

NATIONAL PRESS CLUB LUNCHEON WITH SECRETARY ERNEST MONIZ

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MYRON BELKIND: (Sounds gavel.) Good afternoon, and welcome. My name is Myron Belkind. I'm an adjunct professor at the George Washington University School of Media and Public Affairs, and a former International Bureau Chief for the Associated Press, and the 107th President of the National Press Club. I'm honored to welcome you all today. The National Press Club is the world's leading professional organization for journalists committed to our profession's future through our programming with events such as this while fostering a free press worldwide. For more information about the National Press Club, please visit our website at www.press.org. And to donate to programs offered to the public through our National Press Club Journalism Institute, please visit www.press.org/institute.

On behalf of our members worldwide, I'd like to welcome our speaker and those of you attending today's event. Our head table includes guests of our speaker as well as working journalists who are Club members. If you hear applause in the audience, I'd note that members of the general public are also attending, so it's not necessarily evidence of a lack of journalistic objectivity. And we always make that point so that no one misunderstands when they hear applause.

I'd also like to welcome our C-SPAN and Public Radio audiences. You can follow the action on Twitter, and I've just been asked this very question, using the hashtag NPCLunch. After our guest's speech concludes, we'll have a question and answer period. I will ask as many questions as time permits. Now it's time to introduce our head table and I would like each person to stand briefly as I call their name.

From your right, Jason Fordney, reporter for Argus Media; Bill McCluskey, Associated Press reporter, retired, although we keep him active at the National Press Club. He's one of the editors of our online newsletter. Alicia Mundy, reporter for the *Wall Street Journal*; Judi Greenwald, Deputy Director for Climate, Environment and Efficiencies in the Department of Energy's new Policy Office; Adam Sieminsky, administrator, U.S. Energy Information Administration.

Skipping over the podium, Jerry Zremski, Chair of the 2014 National Press Club Speakers Committee and skipping over our speaker for a moment, Rod Kuckro, reporter, ENE Publishing Energy Wired. A special thanks, Rod, for all you did to organize today's luncheon as a member of the Speakers Committee. Peter Davidson, Executive Director, Department of Energy Loan Programs Office; Marilyn Geewax, senior business editor, National Public Radio, and a fellow member of the Board of Governors of the Press Club; Bill Loveless, host for Platts Energy Week on television; Esther Whieldon, senior reporter, SNL Energy. (Applause)

Unlike most of his one dozen predecessors, Energy Secretary Ernest Moniz is serving at a time of unprecedented energy supply and security for the United States. As his department reported in its annual energy outlook for 2014, an expansion in domestic production of crude oil and natural gas is reshaping the economy. That increased production, much of it from the use of controversial hydraulic fracturing technology, has all output nearing 1970 levels of 9.6 million barrels per day. That production will cut America's reliance on imported crude oil to about 25 percent in a few years. It has also led to Secretary Moniz's recent statement that it might be time to lift the decades old U.S. ban on exporting crude oil.

The increased amounts of natural gas on the market are forcing the closure of many coal plants and supporting the Obama Administration's drive to reduce greenhouse gas emissions. In addition, there is enough supply so natural gas can be exported to Mexico, Canada, and overseas. In addition, the production of electricity from wind and solar power is at record levels.

Secretary Moniz embraces President Obama's all of the above energy strategies including support for nuclear power as a long-term carbon-free power source and hydraulic fracturing to produce natural gas until a new generation of low carbon energy technologies emerges. Those positions have not endeared him to many in the environmental community. Secretary Moniz is helping to develop the administration's quadrennial energy review which will focus on the development of a comprehensive strategy for the infrastructure involved in transporting, transmitting, and delivering energy.

A nuclear physicist, Secretary Moniz led the energy program at the Massachusetts Institute of Technology before he joined the Obama Administration last May. He was Undersecretary of Energy during the Clinton Administration. Ladies and gentlemen, please join me in welcoming to the National Press Club Ernest Moniz, Secretary of Energy. (Applause)

SECRETARY MONIZ: Well, thank you Myron. It's a great pleasure to be here at the Press Club and to note also I learned that this is President Belkind's first lunch as President. So I feel honored doubly. I also want to thank Rod and the Speakers Committee for pulling this event together. You've also been introduced to some of my DOE colleagues here who may pitch in on some of the questions.

It's been a busy few weeks since the President gave his State of the Union speech traveling across the country highlighting, reinforcing, some of the messages in terms of the administration's efforts to promote domestic energy production, create jobs and opportunities and address the serious issues surrounding climate change.

So I'm going to start with a little kind of travelogue. So three weeks ago, I was in Virginia to talk about STEM education and job creation in the energy field, capacity building. Human capacity building is actually a critical challenge through the energy industry and we need to draw upon all of our talents among our population. And it was impressive, in particular, to see how Hampton University and HBCU has evolved into a research university partly by drawing on collaboration with nearby Department of Energy and NASA facilities. And we were able to also recruit Hampton's president, Bill Harvey, to be an ambassador for DOE's new minorities in energy program.

Then two weeks ago, I was in Texas at the University of Texas, both in Austin and in San Antonio, there talking about domestic oil and gas production, meeting students and entrepreneurs who are doing some pretty remarkable things in clean energy and advanced manufacturing. And also Mayor Castro in San Antonio and I explored how DOE is and can work more with cities to advance energy efficiency.

Last week, it was southern California to help inaugurate the world's largest solar thermal plant. This was made possible by an extraordinary public/private partnership between DOE's loan program, private enterprise, state government, and utilities who are, of course, the customers for this solar generated electricity. And in a few minutes, I'll be talking about tomorrow's travel and another piece of the President's all of the above approach to energy and climate. I will note this travel encompassed California, Texas, Virginia, and tomorrow another southeastern state. So we're saving the northern tour for spring and summer, although as we have seen, we have had a real touch of winter going pretty far south this year. And that in itself is something we need to pay attention to, and in fact also was pointed out, a theme that we are providing a major focus on this year in the Department of Energy which is the resilience of our energy infrastructure.

So with that kind of tour, again reinforcing different parts of the energy system, let me return to State of the Union where you heard the President reiterate the importance of energy and climate. And I'll just make a brief quote from what the President said. "One of the biggest factors in bringing more jobs back is our commitment to American energy. The all of the above energy strategy I announced a few years ago is working, and today America is closer to energy independence than we've been in decades."

So today what I want to do in the remaining time is elaborate a little bit on the strategy, note that all of the above is not a slogan, it's a policy and a pathway to creating jobs and at the same time reducing carbon emissions which recently stood at their lowest level in 20 years. So I want to be clear, all of the above, as we will discuss, certainly encompasses fossil fuels, nuclear power, renewables, energy efficiency. But it starts with a commitment to lowering our carbon emissions and addressing the mitigation responsibilities that we have for climate change.

So let's start looking at some of these sources and discussing it in this context. As you all know, we're producing more natural gas and the Energy Information Administration forecasts that this will continue for the foreseeable future. About half of the drop we have seen in our carbon emissions are due, in fact, to this increase in low to moderate priced gas, particularly through its substitution for coal in the electricity sector. So again, we are producing a lot more gas, but we are using it as what is sometimes referred to as part of the bridge to a lower carbon future.

At the same time, this natural gas has had a remarkable effect on domestic manufacturing. Again, the President in his State of the Union noted that businesses have, or will invest, almost \$100 billion in new factories that use natural gas. Frankly, I think this was, probably appropriately, on the conservative side of the estimate of those investments. And the administration will be committed to supporting innovative manufacturing across the United States. In fact, last month the President traveled to Raleigh, North Carolina and announced that North Carolina State University had been selected to lead the nation's newest manufacturing innovation hub, one dedicated to wide band gap semiconductors for power electronics which has implications across many parts of the energy industry. And this hub will bring together companies, universities, federal research centers, under one roof to help generate this next generation of power electronics.

The President announced plans to launch six more manufacturing hubs this year. We already started one DOE in concert with the Department of Defense in Ohio on 3D printing. We will do more this year, and that will include the Department of Energy.

Oil. Again, tremendously increased production. For the first time in 20 years, we are producing more crude oil at home than we are importing. However, how does this fit in with, again, the climate commitment to which I indicated earlier? It fits in because in no way does this increased production, which has dramatically decreased imports, obviously helped in terms of balance of payments, but we continue to focus on reducing our dependence on oil.

And here, we have a three-pronged strategy. First, efficiency standards for vehicles, the CAFE standards enacted during the President's first term, are projected to save two million barrels per day of oil by 2025 and to save the U.S. \$1.7 trillion in fuel costs. The other prongs of this approach include an ongoing commitment to develop next generation biofuels and those costs are coming down. And finally, to continue to advance the electrification of vehicles. And once again, the cost of vehicle batteries has dropped

significantly in the last four or five years. We have another ways to go, another factor of two or three, but we should really keep focusing on the fact that these costs are dropping.

But if I return to the efficiency standards, just yesterday the President directed the EPA and the Department of Transportation to develop and issue the next phase of medium and heavy duty vehicle fuel efficiency standards by the end of March. The Department of Energy Office of Energy Efficacy and Renewable Energy is working with industry on what is called a super truck collaboration to, in fact, advance the technologies that will be needed to meet these new standards coming forward.

The idea is to improve the efficiency, the ton miles per gallon, by at least 50 percent in class A trucks, heavy duty, long haul trucks. These trucks are about four percent of the vehicles and use about 25 percent of our transportation fuel. They don't get very good mileage. And so increasing that is a high leverage situation. Literally, as I walked out the door of DOE on the way here today, I witnessed the first product of that super truck collaboration. This was a Cummins Peterbilt super truck. It had achieved already a 75 percent increase in fuel efficiency. The technologies contributing to it from advanced engine technologies, advanced power train technologies, advanced aerodynamics and other innovations, they will start working their way into the commercial products over the rest of this decade. And things like this will be critical for meeting these new challenges. So again, the message is that our oil production greatly increasing, oil imports decreasing, but we continue to work heavily on the oil demand side.

In fact, the U.S. trade deficit fell to a four year low in November in no small part, of course, because of this booming domestic energy production and flat or declining demand.

Now, those are some of the fossil fuel initiatives, but of course I've also seen remarkable progress in clean and renewable energy. In the last five years, we've more than doubled the amount of wind and solar electricity and we intend to double that, we see a doubling of that again in the next five years.

One of the tools that we use for advancing renewables, in addition to our research and development, our ARPA-E programs, and the like, is our loan program. I want to spend a little time on that. Let me mention one program that sums up the administration's all of the above approach in our loan portfolio. We are supporting right now first a portfolio of more than \$30 billion invested in more than 30 projects around the country. We recently announced up to \$8 billion in available loan guarantees for advanced fossil energy projects that will reduce carbon emissions and increase efficiency.

We provided more than \$8.4 billion in loans to the auto industry to allow domestic auto producers to retool their American factories, to produce cleaner and more efficient vehicles that are increasingly in demand here at home and around the world. And these range from loans to established, major companies like Ford retooling factories in six states, two startups, if you like, like Tesla with a very, very different business

model, pure electric vehicle. As you know, a very high performance vehicle which will start exports next month.

We've committed more than \$24 billion in loan guarantees, again to a variety of clean energy and renewable projects across the country. These are supporting one of the world's largest wind farms, several of the world's largest solar generation and thermal energy storage systems, and more than a dozen, as I already said, new or retooled auto manufacturing plans across the country.

Last week, I was in California, I mentioned earlier, for the opening of the Ivanpah Solar Energy Generating System, the world's largest concentrating solar power system. It received a \$1.6 billion loan guarantee from Department of Energy. Back in that time period, 2009-2010, where if you recall, some of us already, I think, are forgetting, it was not exactly easy to get debt financing for projects in that time period. And so this program was really critical for kick starting major utility scale solar projects. The Ivanpah project is a remarkable feat of innovation and engineering. It's over 300,000 mirrors the size of garage doors reflecting the sun's energy to three massive towers where water is heated, converted into steam, and then spinning turbines. Nearly 400 megawatts of power, that's on the order of what one needs to service nearly 100,000 homes.

So Ivanpah now has demonstrated to the private sector that this technology is feasible on the scale that has not been seen before. It opens up, as well, an export market for this technology in suitable geographies. We all know there are first mover problems in terms of moving out with these new technologies at new scale. And that's essentially what we are doing in many contexts, is getting over that first mover problem for commercial scale activities.

I should say that we've also had remarkable success through investments in large scale photovoltaic technology as well. The Department of Energy's loan program helped finance the first five utility scale photovoltaic plants larger than a hundred megawatts in the United States; again proving to the industry that these projects were viable. And subsequently, ten utility-scale PV projects are now privately financed without department support. That's, again, the nature of the program that we are trying to do, kick start, get those first movers out there and then have the private sector come in.

So last year was a banner year for solar, 2.3 gigawatts, 2,300 megawatts of solar were installed in the United States in 2013. I want to emphasize as well that we have, as I mentioned, we have issued or made provisional commitments of over \$30 billion of loan guarantee. We have substantial remaining authorities over \$40 billion. We are planning to move forward across the energy spectrum with more projects, assuming that we can find good commercial-type projects that could benefit from this kind of debt financing.

I should also add besides energy supply, of course efficiency is critical. Indeed, we believe that certainly in the long term a solution to climate change, risk mitigation, will require major efforts on the demand side, as well as clean energy on the supply side. One of the ways the Department of Energy is moving forward on this is by picking up the

pace on issuing appliance efficiency standards. Already in 2014, just a few weeks into 2014, we have finalized efficiency rules, two efficiency rules, covering metal halide lamp fixtures and external power supplies.

No individual one of these may sound overwhelming, but the cumulative effect of all of our new efficiency standards will be to reduce U.S. carbon dioxide emissions between 2005 and 2030 by more than three billion tons, which is not bad for a series of actions addressing essentially everyday appliances.

We've also seen on the technology side, for efficiency, remarkable breakthroughs paying attention, for example, to what's happening with LED lights. LED lights, perhaps a factor of six more efficient than incandescents. A single fixture replacing a 60 watt bulb with \$130 of lifetime energy cost savings to consumers, and the prices are now below \$10, and I can guarantee you you'll see them significantly below \$10 this year. So this is the kind of cost reduction that will drive the transformation of our system to clean energy.

Let me say a few words about climate change specifically. And again going back to State of the Union, the President restated his strong commitment to addressing the threat of climate change and reducing our domestic carbon emissions. The President said, and I'll quote for a second time, "When our children's children look us in the eye and ask if we did all we could to leave them a safer, more stable world with new sources of energy, I want us to be able to say yes, we did."

Now, one feature of that is the reaction to what we have been seeing in terms of a number of extreme weather events. Now clearly, I'm not here to tell you that we could tie any storm or drought or climate change individually to warming. But the patterns are alarming, and they have been statistically anticipated, frankly, just as we are seeing them, for quite some time, 20, 25 years, we are seeing them. What we see is warming amplifying the effects of such things as storms. Our Super Storm Sandy was an example of category one hurricane transformed into a storm that devastated much of the northeast coastline.

Last summer, President Obama in his climate action plan, emphasized not only the issues of cutting carbon emissions to avoid as much as possible the impacts of climate change, but he also emphasized the importance of preparedness to the consequences of climate change, sometimes called adaptation. Here, the Department of Energy again has some major roles to play, particularly in leading response around the energy infrastructure. We put out a report last summer detailing the vulnerabilities of the energy sector to climate change. Just to point out a few examples, in 2012, several power plants in Illinois had to get special permits to operate with higher than normally allowed discharge temperatures for their cooling water. This past summer, wildfire damage which has increased significantly, threatened the grid in California, leaving Governor Brown to declare a state of emergency, even though the fires were distant from the major load centers.

In July of 2012, in the midst of one of the worst droughts in American history, a number of companies that extract natural gas and oil through hydraulic fracturing, were in fact denied access to water for weeks, or more, in several states. So that's just emphasizing in many ways the energy water nexus that is one of the areas of major concern with climate change.

So resiliency of the energy infrastructure, in particular our electrical grid and fuel supply, will be a major focus this year as we work throughout the administration on the quadrennial energy review. That is, this quadrennial energy review, its first installment in 2014 will focus specifically on the transmission, storage and distribution of energy and as we have seen, even only in the last weeks, our infrastructure challenges require some urgent attention.

President Obama expanded on these resiliency efforts last week when he announced that his 2014 budget submission would include a new \$1 billion climate resilience fund. And through this fund, we'll be able to help communities plan and prepare for the impacts of climate change and further support breakthrough technologies that will make us more resilient in the face of a changing climate.

Let me end by returning to my southern itinerary since the State of the Union. As we've said, this itinerary has kind of reflected the all of the above. I've mentioned fossil fuels, efficiency, and renewables. Tomorrow, I'll be traveling to Waynesboro, Georgia, to finalize a \$6.5 billion loan guarantee for the construction of two new nuclear reactors at the Vogtle Electric Generating Plant.

In 2010, the Department of Energy offered conditional commitments for \$8.3 billion in loan guarantees to support construction of the country's first new generation nuclear power plants in nearly 30 years. This was, again, in the spirit of the first mover challenge of getting some new nuclear plants built. And three separate commitments were made to three of the four owners of the plant. And tomorrow, the Department is closing on two of those commitments, to Georgia Power and to Oglethorpe Power Corporation, constituting \$6.5 billion of those loan guarantees. So, truly I want to emphasize again we are working across the board to try to push the technology forward into the marketplace for all of our energy sources.

These will be two new 1,100 megawatt Westinghouse AP1000 nuclear reactors, the first U.S. deployments of this next generation of advanced reactors. In fact, earlier the DOE cost shared the moving towards design certification of this and other reactors under a program, again, to stimulate the development of next generation of reactors with passive safety features.

Once completed, these new units at Vogtle will produce enough safe, reliable and carbon-free energy to power about 1 ½ million homes. And the President, I want to emphasize, did make it clear that he sees nuclear energy as part of America's low carbon energy portfolio. And, of course, nuclear power already is a major part of our carbon-free portfolio.

So to conclude, it's obviously an exciting time in the energy world. We are producing more domestic energy here in the United States than ever before. Across the country, the promise of clean, affordable, domestically produced energy that we have sought for decades is finally coming true at a massive scale. We didn't get here by accident. The advances that we see today in clean, renewable energy, whether the world's largest solar thermal plant or the first new designed nuclear plant to be built in 30 years, again didn't happen by accident.

In fact, Monday was the five year anniversary of the signing of the American Recovery and Reinvestment Act. It's worth remembering, again, that the President took office in the middle of the worst economic crisis since the Great Depression, at a time the economy was losing over 700,000 jobs a month. And in the midst of the worst six month period for GDP growth in over 60 years. The Recovery Act was an unprecedented effort to jumpstart the economy, save and create jobs and make a down payment on addressing long-neglected challenges so that our country could thrive in the 21st century.

And some of the most important investments that we made with that Recovery Act were in clean and renewable energy. The Recovery Act helped provide more than \$16 billion in loan guarantees to 25 clean energy projects that are under construction or already helping to produce clean and renewable energy, again at a time when debt financing just wasn't available.

So these and other investments through our loan program, renewable energy program, ARPA-E, our science office, they are establishing tomorrow's clean energy technologies, both to meet our domestic needs for affordable and secure clean energy and to position us as a major supplier to the global market.

In fact, to finish, I'll just quote that last month Ceres, a nonprofit investment organization, estimated that the world will need a global investment of \$36 trillion or nearly a trillion dollars per year on average over the next four decades to address climate change at the scale that we believe is required. While, of course, supplying energy and managing the demand side of global economic development. That's a pretty serious investment. Many of us think, at least, that however doing nothing to address these risks of climate change, will prove to be far more expensive and when those technologies are deployed, we can't afford to be at the back of the train. We want to be driving the train, leading the world in these industries.

So investing in clean energy isn't a decision that limits our economic potential, it's an opportunity to lead the global clean technology markets that are forming right now. And tomorrow, maybe I'll ask some of those 3,500 construction workers how they think about the opportunities in this new economy. Thank you. (Applause)

MR. BELKIND: Thank you, Secretary Moniz. No, if you could just stay because we'll be going back and forth. You made several references to the State of the

Union address. I know you were not present because you were designated to watch the shop while all the other cabinet members went to the Hill. Today, I hope your cabinet colleagues are envious of you because you got to come to the National Press Club while they had to stay elsewhere. But thank you again.

You've hinted that some of the older energy regulations, such as the ban on crude oil exports, need to be revisited and reviewed. How and when do you see that happening?

SECRETARY MONIZ: Well, first I have to clarify that I did not say that the restrictions on oil exports should be lifted. To clarify, the response to a question on the differences in how gas and oil exports are managed was simply to point out that many, many steps were taken in the energy world in the 1970s in response to the oil embargo; for example, the creation of the Department of Energy and the statement was obviously the energy world has changed, the energy world in the United States has changed and one might be reexamining a whole set of issues in the context of today's energy markets.

MR. BELKIND: What will be the focus of your first quadrennial review?

SECRETARY MONIZ: Well, as I stated, the focus is on infrastructure and specifically the transmission storage and distribution of energy. I think as we narrow that down further, I think we have seen, again just in the last months, really, two major focus areas. One is the electricity grid and how we develop a grid for the future, one that is more resilient, perhaps, than what we've had, one that allows the integration of large scale renewables, one that may provide new services to consumers. And in doing so, to address a whole variety of risks that we face. We have mentioned in our remarks the risks of extreme weather, but obviously cyber security is a major issue. In fact, a very, very significant fraction of the cyber attacks in this country are, in fact, on energy infrastructure.

Another are physical risks. Some of you may have seen in the newspapers recently some chronologies of some physical threats to our electricity infrastructure. Another risk is simply the interdependencies of our infrastructures as we saw in Sandy, for example, when the grid going down took out our access to transportation fuels further complicating recovery. So that's one major focus.

A second major focus will be around the infrastructure for distributing fuels. Again in the last weeks, we've seen the problems in New England with natural gas prices, we've seen the continuing concerns about propane distributions where, again, the issue was really getting the product from where it was to where we needed it and the infrastructure was not there.

MR. BELKIND: Have you been working on climate change issues with countries that produce a lot of carbon emissions, such as India? How do you think you or the United States can persuade countries who believe they need coal-based energy for their economy to grow that they should reboot their energy sources and usage?

SECRETARY MONIZ: Yes, we are carrying on extensive dialogues and cooperation with China and India, for example. China, of course, is by far the largest coal user, somewhere around four billion tons per year, which is maybe five times what the United States is using at the moment. Now with both China and India-- I'll be going to India, in fact, in about two weeks to carry on this dialogue. I was in China recently. And let's say in China, when I was there, all of the senior government officials focused immediately upon the bad air quality issue. So it's not just carbon emissions, it's also air quality. The day that I arrived, the PM 2.5 index in Beijing was roughly ten times that allowed here under EPA regulations.

So, they have a very strong motivation to address emissions across the board from coal. But I also want to emphasize that I would say in all the discussions we've had, their commitment to addressing carbon emissions as well is real. Clearly, they are balancing that against their economic growth. One of the things that we are doing is trying to increase our collaboration, for example, on the carbon, the dioxide capture utilization and sequestration technologies that are key for us and for them ultimately to be using coal in a low carbon world.

MR. BELKIND: I have a few questions from some of our international correspondents here, one from Russia. Recently, the United States completed a megaton to megawatt program with Russia. You had negotiations with your Russian counterparts. Do you have new programs and projects which you want to develop with Russia in the near future?

SECRETARY MONIZ: We did indeed complete the megatons to megawatts program. For those who are not familiar, perhaps a brief explanation is in order. Back starting in 1993, the United States and Russia went into a partnership in which 500 tons of high enriched uranium from the nuclear weapons program was down blended and became used as fuel in American civil nuclear power plants. It's not widely known that half of our nuclear power plants were operating on this former Russian weapons material for 20 years. And this was a program that was completed on schedule and probably the most successful nonproliferation program removing weapons material that we've had.

With Mr. Kirienko who heads the relevant organization in Russia, we are discussing a number of new initiatives and, in fact, have signed an agreement to have more collaboration. There's a very strong interest in collaborating on civilian nuclear power. There's a very strong interest in collaborating on some national security programs with our laboratories. And there's a very strong interest as well in collaborating on things like unconventional gas and oil production.

MR. BELKIND: A question from one of our Japanese colleagues. The U.S. Energy Department authorized exports of domestically produced LNG to Japan last week. It's the third approval for Japan. For the United States, what kind of interpretation would you put on those approvals? I guess are there more to come?

SECRETARY MONIZ: Well, I should clarify that we did indeed issue our sixth approval last week. One of those is final, five of them are still conditional awaiting environmental review at the Federal Energy Regulatory Commission before those become final.

I do want to clarify that the Department of Energy does not choose where these cargoes go. What we do is we make a public interest determination on export to countries with which we do not have a free trade agreement, that would include Japan. But certainly the question is certainly correct not surprisingly, that three of the six do have as major customers Japan and that included the Cameron license last week.

We are continuing with our announced procedure in terms of evaluating license applications for public interest in the order that has been posted since 2012 on our website.

MR. BELKIND: As you would expect, Mr. Secretary, lot of these cards are questions related to the Keystone pipeline. I think I could summarize all the questions I've read with one question. What is your opinion on that project and would you like to make a major announcement here today because the National Press Club is where news happens.

SECRETARY MONIZ: I will not be making news in this case. My opinion, my statement of fact is that, of course, Secretary Kerry, the Department of State, has responsibility for making this public interest determination and we look forward to his doing so. (Laughter)

MR. BELKIND: We will ask him to come tomorrow. Another question. Your predecessors-- but thank you for that answer-- your predecessor started a number of initiatives focused on streamlining federal agency reviews of electric transmission infrastructure projects. What are your plans in this area? Do you intend to keep it a high priority, and how much can DOE realistically accomplish?

SECRETARY MONIZ: Well, first it is the case that as suggested that our authorities are somewhat limited, although there certainly are some authorities that can be used particularly for moving large scale renewables across large distances. All I can say is that we are looking at several possibilities. We actually did, in fact-- was commissioned through the loan program, again, Peter's on this side, I think, through the loan program, there was a transmission line built and commissioned with loan support in Nevada recently to move renewables across the state. And now there are some applications that would across state lines or, in fact, international borders, particularly in New England, and those are under active consideration.

MR. BELKIND: Levels of methane, a greenhouse gas, have been rising since 2007, but news reporters say budget cuts reduce federal funding for monitoring greenhouse gases. So regulators know whether fracking is the cause of the rise in

methane levels? Do we have sufficient funding to stay on top of this potential problem with fracking?

SECRETARY MONIZ: Well, first let me say that we have a very active interagency methane emissions working group. It involves the Domestic Policy Council, Department of Energy, EPA, Department of Interior, and the USDA. There are methane issues in the agricultural side which we won't talk about here. So first of all, we are very active in that. And certainly one of the major issues, which I think is suggested here, is that we certainly need more data in terms of what are methane emissions, I want to emphasize not just from production wells, but end to end including the transmission and distribution systems for natural gas.

Now, there have been some recent publications. There was one that got a fair amount of attention in *Science* magazine last Thursday, for example, and the suggestion there, and I'm just repeating what they said. It was quite a respectable group of authors, that the total methane emissions are probably somewhat higher than EPA's current estimate, although certainly in the ball park. More than likely, the production wells are not the major focus of that. But this is where we need more data and then respond in a variety of ways.

I must say that there are others in the private sector that are doing terrific jobs as well. The Environmental Defense Fund has a major program, there's a BlueGreen Alliance of environmental groups and labor unions looking at the methane problem. And we will be convening these groups to really try to develop an action plan.

I would also say that when it comes to production wells and unconventional shale or oil production, that certainly the technologies for capturing the methane are there. They are being increasingly used, so-called green completions. Recently in North Dakota, the state government made a commitment to 95 percent capture of methane, much of which is being flared at the moment because of, once again, lack of infrastructure. So I think there's a lot of progress and over the next few years, I'm certainly hoping we'll see significantly reduced emissions.

MR. BELKIND: Mr. Secretary, I teach my students that sometimes a follow-up question is important and I know you'll understand with more cards coming in about Keystone. Leaving aside that Secretary Kerry and the State Department will have to make an ultimate decision, can you just give us some insight-- or let me rephrase. What is the insight of the Department of Energy on the Keystone project at present?

SECRETARY MONIZ: Follow-up questions often lead to the same disappointment as the initial question. (Laughter) We are currently--

MR. BELKIND: I can't disappoint my students.

SECRETARY MONIZ: We are currently in a period in which the agencies, including the Department of Energy, are to make comments on the supplementary environmental impact statement.

MR. BELKIND: I was just thinking of an answer to the following question, but I appreciate-- this is what we do good at the National Press Club, we have good exchanges with our guests. And I'm so glad that you could come and that all the other cabinet members had to stay away today while you could come to the National Press Club. Where will the Department of Energy likely have the most impact on U.S. energy policy during your tenure as Energy Secretary?

SECRETARY MONIZ: Well, I might broaden it to energy technology and policy. Certainly, on the policy side, we've already mentioned the quadrennial energy review under development. I do want to emphasize that the quadrennial energy review is led out of the executive office of the President where they will convene agencies across the administration. The Department of Energy has a special role in terms of providing the executive secretariat and providing the analytical capacity to analyze many of these crosscutting issues.

The product of the first years' activity, as I said earlier, will be a set of recommendations for advancing energy infrastructure questions. But as we go to the next year and the next year, that will broaden out to include the supply side, the demand side, et cetera. So that will be a mechanism and an engine, I think, for driving administration-wide policies with strong analytical grounding.

On the technology side, we will continue, as I said, through the whole spectrum of programs from our efficiency and renewable programs, our nuclear programs, ARPA-E program and our loan program. We will keep pushing the envelope across the entire spectrum of research, development, demonstration and deployment.

Let me say that many of you are, I think, quite aware that the role of the government in research and development is generally quite accepted. Once one goes to the deployment end of the spectrum, there is more divergence of views as to the role of the federal government. I want to say that I think the need to accelerate the pace of change in response to our climate challenges, to me, makes it essential that we continue to do investments such as those I mentioned earlier in the loan program that get the first movers out there in the commercial market pushing the technology envelope so that the marketplace will eventually have the set of choices it needs for the various low carbon solutions that will be needed in different parts of our country and in different countries in the world.

So that is the way that we are looking at it, and we expect to make significant impacts in both of those realms.

MR. BELKIND: A question about solar power and I'll read it as I have it. Solar power is fast becoming as affordable as natural gas. Why is the Obama Administration

failing to give incentives for more investment in solar power infrastructure since it is more climate friendly?

SECRETARY MONIZ: Well, first of all we are providing major incentives for solar power and it's a big spectrum. I already mentioned the loan program for the first five utility scale photovoltaic plants. We also have five solar thermal plants, two of which are now operating, three are still under construction. But beyond that, we have a whole variety of mechanisms. We have a program called Sun Shot which has very explicit targets for lowering costs and what's important is that the programs are not only looking at, let's say, the core solar conversion technologies but are also looking at the soft costs. If you want to put a photovoltaic on your rooftop, for example, the soft costs can dominate the overall project costs. So we believe there's lots of room to reduce that.

I want to emphasize costs of solar and on shore wind and batteries and LEDs really have come down dramatically. And one of our messages is we should stop thinking, if we are thinking that, that somehow these technologies are always five or ten years away. We believe that these costs are now coming into the range where there are lots of marketplace opportunities, particularly under appropriate regulatory standards. So, we are pushing solar very hard and I'm saying, and I've said it many times, I personally am extremely bullish on solar. I believe we're going to see solar grow faster than almost any of the predictions that we've had.

But solar will be part of a system. It is obviously variable in its output, for one thing, at a minimum the sun is only out, on average, 12 hours a day. So that leads to integration either through grids, through combination with perhaps gas fired, through storage. And so these are all mechanisms that will allow solar to play a role at a large scale.

MR. BELKIND: And from solar we go nuclear. There are a combination of reasons why more utilities aren't building nuclear. The NRC is reviewing the waste policy, natural gas prices are cheap, et cetera. But utilities including Georgia Power, still say they want to keep nuclear on the table as an option. Will the DOE consider issuing loan guarantees again as an incentive to build? Will they do this to kick start a program for small module nuclear reactors?

SECRETARY MONIZ: As I said earlier, we still have very significant amounts of loan authority for both for advanced vehicles and in another program for, let's call it, all of the above. As we go forward, we are developing plans for all of the above. We will be looking at these options across the board. That certainly can include nuclear and it certainly can include small modular reactors in which we currently have two commitments to advance two rather different designs of small modular reactors to, again, first mover status in roughly a decade.

MR. BELKIND: This is sort of a summary question. Given the fact that the market has been making choices, most of which are beneficial to the economy, why do we need a federal energy policy?

SECRETARY MONIZ: Good question. Let me first give a postscript, actually, to the last question on nuclear. Because in the question, in addition to the nuclear power plants, the nuclear waste issue was also mentioned. And let me just kind of repeat where we are on that. First of all, we and I continue to think that the Yucca Mountain project is, frankly, unworkable and that we need to pursue the recommendations made in the Blue Ribbon Commission that the President and Secretary Chu put together a few years ago which I happened to serve on.

The first important point there is that we believe only a consent based approach will be ultimately successful. And secondly, we believe that, as the commission recommended, that we need to pursue repositories in parallel with storage facilities, long-term storage facilities, sometimes called interim storage facilities. And there, the administration has proposed, and a bipartisan group in the Senate, has also advanced the concept that what we should be doing is promptly going to a pilot storage facility that would at least take the spent fuel from the reactors that have been shut down and kind of free up those sites and consolidate the fuel. So that's what we're thinking there.

Now, back to the current question on a national energy policy. What I would say is take the subject of the quadrennial energy review that I mentioned already for this first year. Infrastructure clearly ultimately is in the private sector's hands. But we have tremendous public interest and public needs for this. So for example, we will be carrying out at the department, as part of this review, a whole set of fuel resiliency studies that are regional in nature. The fuel challenges that we have seen are very different in different parts of the country. What that will lead to in terms of policy, will it require some government sponsored installations? Will it require some suggestions of legislation? Will it require our working with the states in terms of their regulatory structures to encourage that we are moving coherently towards the kind of energy infrastructure that will move electricity, that will move fuels to people when they need them under normal conditions and when they need them under abnormal conditions.

MR. BELKIND: Thank you, Mr. Secretary. We have two minutes left and I will talk faster. But seriously, I'd just like to remind everybody that our next event, our next speakers event, will be next Monday, February 24th, when we will have Buck McKeon, Republican from California, who is Chair of the House Armed Services Committee. Second, I'd like to present our guest speaker today, and I must say didn't he do well with answering such a wide range of questions? We thank you so much. (Applause)

And I want to present you with the traditional National Press Club mug. I don't know what type of high energy drinks you use, but I'm sure they can fit in there.

SECRETARY MONIZ: Thank you.

MR. BELKIND: It's my first one, I'm going to go over by 30 seconds just to ask a final question. The *Economist* wrote this week about the United States becoming the world's new petro state. And it focused, it had an image of a smiling Barack Obama in

Arab headdress which I don't think we would have dreamed of seeing some years ago. But do you agree with the *Economist* statement, that the United States is heading towards being the world's new petrol state? And you can take an extra 30 seconds. Thank you.

SECRETARY MONIZ: Should I answer?

MR. BELKIND: Please answer.

SECRETARY MONIZ: Well, first of all--

MR. BELKIND: Everybody here will listen.

SECRETARY MONIZ: It depends how we define petro state. I certainly don't want to imply a resource curse, for example. But on the other hand, the International Energy Agency in Paris has predicted that the United States will become the world's largest gas producer and oil producer in this decade. We are certainly already the largest combined BTU producer in terms of oil and gas. So that's very real and we've already discussed some of the economic implications that we are seeing and we will see going forward.

MR. BELKIND: Thank you so much, Secretary Moniz. And thank you all for coming. This has been a memorable first luncheon for me, and I hope you will come back for many more starting with next Monday. We are adjourned. (Sounds gavel.)

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