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OPENING SESSION

Remarks:

THE HONORABLE ORRIN HATCH (R-Utah)

THE HONORABLE JAY INSLEE (D-Wash.)

OPENING SESSION

MR. SANDALOW: Good morning, everyone. Good morning.

SPEAKERS: Good morning.

MR. SANDALOW: What a day yesterday. We had huge crowds, a great dialogue, fun videos, and exciting new cars. I just want to start this morning by thanking some of the people behind the scenes who made it all happen, starting in particular with Michael Terrell of Google. There is nobody smarter, more level-headed, or harder-working than Michael, and without his hard work, this conference would not have happened.

Also, Jim Merlino, who's done an extraordinary job running the logistics of this conference and an amazing team of dozens of people at Google.org and Brookings. So, let's give him a big hand, please.

(Applause)

MR. SANDALOW: I then need to share some sad and disappointing news, which is we were told late last night that the Senator Kerry has had a death in his family, a cousin, and he's had to return to Boston for that, and, so, he will not be able to be with us this morning.

We're delighted that Congressman Jay Inslee, who's been a visionary leader on this issue, has written a great book, is going to be here, and is going to talk in his place at 9:00 this morning. And it is now my great pleasure to introduce somebody well-known to all of you, Senator Orrin Grant Hatch. First elected to the U.S. Senate in 1976, Orrin Hatch is now in his fifth term as Utah senator, he is a leading advocate on energy policy, and, in particular, on the topic of plug-in electric vehicles. He's the author of the CLEAR Act of 2005 law that this crowd knows provides incentives for hybrid-electrics and alternative fuel vehicles. He is a widely respected member of the Senate, admired by his colleagues.

Ladies and gentlemen, it's my great delight to introduce Senator Orrin Hatch.

(Applause)

MR. HATCH: This is a great honor for me to be here with you today. You folks are at the cutting edge of some of the most important technology in our country's history. I do believe that we've got to get that Tesla so that I can afford it.

(Laughter)

MR. HATCH: It's a beautiful, beautiful vehicle, as are the others, as well. I want to thank Brookings Institution and Google for sponsoring this very important conference today and for inviting me to participate in it. And for those of you who are out of town, welcome to Washington. It's really nice and warm here so you don't have to worry about the cold anymore. When the conference sponsors began organizing this event, they probably didn't count on it occurring with the backdrop of $4 gas prices. Actually, more than $4. I think I paid $4.24 or something like that last time I filled up a couple of days ago. But these gas prices certainly contribute a level of urgency to our subject matter today. I think we all know that 97 percent dependence on fossil fuels for transportation is not sustainable. The lack of diversity in our nation's transportation fuels has been troubling me for a number of years now. My first legislative effort to address it was back in 1999, almost a decade ago, when I introduced the Alternative Fuels Promotion Act along with Senator John Rockefeller. The bill offered tax incentives for dedicated alternative fuel vehicles, alternative fuel sold at retail, and alternative fuel infrastructure.

At the time, the

alternative transportation fuels most available were natural gas, E-85, and that appears to still be the case today. At the time, the only hybrid-electric vehicle commercially available was the Honda Insight, and because my initial focus was on fuel diversity, I only provided credits for hybrid-electric vehicles if they ran on alternative fuels.

By the next Congress, environmental advocates convinced me of the benefits of hybrid-electric vehicles. They argued that hybrids would reduce emissions and reduce our dependency on foreign oil, and they also promoted some of the technologies that would make hybrid fuel cell vehicles more viable. I began to see hybrids as intrinsically good for their immediate benefits, but also for the bridging of technologies that they would bring to our transportation sector.

So, I added hybrid-electric vehicles to the legislation and introduced it, as has been said, as the CLEAR Act. Now, it took us five years to get the CLEAR Act through. It shows how ridiculous Congress can be. But, of course, you know that.

(Laughter)

MR. HATCH: And CLEAR stands for Clean Efficient Automobiles Resulting from Advanced Car Technologies. Now,

I certainly didn't do it alone; Senators Rockefeller, Jeffords, and Kerry were among very early and strong co-sponsors. My cosponsors and I worked hard at promoting it. We were able to get it into the Bush Administration's National Energy Policy Report in 2001, and we were able to get it included in the Omnibus Energy Bill considered in Congress that year. The omnibus didn't pass, but we got it in the energy bill the next Congress, and then the next Congress after that, until finally the CLEAR Act credits for vehicles and infrastructure passed as part of the Energy Policy Act of 2005, and the fuel credit passed in that year's transportation bill. I was allowed in both conferences.

From the beginning, I attempted to align the CLEAR ACT with certain key principles. First, I chose market incentives over mandates. I believe that the success or failure of alternative fuels and technologies is best decided by the free market, and, so, I focused these incentives on the market, which I consider the most powerful engine in this country. In most cases, incentives cannot reverse market trends, but they can help to fuel a market that already exists, and it seemed that genuine interests existed among the people for better answers in our

transportation system in America.

Second, I made sure the taxpayer was getting a bang for his or her buck. The incentives apply only to vehicles and fuels that are actually purchased by consumers and to infrastructure that is actually installed or actually being installed. I also made sure the incentives provided were scaled to the level of benefit that was being provided by the system to society.

For instance, hybrid vehicles using the most and best technologies receive proportionally larger incentives under the CLEAR Act.

Finally, I wanted to solve the chicken and egg problem with regard to attacking the market obstacles to alternative vehicles and fuels. For that reason, I made sure to cover the three legs of the stool: vehicles, fuels, and infrastructure all at once.

Now, I believe the CLEAR Act has been a big success, and I think most everybody else does, too, that know anything about it. Already, the move toward hybrid-electric vehicles has helped to reduce the demand for liquid fuel in this country. Today, there are dozens of models of hybrids from which consumers can choose. And we're already seeing mass production of hybrids, which was

a central goal of the Act. But one of the most exciting aspects of the success of hybrid-electric vehicles is the groundwork that they lay for the logical next step: plug-in hybrid vehicles.

Now, it seems to me that the progression from hybrids to plug-in hybrids is not a giant step. However, in terms of energy policy and the potential to shift transportation away from liquid fuels to the electric grid, plug-in hybrids may prove to be nothing short of revolutionary.

The idea was first brought to my attention by Raser Tech out of Provo, Utah. Not so little right now, but Raser Tech developed a new, very powerful AC induction motor that could be used in electric and hybrid vehicles. I had been working on the CLEAR Act for a number of years, when Raser visited me here in Washington to tell me that I ought to be supporting incentives for hybrid-electric vehicles. They were so new that I hadn't even heard of them at that time, and they didn't even know that I was the sponsor of the CLEAR Act.

(Laughter)

MR. HATCH: Neither have any of the environmentalists known that.

(Laughter)

MR. HATCH: Why didn’t they come up with these ideas?

It was during that first meeting in 2004 that they shared their vision of a plug-in electric vehicle that could average 100 miles to the gallon or better. I was smitten by the possibility of shifting our transportation fuels away from liquid fuels and toward the electric grid.

During an early press conference on the introduction of the CLEAR Act, I displayed a poster of a large oil vessel in the ocean heading into a gigantic storm. I argued that our nation was heading toward a global oil crunch, and finding alternatives was imperative for our nation’s economic health and national security.

Most folks didn’t realize what I prophet I was, although, I think you folks probably did.

SPEAKER: (Off mike)

MR. HATCH: Okay, I heard that.

(Laughter)

MR. HATCH: We are in the middle of that storm right now, and I don’t see it breaking any time soon. We may not be facing actual shortages in the world right now, but we do have a very low level of spare capacity, and that's done a lot to raise speculation on the future's

market. When spare capacity is so low, any major disruption in supply could actually lead to shortages. Investors need to know that we're finding a new barrel of oil for every barrel we sell, but that's not what they're seeing; at the same time they're seeing that ethanol has major limits as a replacement fuel.

Ethanol makes up only between 1.5 and 3 percent of our transportation fuels, and we're learning that there are real costs to increasing that percentage. I don't support mandates for ethanol, though, as you all know, I've led the fight to provide incentives for it through the CLEAR Act. But I'm also a realist about the fact that ethanol cannot put a major dent in our need for fossil fuels at this time. Corn needs a lot of water. In fact, it needs about 780 barrels of water for a barrel of ethanol, and more than 1,000 barrels of water for the equivalent of a barrel of oil. Then it needs another three barrels to turn the corn into liquid fuel.

Now, that's a huge amount of water, but it works out all right so far because corn is grown in already wet areas or rainy areas. But if we were to increase the amount of ethanol available, we're going to have to move into drier areas and rely more on irrigation, and there

will be limits to how much more we can afford to grow.

It also uses a lot of land and potential wildlife habitat. One acre of corn produces 7 to 10 barrels of ethanol or the equivalent of 5 to 7 barrels of oil. Now, that's a lot of land, and it would take a lot more to make a real dent in our energy supply needs, and we all need to grow up and realize that. And I'm for ethanol, by the way.

A lot has been said about cellulosic ethanol, but a cellulosic ethanol plant would cost about five times as much as a corn ethanol plant of the same size. We are also learning that ethanol production has an energy balance that is not that attractive, and now some are saying it has a greenhouse gas footprint, and that is troubling.

I'm not here to trash ethanol, because we need it, and I support it, but I and I think you ought to recognize that it has limits. I may be the only one in this room who believes so, but I feel very strongly that we must also increase our domestic production of oil and natural gas to keep things running in this country. We've run on oil, but it's obvious to me that we must aggressively promote alternative transportation fuels at the same time.

So, where does that leave us if the most significant alternative transportation fuel has so many problems? It leaves us with the alternative transportation fuel that has the greatest potential, but gets the least amount of attention. In other words, the electric grid.

The electric grid is so well established and has been around so long that it can seem like a pretty mundane topic. However, if you begin to add up the various benefits the grid could provide as an alternative transportation fuel, you can't help but get excited.

I've heard plenty of policy makers and environmental groups point to the need to promote solar, wind, and geothermal energy as an answer to high gas prices, and there's a gradual movement by some environmentalists towards nuclear as one of the cleanest sources of energy. And especially if we want to go to hydrogen, and we have about 9 million tons of hydrogen in this country, but to have a hydrogen car system work, you'd have to have at least 150 million tons and the infrastructure. Well, we don't have that today. We do have the ability to develop hydrogen cars, which, as you know, are very clean.

Well, obviously, cars and trucks, they don't run on electricity, so some of the arguments that have been used really follow, but what if we changed all that? What if I could begin to apply hydroelectric, solar, geothermal, nuclear, and natural gas, generated electricity to our to transportation sector? Talk about adding diversity to our transportation fuels. Even when it gets its electricity from a coal-fired power plant, a plug-in hybrid provides an environmental improvement over a conventional gasoline vehicle. Almost immediately after the CLEAR Act was enacted into law, I began the effort to draft S.1617, the FREEDOM Act, which stands for -- are you ready for this -- the Fuel Reduction using Electrons to End Dependence on the Mid-East Act of 2007.

(Laughter)

(Applause)

MR. HATCH: Now you all know why I wear a Mickey Mouse watch here in Washington.

(Laughter)

MR. HATCH: It became quickly apparent to me that, in terms of technology and industry focus, the United States is positioned to lead the world into the future with plug-in electric motor vehicles. The FREEDOM Act would

help our nation to take up that position by helping to develop the market, the technology, and the domestic production capacity needed to fulfill that role.

The FREEDOM Act's goals -- and I hope you'll all advocate for it while you're here -- would be achieved through four strong tax incentives.

First, a tax credit for consumers who purchase plug-in electric or plug-in hybrid-electric vehicles. Second, for a limited time, a tax credit for consumers who convert their hybrid vehicles to high quality plug-in hybrid vehicles. I shouldn't say "electric," but plug-in hybrid vehicles, which will include electric.

Third, a strong tax incentive for the U.S. manufacture of plug-in vehicles and of major components of plug-in vehicles, such as batteries, electric motors, and electronic controllers. And, finally, a tax credit for electric utilities that provide rebates to customers who purchase plug-in electric-drive vehicles.

Now, FREEDOM Act consumer credits would promote the consumer purchase of vehicles which use batteries and which plug into the electric grid for at least part of their power. This would include plug-in electrics, plug-in hybrids, and others. The amount of the credit would be

based on the kilowatt hours of the vehicle's battery pack, with a cap of $7,500 for passenger vehicles. The same is true for heavier-duty vehicles, except that the caps are scaled up for each vehicular weight class.

FREEDOM Conversion Credits would go to hybrid-electric vehicle owners who choose to convert their existing hybrid vehicle to a high quality plug-in hybrid-electric vehicle. These credits would also be scaled to the kilowatt hours of the new battery installed in their vehicle. Only high-quality conversion kits, which are certified to meet all highway safety and emissions standards, would qualify for a FREEDOM Conversion Credit, and the credits would be available until the market transitions to commercially available plug-in hybrid vehicles. When we transition to that, that's when the credit would be mostly available.

Now, this particular provision is strongly supported by my friend, Senator John Kerry, who was planning to speak to you following my remarks. And Representative Inslee is a great leader on Capitol Hill. I think you'll really enjoy his remarks. As you have probably heard, due to important personal matters, Senator Kerry won't be able to make it today, and, in his absence, let me just say that Senator Kerry has been one of

my strongest allies on the Senate Finance Committee on all of these proposals we have discussed this morning.

The FREEDOM Act also offers first-year expensing for companies setting up production capacity in the United States for plug-in electric-drive vehicles and for major components of those vehicles.

Finally, in the case that an electric utility in the U.S. chooses to offer rebates to customers who purchase plug-in electric-drive vehicles, the FREEDOM Act would reimburse that utility or those utilities for part of that rebate in the form of a FREEDOM Utility credit. The amount of the government reimbursement would be based on the rate of greenhouse gas emissions for each utility.

Based on our recent findings about ethanol, there really isn't a major alternative transportation fuel that can reduce greenhouse gases. But the electric grid is 30 percent renewable today. Today. It's going to take some work to continue to make the electric grid cleaner and greener, but it is already way ahead of transportation fuels, and it has much more potential for further improvements. An element of the national grid that I really appreciate is that it is domestic. That's a key thing.

(Applause)

MR. HATCH: You won't see our president flying to the Middle East begging the Saudis to send us more electrons.

(Laughter)

MR. HATCH: And if you think Bush can beg, wait until you see the next president. We'll just make all of these electrons ourselves. And we can make a lot of them. The grid does not suffer from the same supply constraints faced by conventional oil development.

Finally, in terms of energy policy, plug-in hybrids have one of the most important elements you can find, and that is strong, bipartisan support. It's taken some of us to prod and push and shove and get people up to speed on this. With your help, we can really get them up to speed. In Washington these days, energy policy is mired in partisan debates. Whether it's about climate change, gas prices, energy futures, or windfall profits, it's mostly about pitting one group against another and demonizing American oil companies that really only have about 6 percent of the world's oil production. Most of the production is by government-owned, huge ventures. Not our government-owned, other governments.

You have to search pretty hard in this city though to find even one negative comment about plug-in hybrids. If the FREEDOM Act were brought up today as a stand-alone bill, I believe it would pass easily. But it hasn't yet had that chance because it keeps getting lumped in with these other very controversial issues.

Now, I am very confident that political acceptance of the FREEDOM Act will lead to its eventual passage, and I'm counting on each of you to make an effort to see that that's brought about. You're doing it not only for yourselves, but for the welfare of everybody in this country and I think really welfare of everybody in the world. The consumer acceptance of the hybrid-electric vehicle has already proven a benefit to our nation's energy security, and now I believe that consumer acceptance can also be transferred to plug-in hybrid vehicles. I see the day that plug-in hybrid-electric vehicles become mass produced in our country and your average citizen can drive to work and back using little or no gasoline. And, boy, that'll be a wonderful day as far as I'm concerned.

By the time that occurs, we may very well have commercially viable hydrogen fuel cells and a hydrogen fuel infrastructure so that we can disconnect these vehicles

from the grid and begin a new age in transportation with much greater freedom of movement and freedom from dependence of foreign oil.

Now, I admire you folks in this room, and I've worked very hard in the high-tech industry for all of my time in the United States Senate. Now, you in this room, you are leading our nation in this direction. And, for that, I congratulate you, and I want to thank you, and you can be assured that I'm going to be here in Washington at least the next four years supporting you.

This is the greatest country in the world and we're on the verge of losing that greatness, and its energy that is a big part in our failure to do the things that have to be done in energy that are big parts of why we're in trouble here today. But it's not just energy, it's a big, big issue today, and it's one that we're got to get people of good will on all sides to come together on. Medicaid, Medicare, Social Security are running out of control and energy is running out of control, too. We've got to get those four things in order. We're going to have wars no matter what we do. And, let's face it, there are a lot of evil, bad people in this world who will continuously test the United States. We have to be ready to handle

these problems, but these four things are the things we absolutely have to help solve. It's going to take some real bipartisan effort to do it.

In that regard, let me finish by talking about Senator Kerry's partner in the United States Senate.

It's no secret that Ted Kennedy and I are called the Odd Couple. We all know who the odd one is, don't we? I mean, we --

(Laughter)

MR. HATCH: I always point to him and he always gives me that dirty grin. But the fact of the matter is that we've worked together across party lines, and he's one of the people and the few ones on the democrat side who really does come across party lines trying to work with republicans.

And it's hard for some Republicans to work with him because Ted is the leading liberal lion in the Senate, but it's never been too difficult for me. We fight each other about 95 percent of the time, and they're knockdown, drag-out battles. But there's a great deal of affection between us, we're like brothers, like fighting brothers, and I have to say that I pray for him every day multiple times.

I hope all of you will, as well, because I have to tell you there is not one other person on the democrat side in the United States Senate that has his capacity to bring people together and to try and bring together solutions to some of these problems. Now, there are some people coming up who have great potential, but there is no one that has that ability to garner all of the Democrat machine aspects and bring it together to say this, we have to do this with Orrin or with whomever. I think in all, whether you're Republicans, Democrats, Independents, whatever you are, we'll all be praying for Ted Kennedy. And Arlen Specter. And Bob Byrd.

(Applause)

MR. HATCH: Well, thank you, and let me just say how important Arlen is to the United States Senate, as well, and he's had a recurrence of Hodgkin's disease. As you know, he beat it before. And I saw him yesterday, and, naturally, we get together quite often and we sit by each other on the judiciary committee. Arlen's one of the true great Senators in the Senate, like Ted is. And Arlen, I said how are you feeling? He said I feel pretty rough today. But the rougher he feels, the more enthusiastic he gets because he believes that a positive attitude is what will help him through, and that's Ted Kennedy, as well.

So, I just want you to know how deeply I feel about both of those Senators and how important they are to this country, to the United States Senate. But, having said that, the most important people in this particular area I think happen to be you, and, so, that's the reason why I'm here this morning, and, as busy as I am, I just jumped at the chance to be able to come and chat with you for a few minutes about some of these things that are so near and dear to my heart and that we're fighting for right know and sometimes against odds that shouldn't be there. You can help change that. People believe in you, people have great respect for you. I think it's important to be bipartisan in these efforts, I think it's important to realize that there are Republicans who really do have their heads screwed on right, and, well, I even find an occasional Democrat who does, and that's the way it is.

(Laughter)

MR. HATCH: Let me close with this since I've been complimenting you. Around the turn of the last century, the Mormon Church, to which I belong, had about 25 general authorities who ran the church, and one day they decided to call this old mule Skinner to become a general authority. Now, he was 6'4'' tall, he was 147 pounds. He was tough as nails. And he had a spiritual dimension that was really

profound, but he had one defect, he could never quit swearing. He had been swearing at those mules, at all those mules. He would stand up in the Mormon Tabernacle out there and just give them all heartburn. He'd stand up and swear at people in the Mormon Tabernacle, and they're all are just sitting there like that, and a person in the church would pull on his coat and say Elder Kimball, Elder Kimball, and he'd say to the person you can't get too mad at me because I repent too damn fast, and he'd say things like that, would just put a chill on you.

(Laughter)

MR. HATCH: Well, finally, they called him and they said Golden, we have a special assignment for you. We're going to send you to this community down at central Utah where, believe it or not, there may be a case of adultery, and there may even be a couple of cases of fornication, and, terrible as it may seem, some of the people have been using spirits. That's what they called alcohol in those days. So, Old Golden, he gets in his Model A and he gets down there and he gets up in front of these people, and people would come from miles around to hear Jay Golden Kimball speak. And got up in front of them and he has these sheet of papers in his hand and he was emphasizing every swear word that he yelled at them, was

swearing at them and calling them to repent and yelling at them, and they're all sitting there like this, and he talked in a high-tone like this.

And, so, right at the end of his speech, he said I bet you're all wondering what I have in my hand in these sheet of papers. I bet you'd like to know what's written on them, wouldn't you? They're all nodding. He said, well, I'm going to tell you. It's the Lord's shit list and you're all on it.

(Laughter)

MR. HATCH: Well, I want you to know that none of you are on my bad list, okay? Good to see you.

(Applause)

MR. SANDALOW: Thank you, Senator Hatch. That was a wonderful presentation, and we really appreciate your remarks and your humor.

It's now my great, great pleasure to introduce Congressman Jay Inslee. As you heard, Senator Kerry is not going to be with us today, and with Congressman Inslee will have a two-for. He's not only going to give us remarks right now, but he's also going to serve on the next panel, so, we really appreciate both of those.

Congressman Inslee represents Washington's first congressional district in the House, and he's done so since

1999. He's focused on protecting the environment of Washington State and has been a tireless advocate on global climate change. Representative Inslee has used his position on the Energy and Commerce Committee, the Natural Resources Committee, and the Select Committee on energy, dependence, and global warming to promote his vision for a clean energy future, the New Apollo Energy Act, and other measures that would reduce greenhouse gas emissions.

He recently co-authored a very highly regarded booked called *Apollo's Fire*, which looks at the clean energy revolution, and he did that with a colleague of ours many of you know, Bracken Hendricks. Jay visited Google recently this past April and really, really impressed us with his vision, his knowledge, his pragmatism, and his humility.

It is my great, great pleasure to introduce Congressman Jay Inslee.

(Applause)

MR. INSLEE: Good morning. I have to tell you it's tough to find up a stand-up comic like Orrin Hatch. It's really a tough job.

You got a Seattle Mariner pinch-hitting for Boston Red Sox John Kerry today. I found out about this gig at 12:30 last night, so, I'm excited about it, and I'm

excited about the topic, and it is obvious what we should be talking about today. You look at the headlines, we ask what Congress should be doing today, gasoline at $4-plus, wars in the Mid East, global warming acidifying the oceans, destroying some life off my coast of the State of Washington, havoc economically, environmentally. It is clear Congress needs to deal with steroids in baseball.

(Laughter)

(Applause)

MR. INSLEE: Perhaps we can turn our attention to a more pressing and more promising issue, which is the de-carbonization of the United States' economy and the seizing of this greatest challenge and greatest economic opportunity that America's had since the Internet age. And I believe that is what we are facing today, and I'm very excited about the moment that you and I get to live in. This is a great time to be alive.

Today, I get to see something I thought I'd only enjoy three times in my life, and that is I got to watch the birth of my three sons, and each one of those days were special memories for me. But I believe right now we're experiencing the birth of a whole new industry, and this, people and the people in this room are involved in that conception and delivery, and I intend to be involved in

some way in both of those for the delivery of this new industry, and I'll tell you why I am so excited about it. I'm a child of the 60s, and I want to harken back to what I believe this industry, how it looks at itself in the historical context.

I want to harken back when I was 10 years of age, May 25, 1961, we were engaged in a battle with communism and a cold war, we had a young president, we were uncertain of our future, and on May 25, John F. Kennedy went in front of the Congress and he said we are going to put a man on the moon in 10 years and bring him back safely. A very, very audacious thing to say. If you will recall the state of affairs of technologically at that moment, rockets were blowing up on the launch pad, the Russians had launched a bus in orbit, we'd launched like a softball. We had not even invented Tang yet.

(Laughter)

MR. INSLEE: And, yet, this President called America to a bold vision to put a man there in 10 years. And it was interesting when he did so, the chair of NASA, a guy named James Webb, as soon as Kennedy said that, which even NASA didn't know he was going to say this, turned to his assistant, Bob Gilruth, and said, Bob, can we do this?

(Laughter)

MR. INSLEE: And Bob said, yes, absolutely, we have to. And I believe that's the answer to what we need to do; we have to revolutionize the United States into a clean energy economy.

Now, when Kennedy said that -- I'm going to talk about plugging hybrids, a specific technology, but I want to ask you to embrace a larger vision on how we fit into the American story because I think there's a story here associated with John F. Kennedy.

When Kennedy said this, he didn't know how we were going to get to the moon. He really didn't have any idea. But he knew three things about the American character that I think you and I know and we need to make sure the rest of the world knows. And I want to harken back.

Yesterday, I went to the floor. The first issue became apparent to me yesterday. I went to the floor to give a one-minute speech, and the speaker right before me harkened back to a quote. It's in the House of Representatives by Daniel Webster, and it says America has to develop its greatest resource or greatest resources, and, of course, the speaker before said that was, of course, oil. That we just got to drill more holes in the

ground, that is the solution to our energy challenge, and he harkened to Webster's quote above the speaker's rostrum.

I got up there and said appreciate the sentiment, appreciate the quote, but that speaker misunderstood the fundamental resource that America now has to draw upon. There is only one resource that America could have that is gifted that is a truly inexhaustible, infinitely renewable source of energy resource, and that energy resource is the human intellect and the power of creativity and the power of innovation that is involved in the American character, and John F. Kennedy understood the power of that resource, and now for everything that I think we need to do, we need to inspire and enable that infinite, intellectual resource, as Kennedy did.

Second, what Kennedy understood was the power of liberty and the Americans' desire for freedom and liberty, and that animated part of his effort in his efforts against communism.

We now are involved in a struggle for liberty and freedom, as well, only this time it is freedom and liberty from the addiction and enslavement and chains of oil addiction to the Mid East, and when you are going to work in the morning, you are in the cause of liberty, liberty in the fashion that an American driver, when they want to get

their car, isn't going to be beholden to someone in the Mid East and have only one option, and that is oil. We are in the business of liberty here in this room, and we should make sure that our allies know that.

Third thing that Kennedy knew, he knew about the power of competition, and he knew that Americans are competitive as racehorses. He drew on the power of that competition against the Soviet Union in the 60s.

We now are in another kind of race. We were in a space race in the 60s. We now are in a clean energy race, and that race is to determine which nations will provide the world with clean energy technology. The race is on; it has been joined to see who will sell clean energy technology to China and India.

I had lunch with the prime minister of India the other day. He pointed out that he has 400 million of his constituents that do not even have as much as a light bulb; they have no access to electricity. India is going to demand access to electricity, and we are involved in a race with Germany and Denmark and Spain and England to build the technologies to sell to the developing world so that the world does not cook and we can get China off those one coal fire plants a week that they are now building.

And you know what? We haven't really got out of the gate on this race yet. We have not developed a feed-in tariff like Germany has, which allowed them to leapfrog us in photovoltaic energy, and we have not embraced a national renewable portfolio standard like Denmark did, which allowed them to develop their wind power technology.

We need to get out of the gate, but I believe that the space race is a good metaphor of what we're capable of. We were late out of the gate. Those of you my age remember the shock of Sputnik, what it was to the American consciousness. We need to now overtake and surpass our international competitors on this race for clean energy, and I believe we are fully capable of doing that.

So, that's sort of where we are in the fabric of the American story.

I want to share with you why I am totally optimistic about America's ability to achieve that and to sort of tell you a story about why I'm optimistic. One, it's by nature and genetics. Two, it's by necessity. But, three, it's by my experiences in the last several years.

And I just want to share with you one day -- Tom mentioned I wrote this book *Apollo's Fire.* By the way, he

said it's "highly regarded." It's "highly regarded" in the Inslee family. That's what he's talking about.

(Laughter)

MR. INSLEE: Although, my dad called me up a couple of weeks ago, Jay, I read this thing, and this sentence here doesn't make any sense at all, and I said, well, dad, we were trying to explain this concept. He says, I don't care, it doesn't make sense. You need to write these things more clearly. This on like page 280, right? So, he's on my case big time about this sentence that doesn't make sense, and I tried to explain to him what we meant. He said, why didn't you just say that, you know, Jay? Thanks a lot, dad. I wrote this book. Real kudos from my dad. And, finally, I just said, dad, I'll tell you the truth, my co-author wrote that sentence.

(Laughter)

MR. INSLEE: Backing Hendricks, who I really loved writing this book with, and he said, no excuses, son.

(Laughter)

MR. INSLEE: So, anyway, that's my adventure writing this book. But I had some great adventures. I want to share one day with you about why I'm optimistic.

I went down to the bay area in the course of writing this thing. In the morning, went and talked to a

guy named John O'Donnell. John is a guy who was involved in a eight-person company in Australia developing solar thermal energy.

Now, we know -- I mean, the reason I mention this is because cars are just part of the system we need to develop. We're all focused on the car, right, because we're car junkies in America, but it's very, very important for us in the plug-in industry and the electric car industry to understand the car is just one part of the entire system that is being developed. So, in the morning, I go meet John O'Donnell down on Palo Alto. He had like an eight-person firm in Australia. At least we're going to rig up some mirrors, concentrate the sun's energy, heat up water, drive a steam turbine.

A guy named Vinod Khosla heard about this, the guy made a bundle at Sun, and now is looking for the next best thing, move them to Palo Alto, and, in one year, this company went from eight employees in Australia to having signed a commercial contract in Florida and California to provide enough electricity through solar thermal energy to provide almost up to 400,000 homes with electricity.

Now, why is that important? It's important to me because when I was trying to pass the renewable portfolio standard, one of my Florida colleagues said we don't have

renewable energy in Florida, and I said, well, how about like solar energy? He says we can't do solar energy in Florida. I said I thought it said the "Sunshine State" on the license plate.

(Laughter)

MR. INSLEE: What's up with that? And he says, no, no, we got too many clouds; we can't do that. Well, one week after that conversation, John O'Donnell signed this contract with a company utility in Florida to provide this electricity through solar thermal power. That is not the only game in town. Companies Bright Source, there's several companies.

What these companies do, I believe they are on a path to be competitive with coal-based energy within a decade or a decade and a half, and I've looked with some skepticism, healthy skepticism on their numbers, but I believe they are going to be close to coal-based electricity very, very shortly. It is a stunning advance as soon as we can drive the scales of economy and reduce the costs of capital to get these projects done.

So, I get done talking to John, I drove over to Google, met with Dan and some others, and what does Google tell me about? You know, I wrote this book about clean energy, I kind of thought I knew everything about clean

energy, but the folks at Google tell me about a couple of their investments. They tell me about their investment in a company called AltaRock.

AltaRock is an enhanced geothermal firm, and, guess what, in Seattle, Washington. Here's this company in Seattle, Washington, literally in my neighborhood that is developing a way to basically drill down three kilometers plus, create a fracture zone, pump water down, bring it up at 300 degrees and drive a steam turbine. You don't have to depend on where the fractures of the earth are, you create your own and you bring up that geothermal energy.

Now, here's a company in my neighborhood, which according to the DoE there's enough energy available probably to drive half of the electrical grid in the United States if we can commercialize this technology, and Google is very, very excited about making that investment. Here's a technology that I really had not become familiar with right in my backyard.

I'm walking out in the parking lot of Google and the brother of one of Google's founders comes up and he says do you want to see some solar energy porn? I said solar energy porn? You know, I'm not -- it doesn't poll very well. I don't think porn is something I'm particular interested in.

(Laughter)

MR. INSLEE: And I said sure, right, let's go behind the bush and we'll look at some solar energy porn, but he takes out of his pocket, he takes out this wonderful, shiny strip of some silicone and glass-based thing. I said, great, what is this? He says, this could be the most efficient PV cell on earth using a concentrated system to concentrate the solar lens onto the most efficient PV system, which I believe is from Spectro-Vision, I think is a subdivision of Boeing, and he says I call it solar energy porn because I am so excited about it.

(Laughter)

MR. INSLEE: And here's Google making a transition from software on the Internet to clean energy, the largest transition in intellectual and financial capital in world history that's going on.

So, then I drive up, they put me in a hydrogen fuel cell bus. Now, I think hydrogen is quite a ways off because of the distribution costs associated with hydrogen, but I get to drive this hydrogen fuel cell bus. They let me drive it around the parking lot.

By the way, I'm pretty proud of this. I'm, according to them -- and this is the first hydrogen bus in commercial usage. According to them, I'm the first member

of the U.S. Congress ever to drive the hydrogen fuel-cell bus. I'm kind of proud of that. They pointed out that they had allowed George Bush, six months before, to sit in the driver's seat, but they would not let him drive.

(Laughter)

MR. INSLEE: Now, I don't know what that's about. Probably a bunch of democrats or something. I'm not sure what that was about.

So, now, they think this has application where you have feeding stations and enlarged fleets. We may have hydrogen at some point. Otherwise, I think it's a bit off.

So, then we drive back over to Stanford, and I meet a guy whose story I love, and that's Felix Kramer, who is here today. I think I saw Felix somewhere. Felix?

And the stories in our book, we start talking about who would call the CalCar boys or CalCar guys, and Felix was fundamental in that, building on Dr. Andy Frank's tremendous technological leaps that he made, and Andy tells a story about saying I'm going to go get the folks in Detroit to do this plug-in hybrid car, and they say go back and smoke your hemp or whatever you do in California and don't bother us, we know what to do with cars.

And he goes back in 3,000 feet of wire and recruits some guys on the Internet and they build a plug-in

hybrid car in Costa Mesa, California, and now, of course, GM is ready to get going on the Volt, and Toyota is active, and Nissan signs a deal with NEC, and now we see that spirit of innovation bubbling up to the people with the money that can make this thing happen.

So, that's one day in one congressman's life to see what John F. Kennedy said was possible is actually taking place, and that is why I'm optimistic about the ability to get this job done, and I've just given you a smatter. I know that when I walk out or hear somebody else say how come you didn't mention wave power and how come you didn't mention wind? There's a million technologies and there's a million flowers that are going to bloom on this. But let me suggest what is necessary here. What is necessary is to raise our vision a whole other scale of enterprise.

You know, a Stanford professor did an analysis. Obviously, we need electricity to run these plug-in hybrid cars, right? It doesn't grow on trees. We have to generate electricity.

Now, we know we have enough power to do that right now. A Pacific Northwest lab study showed that using the existing grid and existing power plants, we could power 86 percent of the entire transportation leagues of the

United States electrically without building one more energy producing plant. Eighty-six percent, without building one more plant.

Now, the problem with that is there's too much coal in there and we'll cook the planet if we do that. So, that is not a solution.

So, a Stanford professor did an analysis, it came out just a couple of months ago, who basically said using existing technology today, the United States, assuming we can build a transmission grid that actually works in this country, can power our entire electrical system by building about somewhere between 70 and 110,000 wind turbines with 126 diameters blades. Things that are in the field today.

Now, 100,000 sounds like a lot, right, and a lot of people might say beyond America's ambition or capability. But he points out that in World War II, in 1939 we built 3,000 airplanes, and in 1945 we built enough, so, we built 300,000 in 4 years in World War II.

If we commit this country to the scale of ambition that we had in the Apollo Project or World War II, we are fully capable of providing electric grid to provide the geniuses to electrify the American transportation system, and we can do it even using today's technology.

Now, we've obviously got to build a grid, and that's one of the issues I'm working on, and I have a bill to create an electric superhighway to get this job done. So, we have to work on a transmission system. But the point is we need to think big, there is no alternative, and America, this is in our tradition to do this. It is not in our tradition to embrace timidity. It is in our tradition to think boldly, and I think this is a perfect moment to do it.

And I want to mention just a couple of things or ask a couple of questions. I want to mention the single most important thing I believe to the development of this industry. We're going to talk about tax breaks and R&D. We know R&D is pathetic right now; we got to embrace it.

Again, this panel will talk about the specifics as to plug-ins. But I believe the single most important thing to the development of this industry is the passage of something that will level the playing field between petroleum-based transportation system and an electrical-based transportation system.

It is not a fair deal right now. The electrical folks are behind the eight ball because we give enormous subsidies to the oil and gas-based transportation system.

Both in our tax code, which we're trying to repeal and shift the tax benefits over electrification from oil. We fell one vote short, one vote short in the US Senate from breaking a filibuster on that. But the biggest subsidy is the subsidy that we give the oil and gas companies to allow them to treat the atmosphere as their personal garbage dump. We do not allow people to dump their garbage in the municipal garbage dump for free. We would never allow an oil company to take their slag from their refinery, put it in a garbage truck, back it up to the city park, and dump it in the city park for free in unlimited amounts, but that is exactly what we do with their most dangerous pollutant, their most dangerous garbage, which is carbon dioxide today. And the moment we pass a cap and trade system in America, the moment that we put a cap on the amount of carbon dioxide that goes into the air, the moment we put a price on carbon, you will see a rush of financial capital into the electrification of the transportation system that will dwarf what we'll even see now, which is a significant amount.

So, I would suggest to us that next year, in 2009, the single most important issue in the United States, other than withdrawing from Iraq, in my view, is passage of a cap and trade system that will level the playing field

for the real innovators, many of whom are in this room, to get this job done.

And I want to point out the thing that will be most contentious in passing that, and that is whether we're going to give these permits away to these polluters or whether they're going to need to pay for it, and I'm coming out to say that the polluters should pay for this, not the public. The polluters need to pay both to create a price on carbon and to create a revenue stream to be used for research and development and help for Americans through the transition we're experiencing it.

I mention this because you will have a part to play in that debate, and I hope that you will be active in that debate because I can tell you it is the key to unlock the lock of the financial wherewithal we need to get this industry up to speed at 100 miles an hour.

So, that's my request to you, that's kind of a report on a couple of things. I hope that I can stand for questions.

Do we have time for questions?

MR. SANDALOW: (Off mike)

MR. INSLEE: Take a couple of questions, somebody with a softball question here.

(Laughter)

MR. INSLEE: Yes?

MR. ROPER: My name is David Roper from Virginia Tech. You're speaking of an "electric superhighway."

When will Congress initiate an interstate electric railway project similar to the Eisenhower highway interstate project?

MR. INSLEE: Well, I declined to serve as president this year. I'm supporting Barack Obama, so, it'll be some time.

No, it's a very serious issue, and I've introduced a bill. It's called the Rural Electrical -- I can't remember if we're calling it the "superhighway" or not, but that's what we intend to mean by it, that basically will create a pool of funds to finance the creation of high-capacity, ultimately D.C. grids to move renewable energy to the portals for the electrical transportation system, and what this bill will do will basically spread the cost of the creation of these lines nationwide so that those who build those lines can basically spread the cost across the United States. If you expect the first entity to buy that electricity to pay for the entire cost, it just doesn't get billed. And I believe this is an absolutely critical part. My bill is not the

last piece of unlocking that puzzle, but it is the first piece.

I hope this year -- I talked to Chairman Boucher about this two days ago. We hope this year, I hope this year, to get a bill at least starting a study by DoE to identify what is really necessary to make that happen. Next year, to pass my bill or something very close to my bill.

So, the answer is I hope that by fall 2009 we will have in law a provision to create a financial mechanism to fund the creation of this electric super highway. It'll be none too soon, and I hope you can help me out.

Thank you.

Yes?

MR. FELDMAN: Hello. Jonathon Feldman, Stockholm University.

Senator Obama has talked about taking the savings from the Iraq War and putting it into alternative energy and alternative transportation modes, and during the last energy crisis President Carter tried to facilitate the system to take the savings from the peace dividend after the Vietnam War, these industrial resources and promote mass transportation and all kinds of alternatives.

What can we do to help the industrial veterans of America who've gotten behind this Iraq War? We don't expect to be spending billions every day in the future. How can we make this transition and support conversion to get these resources that you spoke so eloquently about into these alternatives through conversion of defense firms and things like that?

MR. INSLEE: Well, first off, that conversion has tremendous potential, and I am very excited about Senator Obama's commitment to this cause, and I believe he is committed to this heart and soul, and he has a wonderful energy plan. You can check it out on his site. It's very comprehensive, and I'm excited to hear what he says in his inaugural address about this subject.

I will say this, however. Unfortunately, there is no real peace dividend because all of the money we spend in Iraq was borrowed from China. Okay? Every single dollar under this administration's policy has all been deficit spending.

This is the first war in America's history where we didn't raise taxes to fund the war. This president decided to fund the war just by borrowing money from China. I think that was a huge mistake, he did it because it was easy, but it was extremely bad economic policy, and it was

not fitting for the dedication of the American people, and he did not ask the American people to be engaged in the financial aspects of this war.

So, because it was all deficit spending, it's not like we have a big pile of cash that we can just take from Baghdad and transfer it here because all that cash has got to get paid back to China.

So, I think to finance this, we are going to have to look at some revenue source to finance the huge needs for R&D, to finance the loan guarantees and some of the things we need to do. That's where the auction I told you about is important. That's why having an auction of the permits for CO2 pollution in the cap and trade system is absolutely necessary because that auction, if we do auction that, will create a pool of money somewhere between 40 and $100 billion a year that can be used to finance that transition, and that's why I'm saying your engagement and this community's engagement in the cap and trade debate is absolutely pivotal to make sure that we auction those off and we have a revenue to really make that transition, and Senator Obama, I know, supports that effort, and that's one of the reasons I'm excited.

Thanks a million. I'll see you at this forum. Thank you.

(Applause)

MR. SANDALOW: *Apollo's Fire* is for sale out in the lobby. We're back here at 10:00 for the next panel. Thank you very much.