-effective solutions.

Now, I know that many of you have been involved with these issues for a long period of time, and I can only tell you what brought me -- instead of doing incremental changes like you've been discussing here today or the ones I've just discussed why I thought it was worthwhile to put my name on something that was a broader piece of policy.

The polling shows that the American people believe that not only do we need to make this change, that we are going to make this change. What they're worried about is how we make this change and whether they are going to be negatively impacted. So, one of the first principles that I was attracted to in the CLEAR Act is that the path to ensure a measured transition in which capital investment won't be retired prematurely, but it would allow for the optimization of new technologies to switch over while you were making those reductions, that is to say, in the CLEAR Act, the reduction in other greenhouse gases, which are easier to achieve coming first while we gradually make the harder reductions.

The second principle to CLEAR that attracted me was a

monthly dividend, which would ease the consumer's anxiety on the price of carbon. They worry that the impact on their pocketbook will be very high in the short term. So, returning 75 percent of the auction revenue to every citizen of the United States -- and that's equally divided -- would average about a thousand dollars for every family of four each year. And according to the University of Massachusetts, this CLEAR Act dividend would help keep all low- and middle-income households whole from the increases they might see in energy cost. Those protections would help us in making sure that even if you had a different energy mix because of carbon use per capita, there would be very little difference across America.

And the last principle that attracted my attention was a more sensible and flexible way to process the investments that we would make by allocating 20 to 40 billion dollars a year to various efforts of financing clean energy, research, and development; reducing efforts of helping agriculture, forestry, and the manufacturing sector; transitioning work force communities; and helping vulnerable areas to adapt to climate change issues because of increased flooding or destruction, changes in weather.

I thought the CLEAR Act was an idea that allowed that transition to happen embedded in an annual appropriation process. I thought that that appropriation process where we continued to look every

year about positive policy changes was an easier process to manage than the one big-time, back-of-the-room deals that had been so much part of offset discussion of cap and trade in the last several years.

I thought that the revenue could also, in today's discussion, be used for a more robust funding system to reduce our nation's chronic budget deficit, or it could potentially be used for new sustainable robust solutions to the chronically underfinanced highway trust fund and other challenges that we face with infrastructure.

So, I know the conventional wisdom is that Congress cannot pass climate legislation and that putting a price on carbon is impossible, particularly with the new crop of people that have come to the Senate. But I'm saying the 55-year-old fast-food dieter and their consumption of carbon can't really be denied. Gas prices and EPA are going to continue to be a thorn in our side.

So I am optimistic about the future. Yes, we have a daunting task in front of us with \$4 gasoline prices, and the burden's on the American family, and we know that we are going to have to outbid China and India in the future if we don't act. But as Secretary Chu recently said in a speech before the ARPA-E summit, there is a huge spike in demand for clean energy around the world. Our strategy should not be hoping for the best; let's plan for where the world is going to be.

I know coming from the Northwest perspective, where we already ship software and coffee and airplanes to China. We want to capitalize on the economic opportunity of selling clean energy solutions to China. So, we are all here today -- you, the thinkers, the innovators, the advocates, the free-market capitalists that can help us validate this pathway our nation's urgently needed transition.

I am sure that we can make this transition. And as Michael Greenstone urged this morning, the impact of energy use on our health and our environment and our national security means that we need to act.

I know that many of you know the cost of our current policies, particularly as it relates to your own utility bills or to the unfairness of the system. Or, to put it more bluntly, the coal-fired electricity user is getting a free ride at the expense of the kid on asthma or those who depend on a water source not destroyed by a mountaintop removal or the fisherman whose catch is filled with bio-accumulated mercury.

I know you are the key to solutions that will help us change that dynamic and push America forward with clean energy solutions at reasonable prices that will help stimulate the economy of the future.

So, thank you for giving me this opportunity today, and I look forward to working with many of you on these options and solutions for a clean energy future.

Thank you.

MR. ALTMAN: I'm going to ask Senator Cantwell just a few questions, and we're going to move to that now.

I want to start, Senator, by saying you have a very effective staff, because your staff suggested some questions that I ask you. And the first one is why are you so smart? (Laughter) And the second one is why are you so effective? And the third one is why are you so popular?

So, I'm going to move past those questions, actually, even though of course I'd dearly like to ask them, and let me ask at the beginning about the CLEAR Act. The CLEAR Act places the cap, if I understand it correctly, upstream. And, thus, it's really quite different than what we all think of as mainstream cap and trade.

So give us a sense of how you came to that conclusion; why you think that would work better, and also why you think that might possibly break the logjam, the political logjam that we're seeing here on this?

SENATOR CANTWELL: Well, the time a lot of discussion came on cap and trade was right in the aftermath of Enron, and I can tell you the northwest, and I think the west in general, were tired of manipulation of energy prices.

And so the concept of cap and trade, we thought in creating a carbon futures market, left a lot to be desired. And, in fact, if you look at

what the Europeans have been through, they have had great problems because of that, and you have carbon futures that have been basically manipulated.

So we wanted to get at what was we thought clearer price discovery, and a simple auction at the top 2,000 people who are putting carbon into the atmosphere was an easier way to explain to my colleagues. In fact, several of them said, "I can go home and sell that. I can make sense of that." Because when you start talking about, well, here is how the farmer is going to be protected, or here is the offset for so and so; or here's what's going to happen here, you start losing a lot of my colleagues.

MR. ALTMAN: And what do you think it would take to, from a political point of view and a congressional point of view, and a senatorial point of view to get that legislation or some other form of cap and X actually moving? Because, you know, there's a very widespread perception, as you refer to in your own remarks that, unless under any foreseeable circumstances, we can't pass this.

SENATOR CANTWELL: Well, I think that things do have to be simple, and people have to be able to go home and explain it to their constituents. But I think the opportunity that is going to provide the pressure for us is just as EPA continues to implement these regulations, and people see the cost impact of that, I think that there are going to be members of

congress who have previously said, "I'm setting this aside," who are going to come back and say, "Is there a more flexible way to do this? Is there a way to help ease the pain or make the transition more successfully?" And I think that point is going to come.

Now I know there's a lot who think that they'll let a court battle play out first and see who wins. You know, a lot of people on the tailoring aspect think that they'll come back and, you know, win the day on a court decision. But coming back and saying EPA needs to regulate more people not less I think is still additional incentive to say is there a more flexible way to do this?

I think gas prices, while we may see some up and down here, is still going to -- it's just going to continue with volatility. So I just think those two drivers are going to continue to put pressure on the U.S. economy and on members of congress until they act. And I just think these ideas of an auction are much more flexible, give you many, many more things that you can do to meet the standards under the CLEAR Air Act. And I think people will find those attractive, when they start to pay attention, and the prices and regulations will get them to pay attention.

MR. ALTMAN: Let's talk about the prices for a moment. High energy prices, for example, gasoline prices seem to be a two-edged sword. On the one hand, they show people how vulnerable we are and dependent,

for example, on fossil fuels and so forth and oil. On the other hand, the argument that, well, we can't put more costs on the consumers somehow through a new regime, seem at least, theoretically, to be stronger at a time of high energy prices than low energy prices.

SENATOR CANTWELL: Mm-hmm.

MR. ALTMAN: I've heard many people say that the time you could pass this legislation is when the energy prices are particularly low, even though there's a certain illogical aspect to that.

What's your view on the role that energy prices themselves play on improving the outlook for legislation or hurting it?

SENATOR CANTWELL: I think higher energy costs are here for the future, and they help us. I think what the notion that we should be pushing is gradual, gradual transition. The American people in well over 50 percent -- I don't remember the exact numbers, but the majority of Americans believe we need to make this transition, want to make this transition, think that our economy will benefit from this transition. They just don't know how to get there.

And if you say to them, we are going to make a gradual transition of reducing CO2 and a better job of protecting you along the way so that you won't see this price spike volatility all of the time, I think that's the winning strategy.

I'm not a believer that let's just have huge price increases, and then let that just drive the market because I think there's too much. You know, just like I said with the fast food consumer, you can go get your stomach stapled or something of that nature, but it may not be the best way to deal with the situation. You need to have healthier habits, and that's better done gradually.

MR. ALTMAN: You represent one of the technology centers in this country and one of the really important ones, and we were talking a little bit about that beforehand. How do you respond to the argument that eventually technology will solve this?

I know there are some people and some constituents of yours, and some of whom are very celebrated technology entrepreneurs, who are relatively optimistic, albeit not probably immediately, about the prospects for next generation solar and things like that, that may really change this equation. And I'm wondering what your own thoughts are on that?

SENATOR CANTWELL: Well, I think my constituents right now are worried about the fact that we might become a huge transportation export of coal to China, and at the same time be one of the largest importers of wind turbines from China into the Port of Vancouver.

So they look at that and say wait a minute. We're on the wrong end of this equation. We want to be on the front end of diversity, and

opportunity, and the new technology area, and we want to be exporting those opportunities.

So the northwest is very -- because of our hydro-heritage in software -- very, very interested in the notion of distributed generation and smart grid technology. I think that's a platform that the United States could be a leader in. I mean, if you think of the Asians leading in battery technology and the Scandinavians in wind, what are we going to be leaders in? And I think they see that smart grid, a lot of the work that's being done at the Pacific Northwest Labs, as a great way to be leaders.

But they worry that we'll be eclipsed because all that investment will sit on the sideline and go up and down along with the price volatility; that you won't have a clear signal on price, and the consequence is you won't capture the investment. And if there's one thing the northwest believes in, it believes in the investment in innovation. It has made our economy over and over again, whether you're talking about airplane technology, or software, or what have you. So they want to unleash that investment and not have it held back artificially because we haven't sent a true signal.

MR. ALTMAN: And let me segue then from that into my final question, which is also related to the technology center that you represent. How would you grade the job that the federal government is presently doing

in terms of supporting the right types and the right amounts of R&D relative to energy technology?

SENATOR CANTWELL: First of all, I think there's a lot going on in the administration that people don't track or know about every day. Or let's just say -- I mean, I know there's a lot going on with the Department of Defense on jet fuel, green jet fuel, huge innovations.

The government can be a great beachhead for creating new market opportunities by being early and big adopters. So that's exciting.

I think that you heard from the CEO of Cummings and from Bill Gates last year that RBE though is seriously underfunded, and if the United States wants to have a role in being a leader in these technologies that we are going to have to significantly increase RBE.

One of the reasons, again, that I like the CLEAR Act is because you can take a big pot of money. Instead of having \$300 million in RBE, you could be spending billions of dollars from that auction revenue on something like that activity. And so that would be very, very, very, very positive.

So more being done than we think, but chasing that opportunity. We have to be way more aggressive than we're being today. And given the size of the market, why hesitate. I mean, because it's such a great opportunity.

MR. ALTMAN: You know, it struck me reading about the CLEAR Act that it's so short from the point of view of pages that you also could claim it's an anti-deforestation initiative.

SENATOR CANTWELL: Or maybe I have deficit -- or maybe I have attention deficit disorder, one of the two, but anyway I think there's a website that shows that. My staff did a little video on it and explained it.

And I think being able to explain this issue to the American people is critical to getting their buy-in. If they don't understand it, they're not going to be for it. If we can't make them feel like we can make this transition, they're not going to support the effort. So we have to be able to make it simple and clear.

MR. ALTMAN: Well, I want to thank Senator Cantwell for taking the time to be with us today, and I thought her remarks, both from the podium and also here in the Q & A, were really, really helpful, and very incisive, and very clear. So I'd like to thank her.

SENATOR CANTWELL: Thank you.

MR. ALTMAN: Thank you. Thank you very much.

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## CERTIFICATE OF NOTARY PUBLIC

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.

/s/Carleton J. Anderson, III

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