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Quadrennial Energy Review 08-08-2014

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UNITED STATES DEPARTMENT OF ENERGY

QUADRENNIAL ENERGY REVIEW

PUBLIC STAKEHOLDER MEETING

Friday, August 8, 2014

University of Illinois-Chicago
Student Center East-Illinois B Room
750 South Halsted Street
Chicago, Illinois

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1 UNITED STATES DEPARTMENT OF ENERGY

2 QUADRENNIAL ENERGY REVIEW

3 PUBLIC STAKEHOLDER MEETING

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Chicago, Illinois

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Friday, August 8, 2014

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The following pages constitute the

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proceedings held in the above-captioned matter at

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the University of Illinois-Chicago, Student Center

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East-Illinois B Room, 750 South Halsted Street,

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Chicago, Illinois beginning at approximately 8:30

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a.m. with Dr. Frederick Hansen as Moderator.

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1 A P P E A R A N C E S

2 FREDERICK HANSEN, Ph.D., Mediator

3 US Department of Energy:

4 MELANIE KENDERDINE
5 WILLIAM F. HEDERMAN
6 JOHN RICHARDS

7 Introductory Speakers:

8 RAHM EMANUEL, City of Chicago Mayor
9 JO-ELLEN DARCY, Assistant Secretary of the
10 Army

11 (Civil Works)

12 JOHN HOLDREN, Director, President's Office of
13 Science and Technology Policy
14 ANTHONY FOXX, Secretary of Transportation
15 ERNEST MONIZ, Secretary of Energy

16 Panel 1:

17 ERNIE PERRY, Ph.D., MAFC
18 HENRI BOULET, LA-1 Coalition
19 WAYNE ECKERLE, Ph.D., Cummins, Inc.
20 CHRIS SMITH, AASHTO
21 CASEY DINGES, ASCE

22 Panel 2:

SEAN CRAIG, Dairyland Power Cooperative
JOHN GRAY, AAR
DAVE WANNER, WPS
REBECKAH SCHEINFELD, Chicago DOT
JOHN BIRGE, Ph.D., University of Chicago
Booth School of Business

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1 A P P E A R A N C E S (Cont'd.)

2 Panel 3:

3 MARTY HETTEL, AEP River Operations
4 MATT WOODRUFF, Kirby Corporation
5 KEVIN SCHOESEN, Illinois DOT
6 MICHAEL FORDE, Illinois International Port

7 District

8 CARL BENTZEL, DCI Group

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

2 DR. HANSEN: Good morning. I'd like to
3 officially call this meeting to order. My name is
4 Fred Hansen; I'll be the moderator for today. I'd
5 like to begin with a prepared statement.

6 Pursuant to the Federal Advisory
7 Committee Act, the purpose of today's meeting is
8 to ask for your input or your organization's input
9 regarding the multimodal infrastructure, and
10 provide a forum for the exchange of information.
11 To that end, it would be most helpful to us for
12 you to provide these recommendations and
13 information based on your personal experience,
14 your individual advice, information or facts
15 regarding these topics. The object of the session
16 is not to obtain any group position or consensus;
17 rather, the US Department of Energy is seeking as
18 many recommendations as possible from all
19 individuals at this meeting.

20 It is now my pleasure to introduce
21 Melanie Kenderdine. She is Senior Advisor to the
22 Secretary of Energy, and Director for the DOE

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1 Office of Energy Policy and Systems Analysis. In
2 July of this year, Ms. Kenderdine was named one of
3 the top five women in Washington shaping energy
4 policy by the National Advisor. Ms. Kenderdine?

5 MS. KENDERDINE: Actually, National
6 Journal. Thank you all for coming today. And we
7 are seeking, as noted, input into the QER. We are
8 going across the country. My office is organizing
9 these meetings. I extend a special thank you to
10 the staff; they've done a great job. They are
11 very focused on getting both geographic and
12 sectoral input into the quadrennial energy review.
13 I'm not going to say anything about that, the
14 Secretary is going to talk about that, excuse me,
15 Secretary Moniz, we have two Secretaries here.
16 Secretary Moniz will talk about the QER in a
17 minute as will Dr. Holdren.

18 It's my pleasure today to introduce you
19 to Rahm Emanuel, the 55th Mayor of Chicago among
20 many things. You can read his bio in your
21 packets, but he is focused on education and
22 infrastructure investment and rail safety. I

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1 think he's going to say a little bit about rail
2 safety. These are a couple of topics,
3 infrastructure and rail safety, that we're going
4 to focus on today.

5 I have had personal experience with Rahm
6 Emanuel. We are both members of the Clinton
7 administration diaspora. He became the Mayor of
8 Chicago and I am introducing him, but I did meet
9 with him. I worked for the Gas Technology
10 Institute up the street here in Illinois. I
11 started my pitch, he said what is the bottom line,
12 get to the bottom line. And the bottom line was I
13 was seeking support for unconventional oil and gas
14 research money. He gave his support to that, and
15 so I think we can give him partial credit for the
16 oil shale gas development that we're seeing here
17 in the country today. And he is helping manage
18 some of the problems that we are seeing as a
19 result of that dramatic increase in production.

20 He was true to form in the meeting I had
21 with him, and I'm going to quote his own words and
22 they were precisely what he said to me, "Put your

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1 points on the board. Show people you can govern
2 and deliver on what you said you are going to
3 deliver on." And so, ladies and gentlemen, I'd
4 like to introduce you to Mayor Rahm Emanuel.

5 (Applause.)

6 MAYOR EMANUEL: I don't know about the
7 rest of you, when she says I'm going to quote him
8 directly I took a deep breath. I was like,
9 Melanie, there's cameras, don't, yes, this is a
10 family friendly conference, please, don't do that
11 to me.

12 First of all, I want to thank everybody
13 for being here. I want to thank both Secretary
14 Foxx, all the Secretaries, Secretary of Energy
15 Moniz here, also Jo-Ellen Darcy from the Army. I
16 can't think of a better time and place to have
17 this meeting. I always describe Chicago as the
18 inland port of America. If it runs on runways,
19 rails or roads, it comes in and out of Chicago,
20 and based on weather sometimes we just don't let
21 it out of Chicago, but it definitely comes in
22 here.

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1 And we are the transportation hub of
2 America and the intermodal capacity that is both
3 an advantage but it also means that when it comes
4 to national policy we have a direct stake in
5 what's decided. It actually impacts the quality
6 of life we have in our neighborhoods and
7 communities throughout the City of Chicago. And
8 by way of context, on any given day, there's
9 around 500 freight trains that come through the
10 City of Chicago. I joke sometimes it takes three
11 days to get a freight train from New York to
12 Chicago, three days to go from Chicago to L.A.,
13 and three days to go from the northwest side and
14 the southwest side through Chicago.

15 But that said, we have a direct stake in
16 this conference, and a direct stake in the policy
17 recommendations because where you see that rail
18 through the city and when it's 500 railcars coming
19 through, not all of it carrying hazardous
20 material, but a lot of it now because of change is
21 carrying oil, gas and other types of materials.
22 And so, what's happening on this discussion,

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1 what's happening with this conference, directly
2 impacts the communities' first responders and how
3 we actually develop.

4 I do want to call out Secretary Foxx for
5 his report the other day and recommendations for
6 the industry as a down payment. Simply said, we
7 have actually a new energy and new transportation
8 context happening in the country right now. We're
9 in the early stages, first year of that process.
10 It calls out, therefore, for a refreshed look at
11 the policy as the Secretary did just the other
12 day.

13 Now, I have been a long-time advocate
14 since that change. And I do want to say one
15 thing, Melanie, I do believe in the research and
16 development, all the economic and other informed
17 policy and national security advantages with the
18 energy freedom that's emerged. But that doesn't
19 mean you take a backseat as it relates to the
20 investments and changing policy that if it's going
21 to change the context, what other things do we
22 have to do to stay at par and equal so everybody

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1 benefits and nobody gets hurt.

2 Now, I do think what happened in Quebec
3 is a wakeup call. I just told you that there's
4 500 trains around on a daily basis, comes in and
5 out of the City of Chicago, our neighborhoods, our
6 communities, in that area. Now, as I said earlier
7 as we were talking to both the Secretaries and
8 going over data, this is not a hard number. But
9 those rail tracks, 430 primary schools within a
10 half mile, 90 high schools within a half mile, 30
11 colleges and universities within a half mile.
12 We're on summer break, 300 parks and playgrounds
13 within a half mile.

14 If we do not do what we need to do as
15 those in public office, allow the industries to
16 take the steps they need to from an advantage both
17 on environmental policy and on energy policy, but
18 then do the investments we need to do, because I
19 will tell you, God forbid something happens, the
20 first people that will be responding will be the
21 police and fire department of the City of Chicago.
22 The federal government will be there in about 48

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1 hours. Where are the resources to do the
2 training? We're a big city.

3 Obviously, this impacts also medium and
4 small cities. So, where are the resources to
5 train your first responders to deal with a
6 different type of context besides a high-rise
7 fire, an apartment fire, or a situation on the
8 street, given all the schools and parks and
9 universities I just mentioned? Given that the
10 rail, both cargo intersects here in the City of
11 Chicago with commuter rail, I am a firm believer
12 and I just want to stress this, there should be a
13 fee that allows the setup of pool of dollars to
14 both train the police and fire and first
15 responders of the communities that are directly
16 impacted, and also to upgrade the infrastructure
17 from a security standpoint to ensure that you have
18 a modernized rail system that lowers the threat of
19 the rail that is carrying this material.

20 What Secretary Foxx recommended just
21 about a month ago I strongly support, not as the
22 end but as the beginning of a process to begin to

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1 make sure that on a policy level, that we are
2 doing everything we need to, to stay up with where
3 the industry is going from both energy and
4 transportation standpoint. And it's essential for
5 our communities, our neighborhoods and our
6 families that live near this increasing rail
7 traffic of material.

8 So, I want to welcome all the
9 participants in the conference, welcome everybody
10 that's here. I think this is a fitting time. I
11 can say this as a mayor who has participated with
12 other mayors, big and small, this is an issue
13 pressing across the country for mayors. And the
14 report coming out of here as we do the quadrennial
15 review is not one to sit on the shelf and gather
16 dust but is a call to action based on the
17 recommendations to help our communities not become
18 as vulnerable as they are today to what's
19 happening in their own backyard.

20 And I want to thank again the conference
21 being here. And in conjunction with that, just as
22 by way, whether it's oil and gas carried on rail,

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1 we also today as a city announced a cease and
2 desist order to those that are operating storage
3 facilities on the southeast side of the City of
4 Chicago not in compliance with the protections
5 that we have for every child and every community
6 in the City of Chicago. And again, it's part and
7 parcel of the strategy to make sure that our
8 regulations and our oversight as it relates to
9 public health and public safety is consistent with
10 where the industry and the economy are going and
11 that our communities are not made vulnerable to
12 changes going on in the economy overall.

13 Again, thank you for this time and thank
14 you for having the conference here.

15 (Applause.)

16 MS. KENDERDINE: Thank you, Mr. Mayor.
17 I worked at the Department of Energy the entire
18 eight years of the Clinton administration doing
19 fundamentally what I'm doing now, and never
20 thought, when I came back into the department,
21 that I would be so focused on oil transport by
22 rail and oil transport by barge. And the energy

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1 space has changed so dramatically just over the
2 last few years that it is a very, very different
3 infrastructure that we are looking at today. And
4 part of what we are doing in the QER is working to
5 address the precise issues that you raised, Mayor
6 Emanuel.

7 And the next person I'm going to
8 introduce is Assistant Secretary Jo-Ellen Darcy.
9 She is the Assistant Secretary of the Army for
10 Civil Works, Corps of Engineers. And Mayor
11 Emanuel talked largely about rail. The Corps of
12 Engineers is responsible for inland waterways.
13 When we look at all of these energy
14 infrastructures, most of them are in the hands of
15 the private sector. The inland waterways actually
16 are a significant federal responsibility, and so
17 we are very interested in hearing from the Corps
18 of Engineers and I think they need a lot of
19 support and help on modernizing those inland
20 waterways with the dramatic increases in energy
21 being transported by barge, particularly oil.

22 And so, Jo-Ellen comes to the Department

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1 of Defense and the Corps of Engineers from Capitol
2 Hill where she was the senior environmental
3 advisor to the Senate Finance Committee and had
4 many, many positions on Hill prior to that doing
5 significant energy and environmental work and
6 policy work. So, Jo-Ellen Darcy. Thank you.

7 (Applause.)

8 ASST. SECRETARY DARCY: Thank you,
9 Melanie. And thanks, everybody, for inviting me
10 to be part of today's quadrennial session. This
11 is the first time I've been able to participate,
12 so I'm looking forward to that.

13 And I also want to emphasize one thing
14 that the Mayor talked about, rails and runways and
15 roads. And Secretary Foxx and I always talk about
16 those three R's, but I'm here to talk about the
17 fourth R which is rivers. So, we want that to be
18 part of any conversation about transportation and
19 the future of this infrastructure because it's
20 incredibly important to the vitality of this
21 economy in this country.

22 A little bit about the Corps of

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1 Engineers. We're responsible for the development
2 as well as the protection and restoration of our
3 nation's water resources, including commercial
4 navigation as well as flood risk management,
5 environmental restoration. We provide
6 hydroelectric power, recreation, as well as
7 municipal and industrial water supply. Also, in
8 addition to that, the Civil Works Program has an
9 important regulatory mission. The Corps is
10 responsible for permitting construction in all of
11 the navigable waters and as well as the
12 disposition of dredged and fill materials into the
13 waters of the United States including all of our
14 wetlands.

15 Together with some of the other federal
16 agencies, we are working to improve the
17 performance of our agency and others on the
18 federal permitting and review of our
19 infrastructure projects. As part of this work in
20 support of President Obama's executive order on
21 infrastructure which he issued on March of 2012,
22 the Army Corps of Engineers is currently listing

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1 eight projects on what's called the President's
2 Dashboard for increased permitting synchronization
3 as well as delivery to our customers. We've
4 completed six of those eight projects. One of
5 them is the East Saint Louis levies here in
6 Illinois as well as projects around the country
7 including hydroelectric projects.

8 We've also participated in interagency
9 efforts to develop an implementation plan for
10 President Obama's memo for modernizing our
11 infrastructure permitting, and that was released
12 in May of this year. And one important component
13 of this effort has been advanced through a
14 partnership with the Department of Transportation
15 as well as the Coast Guard and the Corps of
16 Engineers. And what we're doing is looking at all
17 of the requirements for NEPA under federal
18 environmental law, and we're trying to be more
19 efficient with our customers so we're trying to
20 synchronize the requirements for the Corps of
21 Engineers, for the Coast Guard, as well as
22 transportation and permitting future projects,

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1 especially our bridge projects.

2 And we collaborated with DOT in New
3 York-New Jersey Harbor, and a couple of months ago
4 the President came to see the progress that was
5 made because of this collaboration at the Tappan
6 Zee Bridge because we're doing work on the Tappan
7 Zee Bridge in coordination with the deepening of
8 the New York-New Jersey Harbor. So, that effort
9 is an example of how the President's initiative on
10 permitting is working.

11 The Inland Maritime Transportation
12 System of this country, as you all know, has a
13 vital role in our economy. It enables the
14 movement of over 565 million tons of commodities
15 which is about \$180 billion worth of money. The
16 Corps of Engineers is responsible for operating
17 and maintaining about 12,000 miles of inland and
18 coastal waterways. And we've always played a
19 major role in our nation's marine transportation
20 system as well as managing all those water
21 resources.

22 About 57 percent of the tonnage that's

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1 moved on the water is coal and coke and petroleum
2 products which fuel our country. And these
3 commodities' movements are often for hundreds of
4 miles from their origin to their destination, and
5 many of them have to traverse over 20 different
6 lock sites on the inland maritime system which are
7 owned and operated by the Army Corps of Engineers.

8 Transporting these products, as you
9 know, is much less expensive than land or air-
10 based transportation. A gallon of fuel for inland
11 towing can carry a ton of cargo 576 miles. That
12 same gallon of fuel on rail would carry 1 ton 413
13 miles. And if you put it on a truck, that same
14 fuel will take that ton only 155 miles. So,
15 keeping the traffic on our inland waterway system
16 efficient and deliverable is incredibly important
17 not only to the economy but also to our energy
18 consumption.

19 In 2010, the Corps of Engineers, for the
20 first time, completed what we call our operational
21 assessment. We looked at all of the assets that
22 are associated with the inland maritime system

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1 that we own and operate. We looked at 160,000
2 different components on this system and, for the
3 first time, we now have a handle on and we know
4 the condition of all of those components. And
5 about two-thirds of them we've determined to be
6 mission critical, and what that means is that a
7 failure of these components would adversely impact
8 our ability to move commercial navigation traffic
9 through the locks in order to maintain our
10 navigation pool and to keep our dams operating as
11 well.

12 So, despite the fact that about 60
13 percent of our lock chambers on the inland
14 maritime system are about 50 years old, a large
15 percentage of our mission critical components show
16 us that this is just basic wear and tear. But,
17 however, we have to continue to invest funds for
18 maintenance of these components because, as I
19 said, any failure of those components will impact
20 every transportation system because it is a
21 connected system throughout the inland waterways
22 system.

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1 And the President has determined that
2 this is a critical component, and I think part of
3 that is demonstrated by his initiation of a ports
4 task force that I serve on with other members of
5 the Cabinet in order to determine what we should
6 look for to the future as far as having a port
7 strategy for the nation. We have to look at not
8 only our inland navigation system but the
9 expansion of the Panama Canal which is going to
10 bring larger ships into our ports, and how we are
11 going to be able to be competitive worldwide with
12 those expansions. The President's task force
13 initiative on ports hopefully will have some
14 recommendations this year, but also by the value
15 of the amount of product that's shipped on our
16 inland waterways, about \$1.4 trillion moved
17 through our core constructed dams and locks in
18 2010, so that's a great deal of economy that we
19 need to be able to ensure is going to be there in
20 the future.

21 With all of the transportation issues,
22 we also need to continue to monitor and improve

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1 our environmental impacts on our waterways. We,
2 in the Corps of Engineers, again as part of
3 President Obama's sustainability initiative, have
4 set goals for ourselves to reduce our energy
5 consumption. What we have done is we have made a
6 commitment to increase our renewable electricity
7 consumption to 20 percent of our agency's total
8 energy consumption, and also to reduce our
9 greenhouse gas emissions by 23 percent, all by
10 2020. These targets address greenhouse gas
11 emissions for our daily operations at our core
12 facilities as well as our vehicles and our
13 vehicles.

14 The Corps of Engineers also, you may or
15 may not know, not only are we the largest provider
16 of outdoor water-based recreation in the country
17 with 370 million visitors a year, but we are also
18 the largest operator of hydroelectric power plants
19 in the US. We have 75 plants with a total install
20 capacity of over 20,000 megawatts, and we produce
21 about 100 million kilowatt hours a year. This is
22 nearly a third of this country's total hydropower

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1 output and it's enough energy to serve about 10
2 million households, or roughly ten cities the size
3 of Seattle. So, we are a great contributor to
4 this. And the greatest benefit from this
5 hydropower program of course not only is the
6 abundant low-cost energy for the products, but
7 also we are operating them within, so we are
8 immune from the price increases from fossil fuels.

9 We also do part of this operation in
10 collaboration with both the Department of Energy
11 and a lot of our local sponsors. And because of
12 the advantage of this hydropower source, we're
13 going to continue to play an important role in
14 meeting the energy needs in the years to come.
15 We've had, part of I think in looking forward, I
16 mentioned earlier the collaboration with both the
17 Department of Transportation and the Coast Guard,
18 and I think those kinds of efforts are going to
19 yield great results in the future because we're
20 finding that not only in synchronizing and
21 streamlining our permitting process are we getting
22 projects underway earlier which is always cost

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1 effective, but we are also looking at greener ways
2 in order to do that as well.

3 So, I'm interested in hearing what these
4 quadrennial review meetings will produce. I know
5 Melanie has said that a lot has been learned from
6 them, and with the 15 going on around the country,
7 I think that's going to be a great resource for us
8 as policy makers to help educate us for the future
9 of what it is we need to do in order to be
10 sustainable, not only economy but also energy-
11 wise. So, I thank you for having me here today
12 and I love being in Chicago. Thank you.

13 (Applause.)

14 MS. KENDERDINE: Thank you. I love
15 being in Chicago, too. It's now my pleasure to
16 introduce you to Dr. John Holdren. He is the
17 Assistant to the President for Science and
18 Technology. He's the President's science advisor.
19 He is the Director of the Office of Science and
20 Technology Policy and the co-chair of the
21 President's Council of Advisors on Science and
22 Technology (PCAST). He is a world class

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1 scientist, was on the faculty at Harvard and
2 Berkeley.

3 Importantly, in his role as co-chair of
4 PCAST, in November 2010, he and then Professor
5 Moniz worked on a study that recommended that the
6 federal government do a quadrennial energy review
7 and with an emphasis on making policy
8 recommendations that were rigorously developed and
9 were based on sound data and information. And
10 based on that recommendation, the President issued
11 a Presidential Memorandum this year. And in that
12 memorandum, this is a White House-led process; Dr.
13 Holdren is co-chair of the task force on the
14 quadrennial energy review along with Dan Utech
15 with the Domestic Policy Council.

16 Dr. Holdren has been an innovator, an
17 instigator, and an inspiration for the QER.
18 Coming over from the airport last night, we
19 dropped Dr. Holdren off at his hotel and went on
20 to ours, and I said to Secretary Moniz, what an
21 incredible supporter he has been of this
22 compressed but important effort. And so, we

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1 appreciate all he has done including being the
2 inspiration for this. Let me introduce you to Dr.
3 Holdren here, thank you.

4 (Applause.)

5 DR. HOLDREN: Well, thank you very much,
6 Melanie. And let me start by adding my welcome to
7 those you've already heard to this eighth regional
8 stakeholder meeting in the quadrennial energy
9 review. And I also want to convey greetings from
10 President Obama who I can assure you is following
11 this process very closely. And I want to thank
12 all of my colleagues up here on the dais and
13 particularly Mayor Rahm Emanuel for making time to
14 be with us this morning.

15 I'm going to step back from the
16 specifics offered by Assistant Secretary Darcy and
17 say a few words from the 30,000 foot view of the
18 quadrennial energy review. President Obama's
19 energy vision is one where affordable, clean and
20 secure energy contributes to a very wide range of
21 national goals. One set of those goals of course
22 involves economic growth, competitiveness and job

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1 creation. Another one involves protecting our
2 environment, and perhaps most challenging within
3 that space, protecting the global climate. And
4 another of course is contributing to US national
5 and homeland security.

6 Achieving that vision and those goals
7 requires a comprehensive and an integrated energy
8 strategy, and that's what the QER is designed to
9 help achieve. The QER process is built in fact on
10 three pillars. One is strong technical analysis
11 led by the group in the Department of Energy, led
12 by Melanie Kenderdine. A second pillar is strong
13 contributions and interactions among the many
14 federal agencies that also have stakes and
15 responsibilities in the energy domain even beyond
16 those of the Department of Energy. And as Melanie
17 has mentioned, that entails an interagency process
18 that I co-lead from the White House. And in fact,
19 you can get the multi-agency character of the QER
20 just looking at the folks up here on the dais
21 where we have the Secretary of Transportation, the
22 Secretary of Energy, the head of the Army Corps of

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1 Engineers, along with the Mayor of Chicago. The
2 third pillar is active engagement of external
3 stakeholders, and that's what this series of
4 regional stakeholder meetings is all about.

5 Those of us who ultimately will have the
6 responsibility of writing up the quadrennial
7 energy review for the President are going to learn
8 a lot from the presentations that are going to
9 follow this morning. Some of us are going to have
10 to leave early and will not hear those
11 presentations live, but they are being recorded,
12 and I can assure you that we'll give them careful
13 attention going forward. We've learned a lot from
14 the previous stakeholder sessions in this series
15 and I'm sure we're going to learn a lot from this
16 one.

17 The focus, as you've already heard, for
18 the QER in its first year is the nation's
19 infrastructure for transporting, transmitting,
20 storing and delivering energy. And I do want to
21 stress that quadrennial does not mean that
22 something happens only once every four years. The

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1 QER is structured to have what we call a moving
2 spotlight approach where we look at a different
3 set of issues each year, and the spotlight for the
4 first year is this set of infrastructure issues.

5 That infrastructure is increasingly
6 being subjected to rapid changes, new stresses,
7 new demands from a variety of forces. And the
8 first of those forces is the changing physical
9 flow of energy commodities in the United States.
10 Our transportation infrastructure has evolved in
11 part in response to past patterns of where we've
12 produced the raw materials for energy system and
13 where those materials have been consumed. And
14 those patterns and flows have been changing
15 rapidly in the last few years as the development
16 of new sources of energy and the introduction of
17 new energy technologies have shifted demands and
18 patterns of energy supply and transport.

19 Second major factor is that US
20 population growth and regional migration trends
21 have caused concurrent shifts in the shipment of
22 many non-energy goods by highway, rail, and

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1 waterways. The energy uses of our transportation
2 infrastructure have to compete with these other
3 demands for the same infrastructure. And the
4 third factor is the new set of demands and
5 challenges that are being placed on the
6 transportation system by our growing concerns
7 about global climate change. That includes not
8 only policies aimed at mitigating transportation's
9 greenhouse gas emissions and energy consumption,
10 it also includes policies and practices for
11 adapting the transportation system to changes in
12 patterns of temperature, patterns of
13 precipitation, flooding, storm surges, wind
14 loadings, that are already occurring and will
15 continue in the future as a result of global
16 climate change.

17 An overarching issue that adds
18 complexity to the whole domain is the diversity of
19 the array of decision makers and stakeholders who
20 have to deal with it. State transportation
21 planners, railroad folks, barge operators,
22 trucking firms, oil and gas producers, refineries,

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1 farmers, ethanol manufacturers, electric power
2 plant operators, industrial consumers,
3 environmental regulators are just some of the
4 constituencies that play important roles in this
5 domain. And while those diverse stakeholders
6 often act independently and sometimes have goals
7 that are in tension with each other, the impacts
8 of the individual decisions that they make are all
9 intertwined.

10 So, this is a big challenge. And given
11 this extraordinarily complex and extraordinarily
12 coupled nature of energy and transportation
13 systems, it's I think particularly important that
14 we take a clear look at where the most urgent
15 questions in each of the major modes of
16 transportation are. That is going to be the task
17 of the three panels today on highway
18 transportation, rail transportation, and
19 transportation along our national waterways and
20 coasts.

21 I am pleased that key members of the
22 agency and White House staff working on the QER

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1 are going to be able to learn first-hand today
2 from the distinguished experts covering these
3 topics. I look forward to the opportunity of
4 studying what these folks have to say in greater
5 detail and learning from it. And with that, let
6 me turn it back to Melanie.

7 (Applause.)

8 MS. KENDERDINE: Thank you so much,
9 John. Now, I'm going to introduce you to
10 Secretary Anthony Foxx. Secretary Foxx is the
11 17th US Secretary of Transportation. He was sworn
12 in on July 2nd, 2013. Prior to that, he was the
13 mayor of Charlotte, North Carolina where he spent
14 a lot of his time as mayor working on trains,
15 planes, and automobiles, according to his bio,
16 focused on light rail. He expanded the Charlotte
17 Douglas International Airport. I did not know
18 when I read you bio that that was the sixth
19 largest busiest airport in the country, maybe the
20 world. World, yes, bigger, yes, yes. And that's
21 what it said in the bio.

22 And before that, he was on the city

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1 council attorney, you can read his bio, and I
2 would say a couple of things. Our staffs have
3 been working very closely together, DOE and DOT.
4 Dr. Holdren mentioned the interagency nature of
5 the QER. There are enormous equities in all of
6 the agencies and energy and so we have been
7 working with his staff on rail safety, pipeline
8 issues, vehicle miles traveled, et cetera, et
9 cetera. All of these pieces are very important
10 for the final QER.

11 And then I would note one more thing.
12 This is of significant interest to frequent flyers
13 everywhere. Secretary Foxx persuaded the FAA to
14 ease restrictions on electronic devices on
15 airplanes. And that's really important to me. I
16 suspect it's important to a lot of people in the
17 room. Thank you, Secretary Foxx. And without
18 further ado, let's give a hand to Secretary Foxx.

19 (Applause.)

20 SECRETARY FOXX: Thank you, Melanie, and
21 good morning everyone. It is occasionally an
22 opportunity for me as the US Secretary of

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1 Transportation to deliver good news, and it was
2 indeed a good day for us when we were able to
3 allow you to turn your iPads and other things on
4 airplanes. It is equally part of my job to
5 sometimes be a bit of a wet blanket on what is
6 otherwise a very good story. And before I get
7 into the meat of what I have to say today, I do
8 want to recognize my colleague, Secretary Ernie
9 Moniz and his department for really doing such a
10 great job in standing up this quadrennial energy
11 review. And my thanks as well to Dr. Holdren who,
12 I think you've already gotten a glimpse of why all
13 of us within the administration stop and put our
14 pens down when he talks because he is someone who
15 comes with an incredible amount of knowledge and
16 insight on these issues, as well as Jo-Ellen Darcy
17 from the Army Corps of Engineers, and of course
18 Melanie.

19 One word about your mayor. I served as
20 a mayor with Mayor Emanuel. And he has given
21 voice on these issues for a lot of mayors who do
22 share concerns about the challenges of ensuring

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1 safety in the transmission of energy around this
2 country. And so, Mayor, I want to thank you so
3 much for your leadership on those issues as well.

4 Now, I don't think it's news to anyone
5 that the dramatic spike in domestic energy
6 production is a huge opportunity for the US. It
7 is in fact, in some corners, known as a game
8 changer in the US, clearly as a positive
9 development for our economy and for developing the
10 kind of energy independence Americans have longed
11 for for many, many years. But with this greater
12 production comes greater responsibilities. And we
13 have a responsibility to the City of Chicago, to
14 the State of Illinois, to the entire country to
15 ensure that as we ramp up production of energy in
16 new places, that we have a regime of safety that
17 is consistent with the standards that we have set
18 in this country for years.

19 Chicago, in fact, as the Mayor said, is
20 the freight hub of the country, placing this city
21 at the center of transporting this new energy.
22 And as it stands, there are capacity issues in

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1 that network that need to be addressed; in
2 addition to that, repairs and upgrades that need
3 to happen. And that's why, at DOT, we are
4 promoting a national freight plan, first of its
5 kind initiative to dramatically ramp up our
6 investment as a country in the ability of goods to
7 move from one place to another in this country.
8 That's really important because, as Dr. Holdren
9 has said, the sheer volume of freight moving in
10 this country, energy related and non-energy
11 related, is starting to create bottlenecks in the
12 system. And as we try to deal with some of the
13 safety issues on the energy side of that, that
14 creates complications if we don't have more
15 capacity.

16 And so, I want to put a little plug in
17 here for our administration's effort to do this
18 through the Grow America Act, our transportation
19 bill. That would dramatically increase and create
20 a national freight strategy, a national freight
21 plan, and the funding to implement that plan, \$10
22 billion over four years to do improvements to our

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1 rails, to our roads, to our ports, to our inland
2 ports and waterways, so that we can more
3 efficiently move freight around the country. And
4 as I've said, everything we do at USDOT, the
5 undercurrent of everything we do is safety.
6 That's our north star and it's something that all
7 of us want to work to ensure.

8 Now, in Chicago, you're seeing
9 significantly more crude and gas moving through
10 your network, and this energy is traveling in a
11 variety of ways by truck, by rail, by barge. And
12 again, as that increased movement of these
13 materials begins, we have to raise the bar on
14 safety. At DOT, we've taken more than two dozen
15 steps just over the last year to make sure that we
16 are improving the ways in which all of this
17 material moves through our country.

18 And just parenthetically, I took the
19 oath of office as US Secretary of Transportation
20 on July 2nd, 2013. Lac-Megantic happened on July
21 6th. So, I've been dealing with this issue and
22 the concerns around it virtually the entire time

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1 I've been Secretary of Transportation.

2 The domestic maritime industry is
3 building tank barges at record rates to move
4 energy products. And our administration, being a
5 strong supporter of the Jones Act which promotes a
6 strong US flag fleet and enhances safety, will
7 continue to work with the maritime industry to
8 ensure that the assets are in place to safely
9 transport crude oil and other products by barge.

10 But let me say this, the rail, the
11 increase in transport by rail has significantly
12 increased in just the last five or six years. In
13 fact, we've seen the biggest increase in the
14 trafficking of crude by transportation through
15 rail, and much of that has happened in the North
16 Dakota-Bakken region. We know through our ongoing
17 testing program called Operation Classification
18 that Bakken crude is on the high end of volatility
19 compared to other forms of crude oil. We also
20 know that production in the Bakken region has
21 skyrocketed.

22 And this is an alarming figure, more

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1 than 4,000 percent increase in rail carloads just
2 since 2008, 4,000 percent! And this is why we
3 recently issued a rulemaking proposal to improve
4 the safe transportation of large quantities of
5 flammable materials by rail, particularly crude
6 oil and ethanol. I want to just spend a brief
7 moment talking to you about the details of that
8 proposal.

9 Our rulemaking proposes to enhance tank
10 car standards. Specifically, it phases out the
11 use of older DOT 111 tank cars for shipments of
12 packing group 1, flammable liquids, including most
13 crude oil within two years. It also sets the
14 stage to improve design requirements for tank cars
15 built after October 1st of next year by proposing,
16 among other things, thicker, more puncture-
17 resistant shells, and other safety features like
18 enhanced braking and rollover protection.

19 We're proposing to require a higher
20 standard for classifying and testing mine gases
21 and liquids, including most crude oil. We are
22 also proposing new operational requirements for

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1 trains carrying 20 or more carloads of flammable
2 liquids like restricting speeds and doing risk
3 assessments of routes and notifying state
4 emergency response commissions to ensure first
5 responders in those states will be prepared to
6 respond in the event of an all train emergency.

7 Our proposal is now open for public
8 comment. And I've asked our stakeholders to
9 comment within the 60-day period. Sometimes in
10 these rulemakings, you've extended those periods
11 beyond 60 days. Our intention is not to extend
12 this comment period, so we're really hoping that
13 folks who have something to say about this will
14 respond within the 60-day period because we
15 realize the urgency of getting to a final rule.

16 Because this is an urgent issue, again
17 we're not going to extend the deadline. But let
18 me say again, I want to thank everyone for
19 participating in this QER meeting. As America
20 continues to go on the upward trajectory towards
21 energy independence and being the world leader in
22 energy production, I think all of us feel that we

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1 have a concomitant responsibility to ensure that
2 we're setting the world pace for safety in the
3 transportation of energy. Thank you very much.

4 (Applause.)

5 MS. KENDERDINE: Thank you, Secretary
6 Foxx. And I did work in the Clinton
7 administration at the Department of Energy for
8 eight years. Secretary Pena went from being the
9 Secretary of Transportation to being the Secretary
10 of Energy. I got to work with Secretary Pena as
11 well. I won't divulge, out of deference to the
12 two Secretaries at the table, I won't divulge what
13 Secretary Pena said about which job he liked
14 better, but he did certainly recognize talent when
15 he saw it.

16 Secretary Pena had worked with now
17 Secretary Moniz when Secretary Moniz was at the
18 White House in the Office of Science and
19 Technology Policy, sought him out and brought him
20 over to the Department of Energy. I think he'd
21 already gone back to MIT at that time, brought him
22 over to the Department of Energy as the

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1 Undersecretary at DOE. At that point in time,
2 there was only one undersecretary position, we now
3 have four. Secretary Moniz did an incredible job
4 then.

5 He, like Dr. Holdren, is a fabulous
6 scientist. He was on the faculty of MIT for 40
7 years. I've had the pleasure to work with him off
8 and on for 17 years and was with him at MIT for
9 six and a half years where we did very rigorous
10 studies, multiyear, multidisciplinary studies,
11 future of natural gas, future of coal, future of
12 nuclear power, et cetera, et cetera. He is very,
13 very committed to rigorous database policy
14 analysis and was on the PCAST group that
15 recommended we do a QER.

16 And so, he's pushing me off the stage.
17 He must have a lot of important things to say or
18 we have to leave. Go ahead.

19 SECRETARY MONIZ: Good, thank you,
20 Melanie. As John said, her office is really on
21 the point in terms of the analytical approach to
22 the QER, and it's a huge job and being done quite

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1 professionally. A lot has already been said about
2 why we're here, so I'll just try to be more
3 idiosyncratic in making a few points.

4 But first, I want to say it's great to
5 be back in Chicago where I was a couple of months
6 ago with the Mayor. And in that event in
7 particular, there were I would say three threads
8 of the discussion: clean energy, innovation where
9 we were able to support an incubator here for
10 energy technology, but also capacity building and
11 particular minority education. And those were
12 three threads that the Mayor has emphasized very
13 importantly.

14 I might also add that, as demonstrated
15 by Secretary Foxx today and by me a few months
16 ago, it's hard to get out of here without one less
17 check in the checkbook when we come to Chicago,
18 but doing a great job, which then again to Anthony
19 Foxx, a great colleague in the Cabinet. I might
20 say one of the reasons for that is bringing that
21 mayor's perspective. That brings a kind of
22 grounded truth about the problems we have to

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1 address. In fact, as we heard it from Rahm, how
2 the large issues we're discussing today do come
3 down to issues like safety in neighborhoods as
4 also emphasized by Anthony. And we're buddies
5 from everything from energy infrastructure to
6 jazz; we're fans, so it's really great.

7 Also, Jo-Ellen, thank you, it does
8 emphasize again the multi-agency aspect, but I
9 just can't emphasize enough the importance of our
10 collaboration with the military and especially the
11 Army Corps of Engineers in this case. She
12 mentioned hydro. Another example I would say is
13 the emphasis that we will be giving to, with the
14 Corps, looking at small hydro as an area where we
15 still have lots of opportunity to go forward.

16 And John Holdren, I'll just say that our
17 relationship goes back into the mists of time in
18 terms of our shared interest in energy and also
19 national security issues.

20 Let me just say a few words and
21 reemphasize some of the points made. First, in
22 particular, the revolution in gas and oil

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1 production in this country, we all know it's
2 remarkable. We are the biggest producer of oil
3 and gas. As the President said, it's not Russia,
4 it's not Saudi Arabia, it's the United States of
5 America now with our increase.

6 The geographical change in that
7 production with shale gas now essentially half of
8 our natural gas production, with shale oil
9 literally growing by over a million barrels a day
10 in one year is incredible, but that has produced,
11 has a large ripple effect. Again, just to
12 reemphasize, things like the Marcellus in
13 Pennsylvania in that region, the Bakken in North
14 Dakota in that region has changed things. We will
15 use the flows of fuels north to south, some west
16 to east. We have a lot of reversals of that.

17 And our infrastructure, just frankly,
18 hasn't caught up completely to that, and that's
19 why we're here today, especially here in Chicago,
20 geographically located between Pennsylvania and
21 North Dakota, a major transportation node. And
22 so, here, we need to hear what is happening in

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1 terms of challenges and what are the opportunities
2 to address this, not only here but this is a great
3 place to have this meeting.

4 I might just note, as an anecdote, that
5 the ripple effects of this US production, while we
6 will discuss them here in terms of energy
7 infrastructure, just this week the President
8 hosted really this historic US-Africa summit with
9 almost 50 heads of state from Africa. We hear, I
10 hear from say the Prime Minister of Algeria, for
11 example, gee, we've lost a market, our decrease of
12 imports is a decrease of their exports. And so,
13 they are having to look for new markets for where
14 their crude oil can go. So, this is a major, it's
15 a global effect from what we're doing, but
16 certainly we have this local issue if you like.
17 So, that's really one of the major points, this
18 question of the change and challenge to our
19 infrastructure.

20 I might add, we did an activity earlier
21 this year with our strategic petroleum reserve.
22 We had to, we put out five million barrels to test

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1 what would happen in an emergency precisely
2 because we lost some certainty in terms of which
3 way pipes would flow, how many maritime assets
4 would be available for distribution. That report
5 will soon be available, and I will just say that
6 we learned some lessons and we have some issues to
7 address going forward.

8 Another point. We have seen the
9 challenge in infrastructure. One not mentioned
10 today yet is the impacts of natural gas shortages.
11 Certainly in an analogous meeting in New England,
12 we heard about the challenges of getting gas
13 there. And last winter, when the polar vortex
14 came, natural gas prices were not the \$4 we hear
15 about, they went to \$100 roughly speaking in the
16 northeast. Infrastructure constraints.

17 And another one that was certainly very
18 evident in this part of the country, the propane
19 issues similarly with the polar vortex, and
20 factors coming together that we had not
21 anticipated frankly, such as the impact of a large
22 corn crop. What does that mean? That means a lot

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1 of propane for drying it. And so, this year, we
2 are certainly continuing our focus on that.

3 But really, that brings us to a very
4 important part of our quadrennial energy review is
5 a regional focus, as we believe that the energy
6 challenges including the infrastructure
7 challenges, it's not one size fits all. We have a
8 set of regionally based challenges, and that's why
9 it's so important for us to get out into the
10 country to these regions and get input from the
11 panels for sure, as John said, but also from the
12 public. And I want to emphasize, the input
13 opportunity is not just today. Hopefully, today
14 we will get that, but we will also stimulate
15 further thinking and we are open to input in
16 multimodal ways in terms of helping us with the
17 path forward.

18 Specifically, we will have in the QER a
19 set of regional fuel resiliency studies to look at
20 how we can best prepare for impacts that may come
21 from extreme weather, for example, which in fact
22 brings us back to a theme that John Holdren

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1 mentioned. And I would urge those of you who have
2 not seen it, to look at our recent administration
3 climate assessment report that really lays out the
4 scientific basis for why we need to respond to the
5 climate even as we respond to economic opportunity
6 and economic need and as we respond to our
7 security concerns.

8 The last point I'll mention is a very
9 important part. It's in the QER but it's a
10 broader issue as well. We have an outstanding
11 energy data organization, the Energy Information
12 Administration, but we know that as we look across
13 the administration, we still have a lot to do in
14 terms of gathering, understanding data. For
15 example, I will mention that if you look at the
16 Coast Guard and the Corps of Engineers, we may not
17 have complete convergence on things like some of
18 the environmental impacts of water transportation.
19 So, we're going to be working on that as well in
20 terms of making sure we get the best data and the
21 best opportunities to communicate the data to, for
22 example, governors and mayors who will need that

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1 in terms of preparing for various unplanned
2 eventualities.

3 So, that gives you a little bit of
4 flavor of what we're doing. And I'd like to now
5 turn it back so that we have at least a few
6 minutes for having some Q&A. Thank you.

7 (Applause.)

8 DR. HANSEN: Okay. Are there any
9 questions directed to any of our panelists? Yes,
10 sir.

11 MR. PERKINS: My name is Tucker Perkins,
12 and I do represent the propane industry so it's
13 always a pleasure to hear the Secretary speak to
14 propane. And we certainly believe that, as you
15 talk about environmental benefits of greenhouse
16 gases, that we can be a much bigger player in the
17 energy market.

18 My question to you is really a two-part
19 question. And first it's a complement. Certainly
20 earlier this year --

21 MAYOR EMANUEL: Spend some time on that
22 part. We like that. Expand it.

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1 SECRETARY MONIZ: Yes, expand that part.

2 MAYOR EMANUEL: Just feel like you're a
3 US Senator, go, let her rip.

4 MR. PERKINS: I wouldn't be up here.
5 But I do want to compliment the Secretary and
6 staff because certainly all of us in the propane
7 industry really appreciate your efforts and
8 staff's efforts to really, to address the issues
9 you just talked about from last winter. As we
10 look forward to next winter, we begin to see again
11 a very large potential corn crop, concern about --
12 again and really begin to worry about straining
13 the infrastructure, the exact infrastructure
14 problem that we have with pipelines.

15 So, my question is really this. As a
16 matter of really public safety and also to help
17 consumers prepare, our efforts have been to really
18 work with the consumers to see that they have a
19 stockpile of inventories, and then also that we
20 really replenish inventories throughout the
21 country. Do you tend to agree that that's the
22 right strategy for us? Or do you see other --

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1 SECRETARY MONIZ: Thank you. I have to
2 say, first of all, I think, you know, it's fair to
3 say that the propane, really a crisis last winter
4 I think taught a lot of people about the
5 importance of propane in our economy. Secondly,
6 thank you for the compliment. I want to say that
7 it should be administration-wide. For example, my
8 colleague here took actions in terms of some
9 waivers on the transport side.

10 The point you raised about preparing for
11 the winter is a critical one. Let me say that,
12 for example, today in the Midwest, we do have a
13 larger inventory than last year. We have had some
14 fairly rapid fills in the last few weeks, but
15 we're still below the five-year average. And as
16 you said, Secretary Vilsack has pointed out to me
17 directly that we may have a larger crop to come
18 this year. So, we need to prepare.

19 I think the educational approach that
20 you are talking about with the consumers is right
21 on, spot on. We should be now filling our tanks,
22 getting our inventories up. That's happening in

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1 the Conway hub, but I think it's all the way down
2 to the distribution chain and to the consumers as
3 well. So, I want to thank you for pushing that
4 kind of an education campaign.

5 We will want to work with you and your
6 colleagues this winter. And I'll finish by
7 saying; in fact, we are, at the EIA, they are for
8 example providing new web-based tools on
9 inventories, et cetera. They are also prepared,
10 watching carefully inventories, to communicate
11 directly with governors in particular in terms of
12 early alerts, we hope, for challenges.

13 So, let's keep working together.
14 Education, building up stocks is critical.

15 MR. PERKINS: Well, we certainly
16 appreciate, and you are correct, the Department of
17 Transportation has been wonderful for us, with
18 hours of service and really a host of wide ranging
19 alternatives.

20 But the second question really then is
21 do you see what's happening with us, the propane
22 industry, do you see parallels to that with other

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1 parts of the energy infrastructure?

2 SECRETARY MONIZ: Well, again the last
3 winter, as you well know, one of the factors was
4 in fact the inability to move product, in this
5 case, let's say from Texas where the big spread
6 developed between the two hubs. And that is
7 again, that is, yes, it's a common issue. I would
8 say the New England natural gas situation you
9 might say as well. It wasn't a question of not
10 having supply in the country; it was the inability
11 to move it when we needed to to the places that
12 had major need.

13 So, yes, this is, it's a more endemic
14 issue and that's why the QER is focused on
15 infrastructure this year. So, thank you.

16 MR. PERKINS: Thank you. We do
17 appreciate it and looking forward to working with
18 you in the next 12 months. Thank you.

19 DR. HANSEN: Okay. We have time for one
20 more question.

21 MR. BROCKSCHMIDT: Good morning. Ben
22 Brockschmidt with the Illinois Chamber of

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1 Commerce. This is mostly for Secretary Foxx and
2 Mayor Emanuel. But as we're talking about this
3 and I'm hearing all of you speak about,
4 particularly about Illinois being the nexus of
5 infrastructure, you know, how do you both see the
6 role of your state and local governments playing
7 into this national role? Because what I heard
8 from all of you today was this is really a
9 national opportunity, it's national growth, it's
10 jobs that come here. But how do you see that
11 relationship developing over time through public
12 mediums such as this and additional input?

13 SECRETARY FOXX: Well, you know, I
14 think, number one, part of what we're doing here
15 in this setting is opening up the conversation
16 about the need to address this issue in an
17 intentional way, looking at the field of play so
18 to speak, understanding that we have new pressures
19 and old constraints that we've got to work
20 through. And it's going to require everybody at
21 every level to be vigilant about this.

22 So, for instance, our highway system is

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1 basically a state system. We use federal money to
2 help pay for it but the states are making a lot of
3 the decisions about where the dollars go. And
4 when it comes to the transport of energy products
5 and the need for connections between states, we're
6 going to need states to be thinking about this
7 issue in the context of how they make decisions.

8 There's a lot of infrastructure that is
9 privately owned, a lot of the freight rail
10 networks around the country, a lot of the
11 pipelines around the country. And as much as you
12 would think that folks would be incentivized to
13 build the capacity for the future, you know, I'm
14 not sure the markets right now are incentivized in
15 that way. There's a lot of using existing
16 capacity and just trying to push as much as you
17 can through it. But eventually, as has been
18 pointed out before, you're going to start to see
19 bottlenecks and huge amounts of congestion occur
20 and the inability to get goods from one place to
21 another.

22 So, I think as we go through this

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1 process, part of what we're trying to tease out is
2 what's the right level set in the public realm,
3 what's the right set within the public realm at
4 the federal level versus the state and local, and
5 what's the right level set and risk analysis that
6 the private sector should be going through as we
7 work through these issues.

8 MAYOR EMANUEL: If it was a headline, it
9 would just be I agree. But here's the thing.
10 This energy revolution, as the Secretary said, has
11 a worldwide impact; but on the other hand, it has
12 a very local context. And it's a huge opportunity
13 on a host of levels, not just the production of
14 energy and the moving of energy which is the focus
15 here. You're going to see a manufacturing
16 renaissance because of the price of energy
17 dropping and America becoming competitive.

18 With that, both other opportunities open
19 up and other challenges. And we can't run away
20 from this challenge, and the bottleneck is just
21 one example at large of the challenge we have of
22 having not invested in our infrastructure over the

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1 years. It directly impacts I'd say the
2 Metropolitan Chicago area, Chicago is my concern,
3 because so much railroad, river, we're trying to
4 turn our river obviously into a recreational space
5 and not an industrial, that making it, we have to
6 make certain investments if it's going to be done
7 efficiently and done in a way that an urban
8 setting like Chicago does not experience either
9 downside but can participate in the upside of that
10 transportation and distribution.

11 And that means setting the set of
12 policies, and I want to echo one thing the
13 Secretary said, and that is, the private sector is
14 doing certain things, but without a partnership on
15 the public sector side, the incentives are not in
16 place to do it where every community can actually
17 participate in the opportunities. And I'm just
18 going to, I mean there is a downside which is we
19 have to have a fee, and I want to emphasize this,
20 national fee that allows you to invest in the
21 first responders, but most importantly, modernize
22 the infrastructure, diminish the threat. And that

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1 is a great secondary job creator and economic
2 opportunity from an efficiency standpoint. And by
3 setting a national fee, you're not pitting one
4 region against the other, and making the
5 investments where everybody can gain from it.

6 SECRETARY MONIZ: If I could just add
7 actually one other point, it's not directly in
8 today's meeting on infrastructure for multimodal
9 transportation, but going back to pipes if you
10 like and the issue of cities, one of the major
11 activities in administration right now which is
12 discussed at a different QER meeting is methane
13 emissions. And you've heard a lot about methane
14 emissions from production, Bakken, et cetera. But
15 there's a huge issue around pipes, transportation
16 pipes, but also distribution pipes in urban
17 environments.

18 And that's where what we can do is to
19 facilitate what are ultimately, what the governors
20 and mayors must do. And there's a lot of
21 creativity going into this. But just to emphasize
22 the Mayor's last point, it's interesting how

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1 interests converge. When we have held
2 roundtables, five roundtables on this issue
3 including a recent one in the White House, and I
4 might say John Holdren is central to this and in
5 particular has responsibility for the data side,
6 but we have environmental groups intensely
7 interested for reducing greenhouse gas emissions.
8 We have labor intensely interested because we need
9 to rebuild this infrastructure. We have mayors
10 interested, there's a safety issue as we have
11 regrettably seen in some cases. We have industry
12 interest because they've got to move product. And
13 of course, we have regulator interest, how is the
14 funding going to be captured.

15 So, multiple interests converge, and
16 this is the chance to rebuild our infrastructure.
17 I've got to tell you, especially I come from
18 Boston, I cannot tell you how many century scale
19 cast iron pipes we have that need to be replaced.
20 So, it's really a great opportunity for us to
21 come, and the point about needing this
22 infrastructure investment is one the Mayor has

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1 emphasized, it's one the President has pushed
2 very, very hard.

3 DR. HANSEN: Okay. I'd like you to join
4 me in expressing our appreciation to this panel.

5 (Applause.)

6 DR. HANSEN: Okay. I'd like to invite
7 the panel, the first panel members to come up.
8 And the rest of you, could you bear with us as
9 we're sort of switching out here.

10 I just want to take this time to mention
11 that the views expressed by the panel members are
12 their own. They are not the views of the
13 Department of Energy. Department of Energy is
14 here to collect views and to listen.

15 (Pause.)

16 MR. HEDERMAN: Okay. I think we're
17 ready to move on to this panel. And despite the
18 principles of separation of church and state, it
19 looks like you're sitting in church here, so feel
20 free to move up a little bit.

21 This panel is designed to start to take
22 this approach that the Mayor mentioned of public-

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1 private partnership. And we have a distinguished
2 group including persons involved in coalitions,
3 both in the Midwest and in the Gulf Coast area.
4 We've got a manufacturer who supplies goods to the
5 trucking industry and will talk to that issue, the
6 perspective of state officials, and also a
7 professional researcher in the area of logistics.
8 So, we'll let each of these experts make some
9 comments first, and then we'll move into a
10 discussion both among them and with questions from
11 you.

12 So, I look forward to hearing your
13 remarks. We'll start with Dr. Ernie Perry,
14 Program Administrator and Facilitator for the Mid
15 American Freight Coalition. Ernie?

16 DR. PERRY: Good morning. Thank you for
17 the opportunity to speak about the state of our
18 freight infrastructure, the freight capabilities
19 of our region, and what I see in terms of our
20 freight innovation and infrastructure to support
21 our nation's energy needs today and in the future.

22 Now, first of all, I'd like to

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1 acknowledge a comment by Secretary Foxx about the
2 need for these states to work across borders with
3 their transportation activities. That rings true
4 for Chris and myself, especially because we both
5 work with large number of states and coalitions.
6 I work with ten State Departments of
7 Transportation in freight planning and
8 collaboration and in freight policy and program
9 areas. We've been working with what we call the
10 master of states which is the Mid America
11 Transportation Region for over ten years now on
12 freight planning and freight collaboration.

13 Our role and efforts have accelerated
14 with the freight initiatives in MAP-21 that you
15 might be familiar with, freight planning, freight
16 advisory councils, committees and as well as the
17 national freight network. But it is important to
18 note that in this ten-year history of the Mid
19 America Freight Coalition and working with these
20 ten states, they have a record of innovation that
21 provide service and capacity for freight movement
22 in their states. Additionally, the coalition is

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1 one of the longest operating in successful
2 research development and collaborative efforts in
3 freight across the United States.

4 Today, I'll address the region's freight
5 transportation infrastructure and the significance
6 of freight movement in the Mid America Freight
7 Coalition region, the capacity in the region and
8 the initiatives the states are pursuing now to
9 ensure that infrastructure is available and in
10 good condition for our business and industry and
11 economic growth. Most of the work that I cite and
12 the maps that I use are from a regional freight
13 study. Again, that highlights across these ten
14 states, that they are approaching freight as a
15 multimodal, multi-state economic network that they
16 have to support and enable the businesses in there
17 to operate upon.

18 The Mid America Freight Coalition, it's
19 the ten states right up here that you see, is a
20 freight-centric region. 23 percent of the
21 nation's truck tonnage, 63 percent of the nation's
22 rail tonnage moves through this region. The

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1 waterways are credited with shipping 44 percent of
2 domestic tonnage exporting, and receiving 30
3 percent of the domestic tonnage. This region has
4 the top three rail hubs in Kansas City, Chicago
5 and Saint Louis, and one of the major inland ports
6 in Saint Louis.

7 These ten states are innovators and
8 leaders in freight policy and programs. They have
9 participated in the coalition for a decade and
10 were some of the first states to conduct freight
11 planning, freight advisory committees, identifying
12 work and manage their significant freight
13 corridors, and work to establish multimodal total
14 systems approach to transportation. This is
15 important because now everybody is doing this
16 within the last two years with MAP-21, but most of
17 these states were pushing this agenda over ten
18 years ago, realizing how important freight was to
19 their region.

20 Regarding the importance of freight to
21 the region, the MAFA states have recognized the
22 economic and development linkages related to

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1 freight movement and logistics. And for good
2 reasons. When we look at the top five corridors
3 in our region which I think all go through Chicago
4 right there, within three miles of each side of
5 these corridors lays 35 percent of the region's
6 businesses and 42 percent of all the employees
7 along those five corridors in these ten states.

8 In Indiana, Conexus Indiana states that
9 logistics jobs on the average pay 15 percent
10 higher wages. Additional, many states conduct
11 economic analyses of their state transportation
12 investment programs and find that for every dollar
13 invested they are getting a return of \$3 to \$4
14 over a 20-year period. When you break that
15 analysis down, you see that close to 60 percent of
16 that benefit is accruing to freight industry.
17 Simply put, good infrastructure enables business
18 and economic growth, and freight corridors further
19 concentrate this development and activity.

20 In terms of the infrastructure condition
21 and freight movement in our region, the status of
22 the region's freight infrastructure is

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1 underfunded, aging, and often congested. Yet this
2 system delivers some of the most efficient
3 logistics around the world. Again, all throughout
4 that soybean comparison from Illinois versus
5 Brazil, the only reason that we're a lower price
6 than the European in the international market is
7 our transportation efficiencies. That's what puts
8 us ahead of the ball there. But we are not
9 keeping up with the investments needed to maintain
10 this advantage. Investments in infrastructure in
11 the US right now are currently estimated at 2
12 percent or less of the GDP. We invested around 12
13 percent during the interstate buildout, and Europe
14 is currently investing around 5 and near to 12
15 percent in China.

16 So, when you look at this slide, with
17 close to 70 percent of all freight tonnage moving
18 across to our region currently on trucks, and
19 freight load is expected to increase with the
20 population levels, we will not be able to build
21 our way out of this situation. Many of our major
22 interstates, highways, are at 30 to 50 percent

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1 truck volumes right now. We must look for
2 alternatives in a systems oriented approach at
3 moving more freight be it fuel or Fritos.

4 So, what are the states looking for to
5 solve some of these capacity issues while
6 maintaining their economic agenda? States are
7 working to find financing in partnerships as true
8 infrastructure funding versus financing is not
9 delivering the needed support. In order to
10 address these increasing infrastructure needs,
11 states are advancing several agendas.
12 Importantly, freight transportation is becoming
13 more multimodal in the State DOTs and systems
14 orientated as demonstrated by the work of the
15 states on the marine highways.

16 This map up here is a map of the marine
17 highway activity in the ten MAASTO states. And I
18 would dare to say that we are one of the most
19 active regions in trying to convert these
20 waterways and defining them marine highways so we
21 can get more freight on them and increase the
22 awareness of that capability.

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1 The states are also working to define
2 their national networks and their highway
3 corridors in terms of the national network and
4 critical row corridors, that's the example on 35
5 over there. And we have taken this again with our
6 regional freight study and went through the
7 region, identified all the corridors as well as
8 the waterways and the rail lines, how much freight
9 is moving on them, and how they make these
10 connections so that the states can use these as
11 tools as they work across state lines to increase
12 their capabilities.

13 In summary, the ten Mid America Freight
14 Coalition states are major freight states. They
15 are innovators and leaders in freight development.
16 However, the rail and road systems in our region
17 are at capacity and even beyond. Further, limited
18 funding is crippling the ability of states to keep
19 up the maintenance, no less building capacity for
20 future generations.

21 There is a very genuine need for
22 funding, not financing, and multimodal systems

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1 approach to our transportation infrastructure, and
2 greater connection between infrastructure planning
3 and economic activity. Thankfully, through the
4 coalition and independently, states are working
5 towards these ends. So, thank you for the
6 opportunity to comment on this very important
7 topic in the Mid America Freight Coalition area.

8 (Applause.)

9 MR. HEDERMAN: Thank you. I'd like to,
10 I wanted to ask on your point about the percent of
11 investment, 2 percent GDP in the US, Europe 5, and
12 China 12, is that road infrastructure or is that
13 all transport infrastructure?

14 DR. PERRY: I believe that's all
15 transport infrastructure.

16 MR. HEDERMAN: Okay, the answer is all
17 transport infrastructure. Thank you. Our next
18 speaker will be Henri Boulet, Executive Director
19 of the LA-1 Louisiana Coalition. They have the
20 challenge of immediately pursuing elevating some
21 roads and we look forward to Henri's comments.

22 Excuse me. I neglected to explain who I

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1 am and I might as well let you know that. I am
2 Bill Hederman from the Department of Energy. I'm
3 the Secretary's Senior Advisor on Energy Markets
4 and the lead deputy on the systems integration
5 aspects of the QER.

6 MR. BOULET: Good morning. My name is
7 Henri Boulet from Southeast Louisiana. I'm
8 Director of the Louisiana Highway 1 Coalition
9 which is the sole access road going down to Port
10 Fourchon, that Port Fourchon services 95 percent
11 of the deep water energy activity going on in the
12 deep water Gulf of Mexico. And I expect that most
13 in this room and watching via the web appreciate
14 the importance of securing energy sources needed
15 to power up our nation's evolving economy. That
16 certainly is just as essential in building energy
17 infrastructure projects of national significance.

18 What you see on the wall now is old LA-1
19 during the Hurricane Ike storm surges. Ike was
20 passing in the Gulf heading to Texas. And in the
21 background is the new elevated structure we're
22 building to replace the old highway.

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1 The current lack of certainty is a
2 significant hindrance as states struggle to budget
3 these massive public works projects. In addition,
4 as Congress works through the issues of funding a
5 struggling federal highway trust fund to assist
6 states with these projects, it is noteworthy that
7 there is little consensus around providing other
8 federal funding mechanisms for projects of
9 national significance. Both certainly from a
10 federal highway trust fund and other federal
11 mechanisms are vital to bringing these
12 infrastructure components together such as
13 elevated LA-1.

14 LA-1 is a highway that runs from
15 Arkansas to the border down to the Gulf of Mexico.
16 The coalition was formed in '97 to advocate for
17 improvements to 19 miles on the southern end at
18 the coast. This segment of LA-1 is the sole
19 highway connector from the levy protected
20 communities to Port Fourchon and the Louisiana
21 Offshore Oil Port also known as LOOP. The port is
22 a launching point, as I mentioned, for 95 percent

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1 of energies in the deep water gulf, and LOOP is
2 the US terminal that receives approximately 1.2
3 million barrels of imported oil each day.
4 Together, they are responsible for providing 16 to
5 18 percent of our nation's crude. LA-1 is also
6 the evacuation route for thousands of residents
7 and thousands of workers on energy platforms in
8 the Gulf of Mexico out of continental shelf.

9 Time is really running out for our
10 vulnerable highway. The highway is extremely
11 vulnerable to storm washout. Annually, LA-1 faces
12 tropical storm inundation as you see on this
13 slide. And our worry is that the entire highway
14 could be washed out if the perfect storm should
15 hit our community. We often see 19 miles of a
16 critical link of our nation's energy
17 infrastructure under water and pray that it is
18 still there when the storm surge recedes.
19 Sometimes even mild Category 1 hurricanes take
20 huge chunks of this critical two-lane energy
21 highway out.

22 The importance of LA-1 was documented

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1 nationally in a Department of Homeland Security
2 consequence analysis on the potential loss of this
3 highway from a natural disaster, chiefly storm
4 surge, wave action from a tropical system. This
5 study estimates that a 90-day closure of a small
6 segment of LA-1 could result in upwards of an \$8
7 billion loss in gross domestic product.

8 Furthermore, NOAA conducted a tidal inundation
9 study revealing that old LA-1 will be inundated
10 with coastal tides high enough to close the road
11 for 6 percent of the time by 2030 and 55 percent
12 of the time by 2050. So, we really need this
13 elevated highway to replace it sooner rather than
14 later.

15 We are making progress. What do we need
16 in order to avoid such a dire impact on the US
17 economy? Quite simply, leadership in Washington
18 to ensure that large projects like LA-1 can be
19 finished. I was promised by President Obama when
20 he first took office that his Cabinet members
21 would jointly discuss agency common significant
22 challenges to our nation. I would urge President

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1 Obama to bring together the Secretaries of
2 Transportation, Interior, Homeland Security, and
3 Energy, all of whom have a common stakeholder
4 interest in securing at-risk energy infrastructure
5 like LA-1 and develop an adequate federal funding
6 mechanism to address such needs.

7 In an era of fiscal challenges on the
8 federal and state levels, we need to think out of
9 the box. With such discussions considering state
10 commitments, industry commitments, even local
11 communities or local government commitments, we
12 have learned to incorporate all of these in the
13 LA-1 project to date. However, the remaining \$345
14 million cost to construct the 8.7 miles we need to
15 secure LA-1 to Port Fourchon is quite massive. We
16 simply need greater coordination and support from
17 our agency partners at the federal level.

18 In 2001, the LA-1 project saw a \$371
19 million segment of 9.1 miles in green come online.
20 That success is dampened by the likely reality
21 that federal programs will not provide the funding
22 needed to build projects of national significance

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1 like LA-1. The USDOTD's tiger grant program only
2 has \$500 million a year for 50 states. So, when
3 you do the math, that's but \$10 million a year on
4 average per state to invest in critical
5 infrastructure projects.

6 The reality of this situation is that a
7 little 19-mile highway stretch tucked away in a
8 corner of Southeast Louisiana could cripple the
9 flow of energy and cause billions of dollars of
10 impact to our nation. At this point, the nation
11 does not have an adequate funding source to
12 partner with my host State of Louisiana, even at
13 50 percent share for a road that serves the nation
14 and is the sole congressionally designated high
15 priority corridor for its role as critical energy
16 infrastructure. We all need to realize that
17 states can't afford to carry capital improvements
18 of national scale, and that a well-funded and
19 thoughtful investment in critical energy
20 infrastructure can address critical issues before
21 they turn into catastrophes.

22 Thank you again for everyone joining in

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1 today's conversation.

2 (Applause.)

3 MR. HEDERMAN: Thank you, Henri. That
4 certainly illustrates the mixed blessings and
5 challenges that we're dealing with here, and we
6 look forward to talking about that some more.

7 Next, we will hear from Dr. Wayne
8 Eckerle who is Vice President for Research and
9 Technology at Cummins, Incorporated. And we look
10 forward to getting insight into how the heavy duty
11 transport technology is moving forward.

12 DR. ECKERLE: Okay. Thank you, Bill,
13 for the introduction.

14 So, yes, I work with Cummins. Cummins
15 is the last independent manufacturer of engines
16 for diesel and natural gas. So, the trucks you
17 see going down the highway, approximately 35
18 percent of those trucks have a Cummins engine in
19 it, and 80 percent of those trucks have Cummins
20 equipment in their engines in one form or the
21 other.

22 What I want to talk to you a little bit

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1 about is sort of where we are today and where we
2 see the future going. So, I've been at Cummins
3 for 25 years. For the past two decades, we've
4 been really focused on meeting criteria
5 pollutants, NOx and particulates. So, this has
6 been a two-decade journey.

7 So, the vehicles you see going down the
8 highways today have a 99 percent reduction in
9 particulates and NOx, all right. So, when we talk
10 about clean diesels, clean natural gas, we really
11 mean clean, all right. And that did not happen by
12 accident. It was a very strong collaboration
13 among industry, among the Department of Energy,
14 and with our regulators. So, the clean air
15 emissions that you see today was a collaboration
16 among all of us in terms of figuring out what was
17 possible and getting our technology in place to do
18 that.

19 So, that being a bit behind us now, for
20 the last five years, I've had the privilege to
21 work on fuel economy, all right, because fuel
22 economy ultimately is what our customers care

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1 about. And so, we're planning that same approach
2 there. It's a great collaboration among agencies,
3 among industry, and again among regulators around
4 what we think those levels could be. So, I want
5 to talk to you a little bit about where we are
6 around fuel economy improvements and where we're
7 headed.

8 So, I'll give you a couple of examples.
9 Cummins was lucky enough four years ago to be an
10 awardee of a supertruck program, all right. And
11 that program ended up being an \$80 million
12 program, \$40 million from the Department of
13 Energy, \$40 million in matching funds. And so,
14 we're in the final throes of that and I want to
15 show you where we ended up.

16 So, this is a picture of our supertruck,
17 all right. This is a truck, real live, that runs
18 down the road. And I can't possibly communicate
19 to you all of the abilities that we've been able
20 to develop with this program in terms of tools and
21 so forth. But in the end, what we were able to
22 achieve was a 75 percent improvement in fuel

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1 economy, and not a fuel economy as miles per
2 gallon because that tends to mean something to
3 you.

4 And just so you understand, that the
5 amount of fuel that is used everyday is about 2.75
6 million barrels per day. North Dakota is
7 producing about a million barrels per day. 80
8 percent of that 2.75 million is in Class 7 and 8
9 trucks which are delivering the goods. So, you
10 can imagine what a 75 percent reduction in fuel
11 consumption is what we're talking about. It's
12 literally tens of thousands of dollars every year
13 to our end users.

14 The other metric that we tend to use is
15 freight efficiency because these trucks are doing
16 work. Right now metrics is ton miles per gallon.
17 So, we improved that efficiency by 86 percent,
18 right? So, the cost of moving goods has been
19 reduced by 86 percent through the results of the
20 supertruck program. And that there, oh, he didn't
21 advance the slide, sorry. Yes, there's the slide,
22 right, sorry. And so, those are the numbers I was

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1 just quoting.

2 And the point I do want to make, out of
3 those metrics, 42 percent of that was due to
4 improvements in the engine and powertrain system,
5 all right. So, we've gone, we've improved our
6 ability to convert the chemical energy of the fuel
7 by 20 percent for this particular enactment, and
8 we're in the process of increasing that to 30
9 percent through similar aspects of the program.

10 A key piece of technology that's in this
11 particular supertruck program is that we're
12 recovering waste heat, right. So, if you look at
13 an engine today, it's nominally in the mid 40
14 percent conversion efficiency. That means 55
15 percent of the energy is being wasted as heat in
16 the process.

17 So, we have technology on board to
18 recover that waste heat and convert into useful
19 work. So, this is just a diagram of that. It's
20 an Organic Rankine Cycle, a bottoming cycle. But
21 this particular technology is giving us a 5
22 percent reduction in fuel consumption as it's

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1 mounted on the engine today. So, a very new
2 technology, working very effectively. Again, we
3 were able to develop that with previous DOE
4 funding and on the supertruck program as well.
5 Next slide please.

6 So, this is just an example. We were
7 lucky enough to have the supertruck when President
8 Obama announced the timing around the phase 2
9 greenhouse gas regulation. And so, we took the
10 truck down to the Department of Energy and you
11 might see our new latest recruit in the vehicle.
12 And I am told one of his biggest thrills was
13 blowing the air horn while he was sitting in
14 there, so it was good.

15 The other part I do want to talk about
16 is that we have another DOE program called Atlas
17 where we're applying the same approach in light
18 duty. So, we have engines in the light duty
19 pickups that you see going down the road today,
20 and we have achieved 40 percent reduction in fuel
21 consumption in those vehicles. But we also took
22 that engine, all right, even though Cummins has

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1 been a compression ignition company, we converted
2 that engine to spark ignition. And so, this
3 engine was running on E85 because we're very
4 interested in making sure that our engine systems
5 will be able to handle the various renewable fuels
6 coming down the road.

7 So, we put this in the panel truck. We
8 had additional funding from California Energy
9 Commission. And that truck just finished its
10 demonstration in the streets of Sacramento. I was
11 out there this week when we finished that program.
12 But you can see the reductions, okay, with that
13 engine running on corn-fed ethanol, all right, we
14 were emitting 40 percent less than diesel engine
15 would in that and 62 percent less than gasoline.

16 Now, that ethanol is coming from a
17 second generation biodiesel. We're talking about
18 75 percent CO2 reduction in diesel and a 78
19 percent less in gasoline. Now, through the torque
20 curves up there, just so you don't think this is a
21 wimpy engine, right, so that blue curve is a
22 torque curve coming out of E85, and you can see it

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1 compared to the red curve of gasoline and the
2 black curve from diesel. And it's a 2.8 liter
3 compared to the 6 to 7 liters that are in those
4 vehicles today. So, again, this shows you what we
5 can do when we put our mind to it and get some
6 good results.

7 So, that last slide I want to show here
8 is I talked about the collaboration. I'm a
9 combustion guy so I hate to admit that we have to
10 have after treatment on our engine systems but we
11 do, all right. You don't get a 99 percent
12 reduction in emissions without after treatment.
13 This is just showing you the collaboration that
14 we've had among the various universities and
15 agencies.

16 And if you look at this slide, you can
17 see we're operating all the way from the nanometer
18 all the way up to the millimeter kind of scales,
19 and from surface chemistry to chemical kinetics to
20 what I'm calling reaction engineering, because the
21 after treatment is a highly engineered system,
22 highly integrated with the engine and the vehicle

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1 to get the kind of emission reductions we're
2 talking about without impacting fuel consumption.
3 So, it's a very important part of what we're able
4 to do with a vehicle.

5 So, finally, I just want to end with
6 that we've had a great relationship with the DOE.
7 We've been able to leverage that relationship to
8 really deliver market-leading technology not only
9 for emission reduction but also for fuel
10 consumption reductions. We are literally saving
11 our end users tens of thousands of dollars every
12 year on the amount of diesel and natural gas that
13 they're burning for moving freight. The
14 partnerships are key, the regulations are key. As
15 we try to accelerate these fuel reductions into
16 the public, setting clear, concise goals as a
17 nation will really accelerate how fast we can do
18 that.

19 And lastly, in tying it back to today's
20 conversation, the highway infrastructure is key to
21 make this happen. If trucks are idling on the
22 road instead of going down the road, if the roads

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1 won't allow the trucks to run at the speeds they
2 need to run at the efficiencies where they can run
3 their best, we won't get the gains that we're
4 talking about today. Thank you.

5 (Applause.)

6 MR. HEDERMAN: Thank you, Wayne. I
7 think one of the pieces that really comes out of
8 looking at the transmission, surge, distribution
9 infrastructure is that we are seeing striking
10 technology advances at both ends of this system.
11 And we really need to make sure that the TS&D part
12 isn't the bottleneck, and I think we're starting
13 to hear about that.

14 Next, we'll hear from Chris Smith, and
15 he will provide another very important perspective
16 here which is that of the state officials. Chris?

17 MR. SMITH: Great. Well, thank you,
18 everyone, for joining us this morning, and to the
19 Department of Energy for reaching out to us for
20 this important and timely and critical event. My
21 name is Chris Smith; I'm the Senior Freight
22 Program Manager at the American Association of

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1 State Highway Transportation Officials. And we
2 are the association in Washington, D.C. that
3 represents all 52 State Departments of
4 Transportation, including the 13 of Ernie's
5 coalition and several of my colleagues here today
6 from the Illinois Department of Transportation.
7 So, I encourage you, after some of their thoughts
8 later, to engage and get some expertise and
9 direction from some of the very practitioners here
10 in the great State of Illinois.

11 As Secretary Foxx stated in his
12 presentation a little bit earlier this morning,
13 the highway system is primarily a state-centric
14 and state-driven system. States own and operate
15 over 8,000,000 miles of public roadways. 800,000
16 of that are federally aided through the Federal
17 Aid Highway Program which is Congress apportions
18 through the highway trust fund, collective gas
19 taxes, and handed over in a formula to all 52
20 states, I say that because of D.C. and Puerto
21 Rico, for expenses in planning, programming and
22 direction of highway infrastructure.

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1 In the freight context, a total freight
2 tonnage in the United States over the next 30
3 years is expected to increase by 30 percent, the
4 value of total freight by over 55 percent. And
5 today, over 65 percent of all things moving in the
6 United States move by truck. So, even if you were
7 able to double the capacity of the other modes of
8 transportation, you still have an overwhelmingly
9 significant amount of goods moving on the highway
10 systems that states and the local and federal
11 partners own and operate.

12 We are in a serious and in a time in our
13 country with the operation and management of this
14 highway system in the funding stratus of managing
15 by crisis. And if you all have been paying
16 attention to the news the last couple of weeks,
17 you might have noticed that the highway trust fund
18 solvency was a very, very large issue before the
19 Congress left Washington a couple of weeks ago.
20 What that's to say is all of those revenues, that
21 the gasoline taxes collect from both automobile
22 drivers as well as truck drivers is collected at

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1 what they call at the rack but passed on to the
2 consumer, goes into about a \$34 billion a year
3 trust fund in Washington and it's supposed to be
4 spent only on highways. And it is.

5 However, that \$34 billion isn't enough
6 to continue operating highways at current
7 capacity, much less what we need. And so, where
8 this ties into the energy conversation, as the
9 energy boom continues to grow, it continues to
10 place demands and strains on the highway system.
11 This is a system that's already strained in
12 congestion as it is at status quo. This is a
13 system that needs billions of dollars in
14 investment just to meet status quo. You're adding
15 new variables on top of this freight growth on top
16 of this that really we're getting to an
17 oversaturation point in all of this.

18 So, how are State DOTs looking at this
19 as the owners and operators? How are they looking
20 at the financial side of this, how they plan
21 highway networks, how they program their limited
22 resources? And what are some of the operational

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1 methods State DOTs are looking at to address not
2 only freight but the energy and freight and
3 general commercial goods movement?

4 On the financial side, this managing by
5 chaos, this unpredictability of enough federal
6 resources to the gas tax, a gas tax that hasn't
7 changed in 20 years as to rates, that Congress
8 does not seem to have the appetite to change, and
9 spending down of a trust fund that hits volatile
10 levels of solvency on a case by case or almost a
11 year by year basis now, how do states deal with
12 that when about 20 to 40 percent of their spending
13 programs isn't a reliable source? Well, states
14 aren't operating in a vacuum. They're looking at
15 their own tax and finance policy.

16 Recently, the State of Virginia lowered
17 its state gas tax and raised its sale taxes to
18 apply to transportation. Pennsylvania changed the
19 point in place where it collects its gas tax,
20 raised it and it tied it to inflation. So, it
21 built in a growing revenue increase. Other states
22 have directly raised their gas taxes. Other

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1 states are looking at financing and tolling
2 operations and ways to deliver highway projects
3 because the reliability of that federal funding
4 piece is quickly evaporating and very, very
5 unsustainable.

6 On the planning side, you know, the way
7 the states look at where to put these resources,
8 where these highway networks are going, what
9 they're carrying, who they're carrying, when
10 Congress enacted MAP-21, the most recent surface
11 transportation bill, there was significant freight
12 language in it for the first time ever. Some of
13 that language includes an encouragement to the
14 State DOTs to examine and plan for the movement of
15 commercial goods as an interconnected system that
16 utilizes all modes of transportation, what we call
17 a statewide freight plan in simpler terms. The
18 law also encourages states to engage the private
19 sector freight users in this process, what the law
20 calls state freight advisory councils.

21 Now, I appreciate the comments this
22 morning from the gentleman from the Illinois

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1 Chamber of Commerce. I would encourage you and
2 others in the business community and the user
3 community to reach out to your State DOTs, find
4 out if they have a state freight advisory
5 committee, find out how you can involve and be
6 engaged and be at the table. These are the folks
7 who are going to be making these plans. These are
8 the folks that need to know how the highway
9 systems and the freight systems impact your
10 businesses, impact your customers, and impact the
11 industry and your states.

12 It's very encouraging to see that the
13 federal government has sort of, the light bulb has
14 gone off and woken up to this freight thing,
15 because quite frankly this stuff has been going on
16 at the state level already for many, many years.
17 These are advisory committees to statewide freight
18 planning issue. When MAP-21 passed in 2012, we
19 already had 26 states that had some form of
20 statewide freight plan or freight elements within
21 their overall planning network.

22 And so, as you heard Secretary Foxx

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1 mention earlier, USDOT is charged with the
2 creation of a national freight strategy and a
3 national freight plan. Well, if you already have
4 a major body of work from the very folks who have
5 been stewards of the highway system for 75 plus
6 years, it doesn't make sense to reinvent the
7 wheel. And we are looking forward to engaging the
8 federal government with these state freight plans
9 and how states understand freight and movement
10 interim boundaries and through coalitions like
11 Ernie, how they are moving across state lines, to
12 really be a collective and bottom up approach to
13 looking at how freight in the United States moves.

14 One of the other tasks before Secretary
15 Foxx is the creation of a national freight
16 network. The law directed the USDOT to do that.
17 The law is, I will note the law is a highway law;
18 it applies to the highway systems. And so, it
19 really compels the DOT only to look at the highway
20 system. But as we all know, freight moves
21 systemically, it moves on water, it moves on rail,
22 and so there is a need and an understanding to

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1 understand all those things.

2 But for now, they're looking at a
3 national freight network to really see where are
4 those primary corridors and where are those things
5 moving on the highway system nationally that
6 really apply to commerce and commercial goods in
7 this country. Part of that network is the
8 interstate system. Part of that network is the
9 national highway system that moves high volumes of
10 freight. And where the states' role are going to
11 be, the states are going to have to identify
12 what's called critical role freight corridors.
13 And that's a chance for a state to look at its own
14 highway network and see where commodities and
15 goods are moving and show the federal government
16 what its understanding is of these flows.

17 And one of the things that Congress
18 directs the states to do in this regard is to look
19 at the flow of energy commodities and energy
20 goods. So, again, talk to your states, talk to
21 your DOTs, get involved with the state freight
22 advisory committees. Let them know where these

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1 things are moving, where these products are going,
2 and where the high demand things are in the
3 system.

4 On the operational side, states are also
5 looking at how this growth and energy sector
6 impacts things like truck size and weight. The
7 propane issue here in the Midwest this winter, one
8 of the strategies to try to move propane faster to
9 markets was to allow heavier trucks to move it.
10 That's a state purview. States consider those
11 sorts of things, and the federal government now
12 allows states to more efficiently look at that in
13 times of crisis, in times of emergencies, USDOT as
14 the coordinating body. But again, if you think
15 about the highway system as state-owned and
16 operated, state-maintained, the states are your
17 partners in all of this, in freight and energy
18 combined, understanding where things are going,
19 targeting those investments to them, and
20 supporting an infrastructure for all energy and
21 for all commodities moving into the 21st century.

22 So, thank you again for having me this

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1 morning. I'm looking forward to our question and
2 answer session and hope we can stick around a
3 little bit more for conversation.

4 (Applause.)

5 MR. HEDERMAN: Thank you. And I want to
6 thank all the speakers, you're doing a really good
7 job of leaving time for Fred to come up and help
8 lead a discussion after your remarks.

9 So, Casey Dinges is going to speak to us
10 from the professional perspective of the American
11 Society of Civil Engineers. As probably everybody
12 in the room knows, they have brought a lot of
13 attention to this through their annual report
14 cards. And also, Casey has been involved in
15 creating PBS shows about engineering, and that's
16 certainly important for our workforce development
17 side. So, welcome, Casey.

18 MR. DINGES: Thank you. The report card
19 seems like it's every year, it's actually every
20 four years.

21 MR. HEDERMAN: Okay. The quadrennial
22 report though, our quadrennial is every year.

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1 MR. DINGES: There you go. When the
2 media makes that mistake, I don't make that
3 correction. That's okay. But anyways, again
4 thanks for the opportunity to be with such an
5 esteemed panel today.

6 ASCE is an international membership
7 organization with 145,000 members, most of them in
8 the US. I ran into one of them today, Kay, great
9 to see you in Chicago.

10 As stewards of the nation's
11 infrastructure, civil engineers are responsible
12 for the design, construction, maintenance and
13 operation of our vital public works. With that
14 responsibility comes an obligation to periodically
15 assess the state of the infrastructure, report on
16 its condition and performance, and advise on the
17 steps necessary to improve it. We do this in part
18 by compiling a report card for America's
19 infrastructure.

20 America's infrastructure received an
21 overall grade of D+ in 2013, up slightly from a D
22 in 2009. While this is not the kind of grade you

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1 would want to bring home and show your parents,
2 the good news is six of the sectors did see
3 improvements since 2009. I don't know if anyone
4 saw Stephen Colbert when he spoofed the report
5 card when it came out. The way he said that was
6 the grades went up in all 16 categories except 10
7 of them.

8 So, we know we must do a better job with
9 our infrastructure if America is going to continue
10 on a trajectory of economic growth. We continue
11 to see categories of infrastructure that simply
12 are not seeing the maintenance or investments to
13 improve day-to-day performance or save money in
14 the long term. The backlog of projects to
15 maintain and modernize our infrastructure keeps
16 growing. Two of the categories we evaluated
17 received near failing D- grades, levies and inland
18 waterways. I guess it's good Jo-Ellen out of the
19 room now. No, she's seen the grades before and
20 she understands where we're coming from.

21 Why did some sectors improve while
22 others continue to fall behind? The answer is

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1 actually simple. In sectors where investment was
2 made by both the public and private sectors and
3 innovation solutions pursued, the grades rose.

4 Okay. This is the big money slide.
5 Don't get too overwhelmed by all the billions and
6 trillions before you. In 2013, we faced a total
7 investment need of \$3.6 trillion by the year 2020
8 across all 16 infrastructure sectors that we
9 evaluated. We're already prepared to invest about
10 two-thirds, but we face a funding shortfall of
11 \$200 billion a year for infrastructure, actually a
12 slight decrease from four years ago. So, that's
13 how I scale \$3.6 trillion, an overly massive
14 number, down to \$200 billion a year, a large
15 number but a more manageable number. You know,
16 what's \$200 billion among 320 million Americans,
17 right?

18 So, surface transportation has the
19 largest total needs and the largest funding
20 shortfall at \$846 billion, although you'll see
21 that there is a great deal of funding set aside
22 each year in that category. We're assuming here

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1 that this is a total investment needed to get a
2 grade of B or a state of good repair on the report
3 card. This number draws from our four economic
4 studies which I commend to all of you called the
5 failure to act, as well as our industry
6 projections of needs for the categories in dark
7 green. These numbers look out to 2020 covering
8 eight years of infrastructure investment needs
9 which is an appropriate time frame for planning
10 and action.

11 I know we're here to discuss energy
12 transportation infrastructure, but I wanted to
13 note that ASCE has focused on energy
14 infrastructure as well in the past several years,
15 and we have a lot of members working in this
16 space. This table comes from the economic study
17 we conducted in 2012 on energy generation
18 transmission and distribution infrastructure.
19 It's a good reminder that we are not only talking
20 about the infrastructure we need for today but
21 also for tomorrow.

22 Even with our best efforts to reduce and

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1 stabilize the demand for energy in this country,
2 the demand for energy is expected to grow. It
3 grows at a modest rate of about 8 percent between
4 now and 2020, and then additional 17 percent
5 between 2020 and 2040. As our population and
6 economy grows, I think we may be the only western
7 industrialized nation that still has a growing
8 population, by the way. We need to make sure that
9 we are ready.

10 So, let's look at the conditions of the
11 major transportation sectors in 2013. Let's start
12 with roads. Roads improved slightly from D- to D,
13 largely reflecting the improvements in pavement
14 condition and significant reductions in highway
15 fatalities in this country. However, 42 percent
16 of America's major urban highways remain
17 congested, causing the economy an estimated \$101
18 billion in wasted time and fuel. While the
19 conditions have improved in the near term,
20 federal, state and local capital investments
21 increase to \$91 billion annually. That level of
22 investment is so short of what is needed and

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1 projected to result in declining conditions and
2 performance in the long term.

3 Over 200 million trips are taken daily
4 across deficient bridges in the nation's 102
5 largest metropolitan areas. In total, one in nine
6 of the nation's bridges are rated as structurally
7 deficient. However, the overall number of
8 structurally deficient bridges is continuing to
9 trend downward; the grade improved slightly to C+
10 in 2013. Yet the number of structurally deficient
11 bridges in urban areas which tend to carry the
12 most traffic is staying stagnant.

13 Okay. Here, you can see the grades for
14 all the surface transportation categories that
15 impact freight. And we see grades lagging in the
16 C's and the D's. Now, I'll just touch on a few of
17 the modes here and their support for freight
18 movement.

19 Inland waterways, and we heard from Jo-
20 Ellen Darcy earlier about the importance of that
21 system, once again remained at a D- as conditions
22 remain inadequate and investment levels remain

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1 stagnant. There are an average of 52 service
2 delay/service interruptions per day throughout the
3 Illinois waterway system in the United States.
4 Projects to repair and replace aging locks and
5 dredge canals take decades to approve and
6 complete. In fact, there is a backlog of major
7 projects with estimated schedules stretching out
8 to the year 2090 under current funding levels.

9 Ports was a new category in 2013. It
10 debuted with a grade of C, focused largely on the
11 land side and water connections rather than the
12 facilities themselves. While port authorities and
13 the private sector partners have planned over \$46
14 billion in capital investments from now until
15 2013, federal funding has declined for dredging as
16 well as the land side connections needed to move
17 goods to and from ports.

18 Finally, rail has a bit of a good news
19 story here. Both freight and passenger rail have
20 been investing heavily in their tracks, bridges
21 and tunnels, as well as adding new capacity for
22 freight and passengers to the tune of \$75 billion

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1 since 2009. In 2010 alone, freight railroads
2 renewed the rails in more than 3,000 miles of
3 railroad tracks, the equivalent of going coast to
4 coast. With high ridership and greater investment
5 in the system, the grade for rail saw the largest
6 improvement, moving up to C+ from C- in 2013.

7 Okay, this slide, there's a little
8 mistake on this slide. So, ignore the numbers for
9 just a moment if you would and just listen to what
10 I say and then I'll try to explain what you're
11 seeing there. So, what does this mean for freight
12 in the larger economy? A stronger freight
13 transportation network is critical to our nation's
14 long-term economic growth. What we have found is
15 that America's infrastructure grades have an
16 impact on our bottom line. We know that failing
17 to meet the overall \$800 billion investment gap
18 just for surface transportation by 2020 will have
19 the following impacts on our economy.

20 US companies shipping goods to market
21 will experience congestion and delays leading to
22 higher transportation costs, causing the price of

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1 goods to rise. The cost to businesses of higher
2 transportation will be \$430 billion by the year
3 2020. As the price of US goods rises, we become
4 less competitive in the global marketplace,
5 resulting in a decrease in US exports. Exports
6 would drop by \$28 billion by the year 2020, and
7 our GDP would underperform by nearly \$900 billion.

8 The figure up there, the \$3.1 trillion
9 in GDP, that number applies to all the 16
10 categories of infrastructure we looked at, not
11 just transportation. So, I do apologize for the
12 mistake at the top which suggests that these
13 numbers are associated just for the transportation
14 sector. That is a real number but that was in all
15 16 categories that we looked at. So, still it's
16 significant that just in eight years, that the GDP
17 could suffer by that much. But that's looking at
18 water and, you know, all the other categories we
19 looked at, not just transportation.

20 One other economic note here, if we
21 don't make the investments in surface
22 transportation, we are putting at risk nearly

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1 900,000 jobs in the US economy by the year 2020.
2 You see for all categories it would be three and a
3 half million. So, transportation is a big part of
4 the puzzle here.

5 We do have an app. I hope everyone
6 takes the opportunity to download it. There's a
7 lot of good information in there. It's not all
8 doom and gloom. There are a number of success
9 stories that we try to highlight. You can look at
10 information by infrastructure sector. You can
11 also look at it by state. So, you can download it
12 for free at the iTunes store, Google+, I'm not
13 even sure of all the platforms.

14 Infrastructure is the foundation that
15 connects the nation's businesses, communities and
16 people, driving our economy and improving our
17 quality of life. In the short term, we need a
18 national commitment to bring the existing
19 infrastructure into a state of good repair; and in
20 the long term, we must modernize and build in a
21 targeted and strategic manner.

22 A D+ is a grade we cannot accept as a

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1 country. We must commit today to make our vision
2 of the future a reality in American infrastructure
3 system that is source of our prosperity. Thank
4 you.

5 (Applause.)

6 DR. HANSEN: Okay. This is the part
7 where I get to ask the really tough questions of
8 you guys. It's clear that there is a problem,
9 there's a lot of elements to that problem, but I
10 noticed, Dr. Perry, you said something very
11 interesting. You said we can't build our way out
12 of this and we're going to need a systems
13 approach. And I think everyone agrees that there
14 needs to be sort of a systems approach, a
15 strategic planning of all this.

16 Can you tell me what you think are some
17 of the most important sort of interdependencies or
18 interconnections that need to be really considered
19 when we're talking about a systems approach to
20 addressing the multimodal infrastructure?

21 DR. PERRY: When I referred to that,
22 what I mean by that basically is that when you

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1 look at how the freight moves and if we've got the
2 population growth and the freight expected to grow
3 by 30 percent over the next 20 years, we cannot
4 put all that on the highway. A lot of our
5 highways are already 30 percent, 50 percent truck
6 capacity. It just can't go on there.

7 We've got these other systems, the rail
8 as well is full, waterways still has capacity.
9 But the total systems approach is when we step
10 back and look at our planning across state lines,
11 across these modes, that we probably need to be a
12 little bit more broad thinking in how we approach
13 the entire transportation system as a functioning
14 integrated unit. And I mean it's that simple.
15 Instead of these pieces and the trucks and the
16 rail and they're segregated systems and there are
17 segregated commodities on those systems, we need
18 to do a better job of aligning these economic
19 activities with the best benefit for society on
20 moving these on the certain systems that they are
21 most appropriate for.

22 So, we really need to open the door for

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1 the waterways and as well as keep up with our
2 trucking and our rail initiatives in the pipelines
3 because it's going to be a full frontal thing to
4 do. We cannot deal with a single mode; we're
5 going to have to do all the modes.

6 DR. HANSEN: Okay. So, from your point
7 of view, it's the modal connections that are going
8 to be important in the systems.

9 DR. PERRY: Definitely the modal
10 connections as well as expansion of the awareness
11 and advocacy on the use of these other modes,
12 particularly the waterways.

13 DR. HANSEN: Okay. Casey, you talked
14 about a score card in a lot of different ways.
15 What would you say about the interconnections that
16 are needed? What are the considerations?

17 MR. DINGES: Well, I have to agree with,
18 I mean if we can be as wholistic as possible, I
19 think that's the way to go. And you know, looking
20 at the inland waterway system, I mean here's, you
21 know, here's a D- on the report card. And we
22 heard from Jo-Ellen how efficient, you know, that

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1 system is in terms of, you know, a gallon of fuel
2 carrying freight.

3 But if you look at the, you know, the
4 entire Mississippi watershed, I mean you're
5 hearing something that drains from, you know, if
6 you take the Missouri River from Western Montana
7 all the way to, or Eastern Montana all the way to,
8 you know, Western New York State and everything
9 flowing into the Mississippi, so you have a
10 transportation network, you have transportation
11 and energy networks that actually have to cross
12 that river. You have a water supply that is not
13 only used for transportation in waterways but also
14 drinking water. You have waste water effluents
15 being put into the system.

16 So, I'm not just talking about between
17 the different transportation nodes. I'm talking
18 about a lot of these sectors, you know, trying to
19 look at this as wholistically as possible and not
20 trying to pick winners and losers between, you
21 know, roads or railroad or freight, but try to,
22 you know, kind of lift, you know, all these

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1 systems up in a way. It really is, and not to
2 ignore the airside system, but if you look at the
3 water, the rail and the roads, I mean this is a,
4 if you will, the three-legged stool of surface
5 transportation. So, I would agree as, I would
6 even, perhaps even go more wholistically that's
7 already been suggested.

8 We also need some kind of national
9 vision. We haven't had one in infrastructure in a
10 long time. You know, we had the interstate, I
11 mean, Eisenhower had a vision, some might say the
12 Clean Water Acts and the environmental movement in
13 the early 70's in terms of cleaning up rivers and
14 addressing safe drinking water standards in this
15 country was a bit of a vision. The President
16 might have made a little bit of a stab at it with
17 high speed rail but it really hasn't, you know,
18 kind of gotten the kind of traction he was looking
19 for there. And I'm not sure, we don't have the
20 vision at ASCE. It's going to have to be a number
21 of stakeholders kind of coming together, but I do
22 think a vision would help.

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1 DR. HANSEN: Good. Mr. Boulet, you had
2 a very specific focus in your talk. But for this
3 wholistic, what do you think are the big issues,
4 the connections, the complexities for the
5 wholistic view of this issue?

6 MR. BOULET: I think, you know, looking
7 back on the Secretaries' comments this morning and
8 the explosion in shale energy becoming available
9 to this nation, I think, you know, the most
10 efficient way to move those products is through
11 pipelines. And I think, you know, we're going to
12 see more burden on the railroad certainly in the
13 short time in moving a good bit of that product.
14 But you know, in the long term, I think our nation
15 needs to invest in new high volume pipeline
16 capacity from the north to the south to the east
17 and the west that will give us the ability to move
18 not only the shale formations that have been
19 identified now but with new technology that's
20 going to drive the energy economy.

21 I think we're going to have formations
22 all over this nation. And I think the long term

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1 way to handle that, the safest way to handle it
2 would be major investment in pipeline
3 infrastructure.

4 DR. HANSEN: Okay, good. Chris, you
5 talked about planning at the sort of state level
6 on that. How do you deal with the complexity of
7 all this thing? How would you even approach it?

8 MR. SMITH: Well, you know, the irony is
9 not lost on us at the energy review of the
10 complete relationship between energy policy and
11 transportation plan policy. Your roadway system
12 is funded by gasoline consumption in an era where
13 Americans, they're driving vehicle miles have
14 dropped but freight growth is growing. And then
15 the inland waterway system where the locks and
16 dams the Army Corps of Engineers operates are
17 funded by diesel taxes. And so, our very, you
18 know, the core thing that comes down to all of
19 this is money.

20 You know, we all talk about investing in
21 the system, doing it systematically, but where are
22 the resources to do it? The resources we have

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1 available to us now aren't adequate. They are
2 bucketed. You have a highway trust fund. You
3 have an inland waterway trust fund. Now, you have
4 a private railroad network. You have committees
5 in the Congress organized this way. You have a
6 Department of Transportation organized this way.

7 And so, we want to see the systematic
8 approach but it's not systematic in the area that
9 it's most important, and that's how you finance
10 and you fund it. And so, states look at that
11 through the planning and in understanding these
12 networks because the assets they have to improve
13 any of this stuff are limited and the strings
14 attached to them are limited. So, there is only
15 so much that can be done without a massive
16 rethinking of policy.

17 DR. HANSEN: Right, okay. Not to leave
18 you out, Dr. Eckerle, what would you say is the
19 contribution that technology innovation has? It
20 just seems like your company has been involved,
21 has done some advances in technology. What other
22 kinds of advances do you think could help?

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1 DR. ECKERLE: Well, I mean I didn't talk
2 a lot about it, but certainly in the automotive
3 section, if we move to electrification and we
4 start looking at recoverable energy on a vehicle
5 itself it could be important.

6 The other thing to think about is what's
7 the role a renewable fuel is going to play, and
8 how can those renewable fuels be localized so you
9 don't have to move the stuff all over the place.
10 It can be really important. And what we see is
11 just, to the earlier point is that we're just not
12 organized around how we move things. I mean we
13 take stuff from the east and we move it to the
14 west, we take a similar product from the west, we
15 move it to the east. And so, trying to get all of
16 those flows synchronized is really important.

17 And of course, from our point of view,
18 we would like to see concrete that lasts. So, I'm
19 very interested in the civil engineers that are
20 coming forward with concrete that lasts a long
21 time so that trucks can continue to move our
22 freight efficiently.

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1 DR. HANSEN: Great, thank you. Okay.
2 We're almost out of time so I'm going to give each
3 one of you sort of one last word. Could you, what
4 advice would you give to the QER team, you know,
5 if you had sort of a final advice? They have to
6 address this problem, they're moving forward. Any
7 piece of advice? Why don't we start with you, Dr.
8 Perry?

9 DR. PERRY: My advice would be that the
10 State DOTs realize what's on their plate and
11 what's coming down the road, they realize that
12 their economy is at stake as well as their
13 transportation system and safety of all the
14 passenger traffic, and that they need to do more
15 coordination with the State DOTs as well as
16 encourage the states to work across these borders
17 and incorporate more of the economic activity into
18 how they plan. So, that would be my message, more
19 collaboration, more work together, and funding
20 instead of finance.

21 DR. HANSEN: Great. Okay. Henri, your
22 advice to the QER?

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1 MR. BOULET: My QER advice would be to
2 have the administration through all of the
3 agencies involved in energy work on a long-term
4 funding plan that can pass the Congress and look
5 at, you know, state shares, look at industry
6 share, look at community shares, and make that a
7 criteria by which, you know, communities who
8 really want to work on this and have that for
9 their long-term economic sustainability can
10 participate, make a pledge, and help win federal
11 resources.

12 DR. HANSEN: All right.

13 DR. ECKERLE: It's a systems engineering
14 problem, so make sure you're clear around some of
15 your targets, make sure those targets are done at
16 a level where you can engage all the various
17 functions, and continue to work across agencies
18 because, for us, any time the agencies are at
19 cross purposes, it just makes everything very
20 difficult and we just lock up.

21 DR. HANSEN: All right, thank you.

22 MR. SMITH: Beware unintended

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1 consequences. This energy thing is very new to us
2 all, to states, to the federal government. There
3 are places where --happen that had no roads or
4 rails five, ten years ago. Is this a short-term
5 trend? Is this a long-term trend? When you're
6 talking public infrastructure and planning, those
7 are long-term things. So, you're talking about a
8 dynamic economy that's not, there is some
9 reconciliation that has to be done there.

10 MR. DINGES: Three quick things if I
11 may. The first thing, increased leadership so
12 that the public is more engaged on this. I think
13 the reason why we saw the highway trust fund go
14 the precipice is that for the public this issue is
15 not quite a top tier issue. It's not quite up
16 there with healthcare and some of the other things
17 that are top of the line. So, increased
18 leadership.

19 Secondly, promote sustainability and
20 resilience. I'm surprised I didn't hear either
21 one of those words yet today. And we say
22 sustainability, that's the triple bottom line,

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1 environmental sustainability, economic
2 sustainability and social sustainability.

3 And then lastly, develop and fund plans
4 to maintain and enhance America's infrastructure.

5 DR. HANSEN: Great. All right. I'd
6 like you to join me in expressing appreciation to
7 our panel members.

8 (Applause.)

9 DR. HANSEN: And then could I have the
10 panel for How a Critical Component of Our Nation's
11 Energy Infrastructure is Adapting to 21st Century
12 Energy Transportation Challenges, the Rail Group,
13 come up to the stage?

14 (Pause.)

15 MR. HEDERMAN: Okay. Thank you. We
16 want to move on to the next panel. We are running
17 a little bit behind time, so we've, you know, of
18 course this came from the extended conversation to
19 start with so it's no one's fault that's still
20 here in the room. But we'll appreciate it if
21 everyone can stay within five to seven minutes in
22 remarks, and that will help have a little time for

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1 conversation.

2 So, we're on to the rail panel now.

3 Again, we have a mix of customers of rail. The
4 rail industry is represented by the association,
5 have a municipal perspective, and a professor of
6 logistics to wrap it all together for us.

7 So, first up will be Sean Craig, manager
8 of fuel supply from the Dairyland Power
9 Cooperative.

10 MR. CRAIG: Thank you. Created in 1941,
11 Dairyland is a generation and transmission
12 cooperative headquartered in La Crosse, Wisconsin.
13 We serve 25 distribution cooperatives, 17
14 municipalities in Wisconsin, Minnesota, Iowa and
15 Illinois, serving almost 600,000 people daily and
16 employees about 540 people. We generate
17 electricity primarily at coal-generating
18 facilities in Wisconsin, but we have a diverse
19 energy portfolio that also includes hydro, natural
20 gas, wind, solar, biomass and biogas.

21 Reliable and predictable rail delivery
22 service is necessary to ensure coal is available

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1 to produce power to meet members' demand. The
2 Billington Northern Santa Fe or BNSF railroad
3 provides Powder River Basin coal delivery service
4 to our Alma site and the Mississippi River barge
5 terminal where the coal is transferred from trains
6 to barges and delivered to our Genoa facility.
7 The reliable and predictable rail delivery service
8 for Dairyland destinations have been challenged
9 with multiple factors. Our most recent delivery
10 issues began in the fall of 2013 at our Alma site
11 and bottomed out in the heart of last winter's
12 polar vortex when inventories fell to dangerously
13 low levels.

14 Since the BNSF did not provide
15 solutions, Dairyland was forced to take drastic
16 steps, the expense of which directly impacted our
17 members as we are a not-for-profit electric
18 cooperative. Dairyland had to truck hundreds of
19 coal over local roads from sources over 80 miles
20 away, reduced generation at our power plants in
21 order to conserve coal inventory, purchased higher
22 priced power from other sources. Our current

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1 inventory at the Alma site today is at 22 days on-
2 hand, meaning if we do not receive another rail
3 set within 22 days, we will be out of coal.

4 And the delivery problems have expanded
5 to the Mississippi River terminal that affects our
6 Genoa Power Plant. Because the barge shipping
7 season is limited due to the winter freezing,
8 Dairyland must receive enough fuel before winter
9 begins to last until the river thaws again. To
10 date, Genoa's coal supply is 50 percent below
11 where it should be. If this trend continues,
12 Dairyland's Genoa Power Plant will run out of coal
13 and will be unable to generate power after January
14 2015. To overcome the shortage, the BNSF will
15 need to triple the amount of normal pace of
16 deliveries for the remainder of the shipping
17 season which is through October.

18 Dairyland continues to work with the
19 railroad and attempt resolve these issues. We
20 value our relationship with the BNSF since they
21 play a very important role in helping us provide
22 reliable and reasonably priced electricity to the

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1 region.

2 That's Dairyland's story. Many
3 utilities and specifically other electric
4 cooperatives are facing similar issues. Sub par
5 service by railroads can pose a significant risk
6 to the reliability of the electric grid, as well
7 as increase the likelihood of much higher energy
8 rates for consumers.

9 One other example is Sunflower Electric
10 Cooperative, a consumer-owned, non-profit
11 corporation located in Holcomb, Kansas. It is
12 operated cooperatively by six rural electric
13 distribution cooperatives to which it supplies
14 wholesale power for people located in 32 central
15 and western Kansas counties. Holcomb, the only
16 base load coal-fired unit in the area is captive
17 to the BNSF. Since 2012, Sunflower has seen cycle
18 times increased to as high as 11 and a half days,
19 quickly leading to delivery shortages.

20 Sunflower's board policy and risk
21 management strategy is to have a 30-day minimum
22 inventory of coal. As of mid July, Sunflower had

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1 approximately 20 days of inventory. If service
2 does not improve for the remainder of the year,
3 Sunflower will be forced to curtail generation
4 again this fall, and inventory will reach zero
5 days by the end of December, creating a
6 reliability issue for the Southwest Power Pool of
7 which Sunflower is a member.

8 One other example is Arkansas Electric,
9 a generation and transmission cooperative that
10 provides wholesale electric power to 17 electric
11 cooperatives which in turn serve over 500,000
12 members located in every county in Arkansas and
13 also in surrounding states. Through joint
14 arrangements with other utilities, Arkansas
15 Electric power production is dependent on reliable
16 and economical rail service in order to provide
17 reliable and affordable electrical service. So,
18 far this year, Arkansas Electric has seen cycle
19 times increase as much as 30 percent, and coal
20 inventory has dropped by 50 percent in some cases.
21 Due to poor planning and logistics by BNSF, one
22 Arkansas Electric power plant now has only 16 days

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1 of coal inventory.

2 What about the future rail challenges
3 and what cooperatives need from the federal
4 government? A little over 30 years ago, after
5 passage of the Staggers Act, market competition is
6 almost totally lacking for those rail customers
7 who ship by rail, a group often called rail-
8 dependent shippers. In 1980, there were over 40
9 railroad carries. Today, there are just four
10 major railroads that have divided the country into
11 regional monopolies. Recent analysis shows 78
12 percent of rail stations are captive to a single
13 major railroad.

14 Government protections are weak and
15 place all burdens of proof on rail customers,
16 leaving them in a take-it-or-leave-it situation
17 with virtually no path for recourse against the
18 railroads. This lack of recourse leaves the
19 railroads with little accountability for poor
20 performance like that outlined today. Policy
21 changes are needed to increase accountability for
22 railroads to customers and ultimately to

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1 consumers.

2 Today, my statement represents the
3 National Rural Electric Cooperative Association,
4 Consumers United for Rail Equity, and my employer,
5 Dairyland Power Cooperative. We appreciate the
6 Department of Energy holding this event to provide
7 the stakeholders an opportunity to speak. Thank
8 you.

9 (Applause.)

10 MR. HEDERMAN: Thank you, Sean. And now
11 we'll hear from John Gray, Senior Vice President
12 of Policy at the American Association of
13 Railroads.

14 MR. GRAY: Thank you. Thank you for the
15 opportunity to talk to you a little bit about what
16 the energy business is within the rail industry,
17 and then to follow up a little bit on the
18 investment levels that are going on for
19 infrastructure.

20 If you look at what energy is in terms
21 of the portfolio of our business, the largest
22 single carload item is not the largest single

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1 commodity that we handle but it is the largest
2 single carload commodity, is coal. The numbers on
3 here for coal actually represent about a third of
4 the electrical generation capacity in the United
5 States today. So, it's a significant amount of
6 the energy that's used in the US.

7 The other area, and again it's the one
8 that has the red lettering on it, the second one,
9 is the area of crude oil, ethanol and other
10 petroleum products. And it's those three, the
11 crude oil, ethanol and petroleum or coal. I would
12 like to give you a little bit more detail on as we
13 go forward.

14 First of all, in terms of coal, the fact
15 is that the coal is generally produced in places
16 where it's not consumed. And so, you have to get
17 it somewhere. Wyoming is by far the largest
18 production area for coal in the US. In fact, the
19 flow of coal out of Wyoming by rail is the largest
20 freight flow in the US. The amount of coal that
21 comes out of there every year is roughly
22 equivalent to the entire amount of freight that's

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1 handled on the inland waterway system. So,
2 Wyoming alone is about the size of the whole
3 inland waterway system in terms of the volume of
4 freight.

5 It's similar with the other two big
6 producers, Kentucky and West Virginia. The three
7 of them, Wyoming, Kentucky and West Virginia,
8 pretty much dominate the business of producing
9 coal. On the other hand, consumption is all over
10 the board. It's large volumes in some places but
11 there's a lot of different places that receive
12 coal.

13 Now, if you look at coal moving by rail,
14 it peaked in 2008. It's been a declining
15 commodity ever since then. And the decline is
16 pretty straightforward. It's a substitution that
17 a lot of power plants are using natural gas for in
18 place of coal. There's obviously been a tendency
19 for plants that have the capacity to use natural
20 gas because it is cheaper to substitute the
21 natural gas wherever they could over the last few
22 years for coal production. Net impact on our

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1 business and the coal movements is if you look at
2 the volumes, it's down about 30,000 carloads of
3 coal a week for the rail industry. So, we're
4 talking close to a million carloads to a year that
5 we've seen disappear from the portfolio.

6 Crude oil, a different direction on
7 everything for this. If you look at the crude
8 oil, I think the Secretary had mentioned that
9 you've seen production increase in crude oil by
10 about 4,000 percent in terms of what's handled by
11 rail since 1909. That's true. But that is
12 largely a function of the fact that there was
13 almost nothing handled by rail in 1909, or 2009
14 rather.

15 In terms of what the rate of use is
16 running, in 2013 the production that was handled
17 by rail was basically about 900,000 barrels per
18 day. The rate of run in 2014 is a bit over a
19 million barrels a day from what we're seeing so
20 far. So, it has been a growing commodity. It's
21 starting to level off at this point in time, but
22 it is one that has been a growing commodity.

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1 Now, because it has been a growing
2 commodity, it is blamed for every service problem
3 that is known to man by most observers of the rail
4 industry, or outside observers of the rail
5 industry. But the reality is that crude oil is
6 only about one and a half percent of what we
7 handle out there. It's not a huge commodity for
8 the rail industry. As I say, a growing commodity
9 at this point, not a huge one.

10 And in terms of, I believe the Mayor in
11 his opening statement was talking about all the
12 trains of the stuff that there are, well, in
13 reality there are about 5,000 trains that
14 originate on the US rail network everyday
15 somewhere in the country. Of these, about 12 are
16 crude oil trains. So, if you put it in proportion
17 of what it is out there, it's not a lot of new
18 train roads that are out there. But these happen
19 to be concentrated in very specific places,
20 particularly the concentration in North Dakota
21 which has certainly been disruptive just because
22 where you get these things concentrated; it takes

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1 more capacity than would otherwise be available.
2 And it has led to some capacity problems because
3 of that, and that's why one of our members is
4 investing about \$400 million in that area to
5 relieve some of those capacity problems this year.

6 Now, the other big energy item where
7 we're handling the energy material itself is
8 ethanol, again about 300,000 carloads a year,
9 about three-quarters the size of the coal
10 business. Ethanol, unlike coal, unlike crude oil,
11 ethanol moves generally in single carload lots or
12 multiple carload lots rather than unit train lots.
13 And so, it goes from a relatively small number of
14 production points although larger than either coal
15 or crude oil to lots and lots of destination
16 points where it's blended with various gasoline
17 production areas.

18 Finally, let's look a little bit at what
19 the industry has been investing in infrastructure
20 and equipment. By far, most of our investment
21 these days is in infrastructure, not equipment.
22 For example, none of the tank cars that are used

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1 in crude oil service are actually owned by
2 railroads. They're all owned by oil companies. A
3 lot of the cars that are used in coal service are
4 not owned by railroads, they are owned by either
5 utilities or coal production companies.

6 But the infrastructure is owned by us.
7 It's something we have to finance. If you look at
8 the expenditures up here, the total on maintenance
9 and capital, and capital tends to be the growth
10 areas in the infrastructure, the total of it has
11 been about \$25 billion a year here recently. And
12 that's a number that we expect would be sustained
13 going forward, at least at those levels going
14 forward.

15 I'd emphasize that this, unlike the
16 numbers we heard bandied about and a small
17 percentage investment of the resources available,
18 for us this represents 17 to 20 percent of our
19 revenue most years invested in new capital
20 projects. And the total portion of our money
21 going in in the infrastructure is about 40
22 percent. That's not uncommon for a network

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1 industry. It's one of the things where you have a
2 lot of infrastructure; you're going to have a very
3 high portion of your revenue invested back into
4 that infrastructure.

5 The other thing about this is it's all
6 private money. With all due respect to the
7 Secretary this morning in his, you know, his
8 comments on investment in the infrastructure, the
9 reality is for us it all has to come from private
10 sources. There is no public source for investment
11 in our industry. It has to come from basically
12 what we charge our customers to move their
13 freight. And so, that is the source of the
14 investment in our industry, it is not the public.
15 There are public projects that we undertake.
16 However, the vast majority of this investment, I'm
17 talking 99, 98.5 percent, is money that has to
18 come from private sources.

19 So, with that, I'll move on.

20 (Applause.)

21 MR. HEDERMAN: Thank you very much.

22 Next, we'll have another customer, from Wisconsin

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1 Public Service Corporation, Dave Wanner.

2 MR. WANNER: First, I'd like to thank
3 DOE for giving me the opportunity to talk a little
4 bit today about how important rail infrastructure
5 and rail transportation are to my company, and to
6 all our customers as well. The short form of my
7 presentation would simply be to say I share Sean's
8 pain. But I'll be a little less brief than that.

9 I'm the Manager of Fuel Services for
10 Wisconsin Public Service Corporation, or WPS for
11 short. And we serve about 445,000 customers for
12 electricity, and about 323,000 natural gas
13 customers. These are primarily located in
14 Northeastern Wisconsin.

15 During 2013, approximately 82 percent of
16 all the electricity we generated, and
17 approximately 55 percent of all the electricity
18 that we provided to our customers came either from
19 our own coal-fired power plants or from our share
20 of jointly owned coal-fired power plants. So,
21 coal-fired power is very important to us. Our
22 coal all comes from the Powder River Basin in

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1 Wyoming and it's all transported by rail, and
2 there really isn't another viable mode of
3 transportation for coal to our plants.

4 Now, I'm going to use events that began
5 in late 2013, much as Sean experienced, and really
6 continue to this day, to kind of illustrate both
7 the importance of rail to our business and also
8 some areas that maybe should be looked into. My
9 comments are going to be based on events at our
10 Westin Plant. Our Westin Plant is located in
11 North Central Wisconsin. It's our largest coal-
12 fired power plant.

13 At the beginning of December 2013, our
14 inventories were sitting, our coal inventories
15 were sitting at about 105 percent of our target.
16 So, we were about where we wanted to be. And rail
17 deliveries during 2013 had been generally
18 reliable. However, in December, that changed.
19 Our December cycle times which is a time that the
20 railroads have both the loaded train that they
21 bring to the plant and then once we empty the
22 train, the empty train back to the mine, that

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1 combined time is the railroad cycle time, and it
2 increased over 25 percent in December compared to
3 our year-to-date average.

4 Now, by the end of December 2013, our
5 inventory was all the way down to 72 percent from
6 its 105 percent at beginning of the month. We
7 really do need reliable deliveries of coal. And
8 of course, at this time we're in the middle of
9 this really cold winter, this polar vortex, and
10 delivered natural gas prices to parts of Wisconsin
11 was skyrocketing. Oftentimes, the Henry Hub price
12 was quoted as a barometer of natural gas prices.
13 Well, some of the delivered prices into parts of
14 Wisconsin were five or six times above that Henry
15 Hub price which was itself increasing. And a lot
16 of that is partly due to pipeline capacity issues
17 for natural gas, much as we're seeing in the
18 northeastern part of the country.

19 But this also illustrates one of coal's
20 significant advantages. Now, coal is the only
21 source of electricity, the only large source of
22 electricity that can store significant amounts of

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1 fuel onsite. However, this large advantage of
2 coal is greatly nullified if the railroads don't
3 provide reliable transportation.

4 Rail service to Westin continued to
5 struggle during January and February of 2014. By
6 the end of February 2014, we were down to 23
7 percent of our target inventory. Therefore, at
8 the beginning of March, we had to implement some
9 coal conservation measures, or else we were going
10 to run out of coal and March can still be pretty
11 cold in Wisconsin, so we certainly couldn't risk
12 that. Now, these measures increased the cost of
13 providing electricity to our customers because
14 we're replacing our most economical source of
15 generation with whatever else we can find in the
16 market.

17 Cycle times during the first quarter of
18 2014 were 65 percent greater than our January
19 through November 2013 average. Extremely
20 significant degradation of service. The inventory
21 at Westin actually didn't recover until May of
22 2014 when we had a planned outage of our largest

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1 unit at Westin, and that's really the only thing
2 that brought it back.

3 Now, initially, we had, you know, of
4 course many discussions with the railroads. We
5 work with them everyday. And initially, all the
6 discussions centered on the bad weather, the
7 winter weather, how it was affecting operations.
8 That was the issue. However, after winter ended,
9 rail service to Westin didn't really improve very
10 much.

11 Cycle times during the second quarter of
12 2014 were still almost 50 percent greater than our
13 2013 January through November average. Now, at
14 this point, as I stand here today, we've had a
15 relatively cool start to summer and that's kind of
16 helped us to some extent maintain our inventories,
17 although we still have issues with service. And
18 in July alone, we lost an amount of coal equal to
19 17 percent of our inventory target.

20 So, this has been an ongoing situation
21 and it kind of brings to mind a couple of things
22 that hopefully Department of Energy will consider

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1 when they're looking at rail infrastructure. And
2 the first point is sufficient infrastructure has
3 to exist to move all traffic. Both of the
4 railroads that are involved in the movements of
5 our coal to Westin reported year over year gains
6 in both volume and revenue, 2014 compared to 2013,
7 both Q1 and Q2. At the same time, shippers such
8 as ourselves and green shippers also were
9 experiencing severe rail service shortages. So,
10 this would seem to indicate there's some kind of
11 an infrastructure issue there.

12 Also, we would like to see increased
13 rail system transparency. We're trying to figure
14 out how long these shortages are going to last,
15 how severe they're going to be, and yet we have
16 absolutely no idea whatever traffic beyond our own
17 trains is moving on the rail system. So, that's a
18 challenge for us and it really hampers our ability
19 to minimize the cost of these disruptions to our
20 customers. If we know there's only going to be a
21 one-week disruption due to some isolated event, we
22 have enough inventory. We don't really have to do

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1 anything. If we know it's going to be eight
2 months like this one has been, well, that's an
3 entirely different story.

4 Finally, rail competition has to be
5 enhanced, and Sean touched on this as well. There
6 are only two railroads with access to the Powder
7 River Basin. Not only does this duopoly situation
8 give the railroad significant pricing power, it
9 also gives them significant power to dictate
10 service standards in contracts. And with service
11 standards not being very strong in contracts, the
12 railroads can shift services, shift resources away
13 from coal deliveries without any penalty.

14 So, in short, those three things again,
15 sufficient infrastructure for all traffic,
16 increased rail system transparency, and enhanced
17 rail competition are three things that I think
18 deserve to be looked at. And I would just like to
19 thank DOE once again for allowing me to
20 participate in this panel.

21 (Applause.)

22 MR. HEDERMAN: Thank you very much,

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1 Dave. Next up is Commissioner Rebeckah Scheinfeld
2 who is with the Chicago Department of
3 Transportation and will start the discussion from
4 the public sector perspectives here. Thank you.

5 MS. SCHEINFELD: Good morning. I'm
6 Rebeckah Scheinfeld, Commissioner of the Chicago
7 Department of Transportation. I'm glad to have
8 the opportunity to be here today to build upon
9 what the Mayor kicked off this morning in
10 providing the municipal perspective here.

11 As the Mayor mentioned in his remarks
12 earlier, Chicago is a global hub for
13 transportation distribution and logistics. We are
14 home to the most extensive freight rail system in
15 the country, two of the nation's busiest airports,
16 the nation's second busiest transit system, seven
17 major interstate highways, 300 bridges, and more
18 than 4,000 miles of streets. The Chicago region
19 alone has the most extensive freight rail
20 infrastructure of any metropolitan area in the US.
21 We see 46 percent of all containerized freight in
22 the US, 25 percent of all US rail traffic travels

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1 to, from or through Chicago. And our inter-modal
2 rail yards process 12 million TEUs worth of
3 containers every year, a level of activity that
4 would rank our region among the world's ten
5 busiest containerized freight sea ports.

6 This freight activity is part of what
7 makes Chicago such a vibrant city and contributes
8 to our regional economy. However, at the same
9 time, it underscores the importance of railroad
10 safety, particularly as it pertains to the
11 transportation of energy resources. Demand for
12 freight and passenger rail service in the Chicago
13 region is expected to grow considerably from 2018
14 to 2040, as a number of colleagues on this panel's
15 previous speakers have noted.

16 If we can accommodate this train
17 traffic, this growth will generate an estimated
18 172,000 job years of employment and up to \$7
19 billion in annual production. But to achieve this
20 economic growth, it is incumbent upon our region
21 to find ways to expand rail capacity while
22 appropriately managing community impacts. Each

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1 day, 500 freight trains, 750 metric commuter rail
2 trains, and 50 Amtrak passenger trains travel
3 through Chicago. While we don't have exact
4 numbers, estimates show that about 5 to 10 of
5 these trains each day are unit trains carrying
6 crude oil through the city.

7 As I noted, the extensive infrastructure
8 in the City of Chicago alone to handle this rail
9 traffic is quite impressive. There are 220 miles
10 of freight and passenger rail corridors, and these
11 railroads utilize 863 bridges and viaducts and
12 pass through 393 at-grade crossings. More than 55
13 percent of the city's land area is located within
14 one half mile of freight tracks. Within this one-
15 half mile radius, that includes more than 1.6
16 million residents, 431 primary schools, 91 high
17 schools, 29 colleges and universities, and 313
18 public parks. So, this is what underscores our
19 focus on safety in terms of thinking about the
20 safe passage of freight rail traffic for carrying
21 many different types of commodities and other load
22 including the different energy sources discussed

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1 today.

2 The recent domestic energy boom in the
3 US is great for business and for energy security,
4 and rail remains one of the safest ways to
5 transport these goods. Crude oil shipments by
6 rail have increased by over 400 percent since
7 2005, again a statistic I'm echoing what a number
8 of others have mentioned today, and that this has
9 been such a dramatic increase that just ten years
10 ago we didn't see anything of this significance.
11 And so, the policies and investments are lagging
12 and need to catch up to this new reality.

13 Recent derailments and explosions that
14 devastated communities in Virginia, North Dakota,
15 Alabama, Illinois and Canada have called national
16 attention to the safety gap and underscore that we
17 can and we must do more to protect our
18 communities. Recognizing this issue, in January,
19 Mayor Emanuel along with mayors from across the
20 country made a strong national call for common
21 sense reforms that will help keep our communities
22 safe. Just last month, the US Conference of

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1 Mayors adopted a policy resolution calling for
2 these same reforms.

3 I think it's important to note that
4 there is no silver bullet here and we need a
5 comprehensive approach that relies on partnerships
6 across the public and private sector. We have to
7 invest in building safe and efficient
8 infrastructure to prevent accidents from happening
9 in the first place. At the same time, we need to
10 make sure hazardous materials are properly
11 understood, inspected and handled, and that our
12 emergency responders are adequately prepared in
13 the event of an accident. We also need to make
14 sure shippers are carrying adequate insurance to
15 cover the costs of any potential accident.

16 Secretary Foxx has been working
17 aggressively to manage these issues in
18 partnerships with cities like Chicago, the
19 railroad industry, and oil and energy producers.
20 Last week, the US Department of Transportation
21 released proposed rules that will clarify
22 classification standards for dangerous materials;

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1 improve specifications for railcars carrying
2 hazardous materials and quickly phase out older,
3 unsafe cars; set speed limits for trains carrying
4 large amounts of hazardous materials through
5 populated areas; and require railroads to provide
6 information to first responders to help them
7 adequately respond to any such incidents.

8 Still, Congress can do more to address
9 the safety gap through providing the resources we
10 need to invest in strengthening our freight
11 infrastructure and ensuring our emergency
12 responders have the information and resources they
13 need. These investments should not be
14 contentious. They create jobs, they help grow the
15 economy, and they help protect our communities.
16 Everyone wins.

17 We have a long and successful history of
18 working with the freight railroads to maintain and
19 improve Chicago's infrastructure while mitigating
20 community and regional impacts. For example, the
21 city, the State of Illinois, the US Department of
22 Transportation, and the freight, passenger and

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1 commuter railroads have been working
2 collaboratively through the years on the public-
3 private partnership known as CREATE which improves
4 the efficiency and effectiveness of freight,
5 commuter and inter-city passenger rail to reduce
6 delays within the Chicago region. CREATE stands
7 for the Chicago Region Environmental and
8 Transportation Efficiency program. It's a 7D
9 project, \$3.8 billion plan.

10 If we complete all of these projects,
11 we'll improve the national economy by making cross
12 country shipping more efficient. Already,
13 investments to date have reduced freight train
14 delay in the region by 28 percent, and passenger
15 train delay by 33 percent. Completing all of the
16 projects within 20 years will reduce freight train
17 delay by an additional 50 percent, and passenger
18 and commuter train delay by an additional 66
19 percent.

20 Right now, there is no federal
21 investment aimed at building the capacity and
22 improving the safety of our national freight rail

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1 infrastructure. Secretary Foxx in Congress have
2 proposed programs to include in a new
3 transportation bill, but as you all know, those
4 long-term investments are on hold in Congress
5 right now as they continue to negotiate a long-
6 term transportation reauthorization bill. Federal
7 investment is needed for projects like CREATE that
8 improve our rail infrastructure, improve the
9 efficiency of goods movement for the entire
10 country, and most importantly, help keep our
11 communities safe.

12 Thank you again for your attention and
13 for the opportunity to address you today.

14 (Applause.)

15 MR. HEDERMAN: Okay, thank you,
16 Commissioner. Our last speaker on this panel is
17 Professor John Birge from the University of
18 Chicago Business School, and former of dean of
19 Northwestern Engineering School. Thank you, John.

20 MR. BIRGE: Thank you. I want to thank
21 you all for coming to this, and thank DOE for
22 putting this together here in Chicago which, as

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1 you've heard, is really a hub for transportation
2 and transportation of energy.

3 I'm the only academic on this panel and,
4 as you probably know, I'm used to speaking for an
5 hour at a time. But I'm going to refrain from
6 that today hopefully. But I do want to do a
7 little bit of education and, well, talk about,
8 maybe go about a little bit, thinking about how
9 our rail system came to be, and actually what role
10 it's actually played in our entire economy, the
11 incredibly important role it's played in our
12 entire economy as well as in our policies. Much
13 of our policy actually was formed on regulating
14 the railroad industry. And in fact, the
15 Interstate Commerce Act of 1887 which was focused
16 on the railroad industry is really the basis for
17 all of our laws that govern trade between the
18 states. And that's really been sort of the last
19 legacy of the railroads for a long time.

20 What happened later in the century was,
21 later in the 20th century was the Staggers Act in
22 1980 that was referred to earlier. If you look at

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1 it, I guess I don't have the chart, but I'll just
2 tell you that prices since the Staggers Act came
3 down substantially. I would say it was because of
4 people in my profession of operations research who
5 made the railroads much more efficient. They've
6 come up a little bit since 2008, but in that
7 period they went down effectively by about 50
8 percent.

9 One thing that was also mentioned about
10 the railroad industry is that it is highly capital
11 intensive. And that leads to, it's very hard to
12 understand exactly how, when we just look at it,
13 how the effects of something like regulations
14 governing the use of coal for electric power, how
15 that affects the distribution of that coal through
16 the rails and impacts the utilities like we've
17 heard here. One of the things that has happened
18 while the coal has been decreasing overall, what
19 that's meant is, we're showing the earlier chart,
20 coal has gone down as a fraction of the amount
21 that the railroads are transporting. And it's
22 also being used in different ways.

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1 Before, coal was basically used as base
2 load throughout most of the country, but now we
3 see base load being taken over by natural gas,
4 coal being used as more of a shoulder kind of
5 resource. And that creates a different kind of
6 need. And unfortunately, the way the railroads
7 are constructed, that doesn't necessarily
8 translate directly into just, you know, delivering
9 larger loads. It actually creates a hardship on
10 them to be able to get and to be able to service
11 in the way that the utilities would certainly
12 prefer.

13 Since this is kind of an example of sort
14 of the indirect impact of some regulation,
15 regulation in one area which is good, trying to
16 make the air fresher for us and for our children,
17 but also having an impact in how the business is
18 done in the area of coal, I was also going to
19 mention about crude oil, crude oil being an
20 increasing part of what the railroads are
21 transporting. Although it is, as John Gray had
22 shown, it is actually a very small part still of

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1 the overall amount that railroads are
2 transporting.

3 When we think about the policies that
4 are governing the delivery of that crude oil, we
5 have to think about not only the impact in terms
6 of safety of that delivery, but what will be the
7 alternative if we have to push that to another
8 mode of transportation. And for example, if it
9 were to go by truck instead of rail, then the
10 opportunities for safety issues might increase.
11 So, in considering that kind of legislation, we
12 have to think about the ramifications of that in
13 other areas besides the direct impact on the rail
14 industry.

15 The other two things I'll just mention
16 that haven't come up in terms of what rail can do
17 for energy are some things that are being looked
18 at here with some of my colleagues at the Illinois
19 Institute of Technology. One is to use rail to
20 actually transport electricity in batteries. As
21 you probably know, there's been a great growth in
22 terms of intermittent renewable production of

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1 electricity using wind particularly here in the
2 Midwest. However, we don't have the transmission
3 capacity to take all that wind and to get it to us
4 here in urban areas.

5 If you look at the Midcontinent
6 Independent System Operator's map of prices at any
7 point in time, you'll see great variations. A
8 price will be minus \$10, a minus \$10 actually
9 happens in one area, and then 50 miles away it
10 will be more than \$100 a megawatt hour. The
11 reason for that is that we don't have the
12 transmission capacity. Rail can actually provide
13 a mode to be able to move the electricity that's
14 being produced in one area and move it to another
15 without having to put in expensive transmission,
16 without having to go through that effort.

17 And then the other thing, just since we
18 are in an urban area in Chicago, when those trains
19 come in to these stations, they generate a lot of
20 heat. That heat can be recaptured, that can be
21 put into power. This is being done in China where
22 they are actually powering entire blocks just

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1 based on the energy that's produced by commuter
2 rail. And those are the other kinds of things
3 that we can do with rail here in the United
4 States.

5 So, just too close, I'll just say I
6 think there are many things we need to think about
7 in terms of policies related to rail and
8 transportation, and in particular to think about
9 from the systems perspective so we see all the
10 sides of the issues. Thank you.

11 (Applause.)

12 MR. HEDERMAN: So, Professor Birge, I
13 want to apologize for not getting the slides up.
14 There was some logistics challenge there. But all
15 of the presentations will be up on the QER
16 website, so anybody who wants access to this later
17 can get it that way.

18 Fred, do you want to lead the
19 discussion?

20 DR. HANSEN: The question that comes to
21 mind when I listen to all of the speakers is the
22 issue of collaboration and coordination of the

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1 partnerships and sort of different stakeholders
2 getting together and talking, the people who need
3 the coal, the railroads who deliver the coal, the
4 policymaker, the regulators. My question I guess
5 is what do you see as the barriers to that
6 collaboration, stakeholder partnerships, and how
7 can the federal government help in that?

8 So, I'm just going to go down the line
9 and have each one of you do that. Craig, you want
10 to start?

11 MR. CRAIG: I'll take the first shot
12 there. As far as the collaboration, I think what
13 it comes down to -- am I still on? As far as the
14 collaboration, I think what it comes down to is
15 the goals. And I think the first step that we're
16 seeing right now, what the Department of Energy is
17 doing with the QER, I think once we come together
18 as far as what goals we have, almost like a
19 grassroots type of plan, I think that can work.

20 MR. GRAY: You know, the reality is that
21 our industry lives in where you need to
22 collaborate with your customers, with the

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1 communities that you operate in, with the
2 stakeholders that are involved with your business,
3 or you don't last long actually in the business.
4 You have to do it. It's part of what is the
5 routine.

6 Reality is that when you're managing
7 between hundreds of different communities,
8 thousands of different customers, inevitably
9 somebody is not going to get what they want.
10 There's going to be problems in one way or
11 another. The key is how you manage those
12 differences. Some can be managed readily, some
13 take much longer to work through. But it is a
14 process that has to be continuous; it has to be
15 part of your day-to-day business.

16 I'm not sure that in most cases it's one
17 which is particularly a vibrant role for
18 regulatory agencies. There may be an
19 informational role at times, but the reality is
20 that if these things don't happen on a one-on-one
21 basis between the parties, that they're not likely
22 to be successful if they are simply forced by

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1 regulatory.

2 DR. HANSEN: Okay. Again, barriers to
3 collaboration and what can overcome them.

4 MR. WANNER: Yes. I don't know if there
5 are really barriers to communication between us
6 and the railroads. We would talk to the railroads
7 every single day because we have trains moving
8 every single day. On the other hand, you know,
9 the regulatory thing is a little bit more
10 difficult if you will because the railroads are,
11 you know, they're private companies.

12 There is regulation; there is a Surface
13 Transportation Board. We have found that not to
14 be a very effective way to get our issues out. If
15 there would be some way that that could be a more
16 effective way of maybe getting issues addressed, I
17 think that would be helpful. But between us and
18 the railroads, we talk everyday.

19 DR. HANSEN: Okay.

20 MS. SCHEINFELD: Again, as you noted,
21 collaboration is key and it's not without
22 precedent. I noted in my remarks the success of

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1 the CREATE program for the Chicago region which
2 has been critical to partnership between multiple
3 levels of government along with partnership
4 between the public and the private sector.

5 I think the federal role and a key
6 action now is to provide long-term certainty and
7 vision through a long-term transportation
8 reauthorization bill which will have manifold
9 impacts because it has, in the previous panel,
10 there was discussion about how different modes of
11 transportation are sort of siloed in thinking
12 about it, but the fact is that the public and the
13 private sector have competing demands on the types
14 of investments that need to be made in
15 infrastructure, between highways, rail, waterways,
16 local roads, arterial roads, et cetera. All
17 parties on the public and the private side are
18 trying to manage limited resources and prioritize
19 investment of resources effectively.

20 So, federal leadership with a long-term
21 bill will provide help in terms of certainty for a
22 long-term vision coupled with regulatory reforms

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1 that can help the public and private sector
2 collaborate even more effectively to prioritize
3 their respective resources so that we can focus on
4 the most productive projects or productive policy
5 and operational changes.

6 DR. HANSEN: Okay, thank you.

7 MR. BIRGE: Yes, I think in general,
8 communication obviously is necessary. But I think
9 it's more than communication, it's actually
10 understanding. It's knowing, you know, what the
11 issues are that other people are dealing with, and
12 particularly in this case, for example, with the
13 railroads compared to utilities, understanding the
14 complexity of the environments that these other
15 collaborators operate in. And I think that takes
16 ongoing dialogue. I think the types of things
17 that DOE is doing are definitely steps in the
18 right direction.

19 DR. HANSEN: Okay. I'm just curious,
20 what, again I'll let everyone have a shot at this,
21 but I'm just curious, what are the, what do you
22 see as the major infrastructure priorities,

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1 infrastructure development or maintenance
2 priorities for the rail side? John, you want to
3 start again?

4 MR. BIRGE: Yes. So, I think replacing
5 the capacity that's taken from coal and that means
6 looking at different lines, different ways in
7 which we can connect, obviously maintaining our
8 existing infrastructure but upgrading the
9 remaining infrastructure and creating connections
10 where we can actually best serve the needs of kind
11 of the new development, particularly in the crude
12 oil and ethanol areas.

13 DR. HANSEN: Okay. So, you're saying
14 new connections and new rail lines?

15 MR. BIRGE: Yes. I mean I see
16 opportunities where, for example, if we also had
17 regulation governing the limit on the speed of
18 crude oil, that's going to require additional rail
19 for the offsetting.

20 DR. HANSEN: Okay.

21 MS. SCHEINFELD: In the Chicago region,
22 one of the focuses of the CREATE program has been

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1 to do great separation projects and limit made at-
2 grade crossings which currently contribute to
3 significant delays both for freight rail as well
4 as passenger rail. So, continuing to advance
5 great separation opportunities will be critical in
6 terms of improving reliability which overall
7 impacts in a positive way the cost structures for
8 both the public and the private sector in terms of
9 passenger rail and freight rail, as well as it's a
10 win-win because it does improve safety
11 significantly. So, those would be continuing
12 priorities within the Chicago region.

13 DR. HANSEN: Good.

14 MR. WANNER: You know, that's a really
15 good question, and it goes back to one of the
16 points I made in my presentation where we have no
17 idea what other traffic is really moving on
18 specific parts of the rail system. You know, for
19 example, you talk about, I think the State of
20 Wisconsin actually asked the railroads at one
21 point recently how many crude oil trains were
22 moving through certain corridors. And through one

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1 corridor there were five a day. Now, it's not
2 much of the overall railroad transportation, but
3 for people on that corridor, it's a big deal. But
4 we really don't usually get that kind of
5 information.

6 The other thing with, you know, with
7 crude oil shipments, it's not just the crude oil,
8 it's also the frac sand, there's a lot of frac
9 sand in Western Wisconsin that has to move to the
10 Bakken. That obviously takes rail capacity.
11 There is the pipe that's used in the fracking
12 process. So, it's more than just counting the
13 number of crude oil trains.

14 But to say specifically, you know, which
15 sightings or what track needs to be improved, it's
16 really hard for me to say because it's opaque.

17 MR. GRAY: Well, I'd say that there are
18 two or three different items that I've heard going
19 on in the conversation, two or three different
20 strings on it.

21 One of those is what was talked about by
22 John a little bit earlier, and that is the fact

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1 that one of the reasons for investment is the fact
2 that the markets that we serve are always
3 changing. You could make the argument that given
4 the amount of reductions in coal, that there is
5 not as much infrastructure needed there. Well,
6 it's not a simple matter just to pick it up, the
7 infrastructure that was there, when there are a
8 million and 500,000 more carloads of coal on the
9 system that's still there. It's all still there,
10 it's just in the wrong place for where the
11 business is now.

12 And quite frankly, once you get
13 something out of sync in a rail network just like
14 in the other network, it doesn't affect just the
15 business that happens to be out of sync; it
16 affects everything on that network. It is a
17 network business. But fundamental point, the
18 markets are always changing.

19 So, you always have to invest in what
20 is, you hope, the next market, you have to invest
21 in what you hope is going to be that change in
22 what direction that change is going to be and what

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1 the degree the change is going to be. All of
2 those things are predictable at about the same
3 level of accuracy as any other prediction, that
4 being if you hit one in four or one in five;
5 you're doing pretty good on it. So, you know,
6 let's not kid ourselves that something like this
7 is absolutely predictable or absolutely knowable.

8 The other thing, and I think this is
9 important in terms of the whole issue of
10 collaboration on this, on infrastructure, and that
11 is we've talked about CREATE as something that is
12 a collaborative project. One of the things I'd
13 emphasize about CREATE though that almost makes it
14 unique, not entirely but almost makes it unique,
15 is that it has been one of the few picked areas
16 where the public has actually shown up with money
17 to do what they felt was necessary for their area,
18 and not just shown up with one tranche of money
19 but has been consistently in the game. And that
20 is really hard to do for public agencies. And
21 it's something in our industry we have a lot of
22 respect for what's happened in Chicago because of

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1 that.

2 But that brings a critical issue to the
3 fore, and that is if the public is going to be
4 involved in a lot of the understanding of this
5 decision, it also has to take some responsibility.
6 And part of that responsibility is to show up with
7 the resources necessary to do what the public
8 wants.

9 MR. CRAIG: I'm not an expert on the
10 economy, but as far as what has happened this past
11 year, there's multiple commodities that are being
12 impacted, and we were just up here today
13 discussing about coal, Dave and I. I think as far
14 as using emergency orders for commodities that are
15 critical to the economy, require carriers to
16 submit long-term plans to address rail shipment
17 growth and ensure reliable rail service, and
18 require carriers to submit emergency contingent
19 plans in preparation for such as the next severe
20 winter or any crisis.

21 As a utility, we are required by
22 regulation to have contingency plans to prepare

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1 for an emergency crisis. So, I'd like to, for the
2 QER to review that.

3 DR. HANSEN: Okay. Let me finish up on
4 final words of advice. Sean, do you want to
5 start? Final words of advice for the QER team.

6 MR. CRAIG: At Dairyland Power, our
7 mission as a cooperative organization is being
8 responsible to its members, provide reliable and
9 competitively priced energy and services,
10 consistent with the wise use of resources. Our
11 core values include accountability, integrity,
12 innovation and a commitment to community. In the
13 last 12 months, Dairyland has been challenged with
14 rail service and has used costly alternatives to
15 replace our generation while we make sure we have
16 coal in the ground.

17 The QER review is important to the
18 National Rural Electric Cooperative Association,
19 Dairyland Power and CURE for evaluating the latest
20 transportation challenges we're experiencing to
21 deliver coal out of the Powder River Basin. We're
22 encouraged this review will be a step forward to

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1 ensure all consumers in the United States can
2 receive reliable electricity at reasonable prices.
3 Thank you for the opportunity.

4 MR. GRAY: I guess if I had to look at
5 the, you know, where do you go, what's the advice
6 coming out of this, it's look at those things that
7 are working and encourage them, and stay out of
8 the way of those things that are working well and
9 don't get involved and screw it up.

10 MR. WANNER: Don't screw it up, words of
11 wisdom. Yes, I guess I would say, you know,
12 overall, the QER, you know, you really want to
13 keep all forms of energy available and reliable,
14 so certainly don't forget coal. And as I
15 mentioned, coal does have some distinct
16 advantages, you know, the onsite inventory
17 advantage. And we have had reliable rail service
18 in the past, you know, for many years. It's not
19 something that can't be done.

20 It's a matter of business planning and,
21 you know, as John said, you don't always get it
22 right but hopefully you can always get it close

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1 enough to recover at a reasonable time frame.
2 Obviously rail service can work. I rode the CTA
3 train in from the airport today, got here plenty
4 of time, thank you for that. So, we can do it.
5 But I'd just say, just don't overlook any form of
6 energy.

7 DR. HANSEN: Okay, good.

8 MS. SCHEINFELD: Continuing to grow
9 economy acquires investments in our transportation
10 infrastructure so we can continue to move energy
11 and other supports for the economy quickly and
12 efficiently and safely. And so, it's important
13 that we review those changes. As has been noted,
14 there's been significant changes in the
15 distribution of the type of energy that's needed
16 and how that's proving around the country. And we
17 need to make sure that our vision for the future
18 and the regulations that accompany that catch up
19 to the current sort of distribution of demands on
20 the system, and so that that federal leadership
21 can provide overall context in which the states
22 and municipalities can then reinforce that long-

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1 term vision with their own commensurate partnered
2 investments.

3 MR. BIRGE: My advice for the QER is, as
4 we look forward to energy policy and the future of
5 energy for our country, that we take a systems
6 perspective, that we look at not just what's the
7 immediate impact or what's the direct impact of
8 any of our policy recommendations, but how is it
9 going to ripple through the economy, because it's
10 not just the rails that are networked, but really
11 our economy is more networked everyday. And we
12 have to think about how any action that we take is
13 just going to have an impact and a lasting effect.

14 DR. HANSEN: Good, all right. Thank you
15 very much, panel.

16 (Applause.)

17 DR. HANSEN: Could we have the final
18 panel come up?

19 (Pause.)

20 MR. HEDERMAN: I do want to remind
21 everyone that we will turn to the public comment
22 right at the end of this panel.

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1 Okay, we'll get going. Usually the
2 third panel of a morning phase is being between
3 the audience and lunch, but today it's between the
4 audience and the audience speaking. So, this will
5 be even more of a driver for us.

6 So, this group will address the barge
7 and other waterway issues. We've got again users
8 and a tanker/barge operator and then government
9 officials. And we'll get those perspectives on
10 the table here again and then turn to a discussion
11 and then on to the open mic.

12 So, our first speaker is Marty Hettel,
13 Senior Manager with the AEP River Operations, and
14 he's in charge of their waterway regulatory
15 programs. Marty?

16 MR. HETTEL: Well, good morning. I
17 certainly want to thank everybody for the
18 opportunity to address you today. A little bit
19 about AEP River Operations before I get started in
20 my comments. Run by American Electric Power, a
21 huge generator of electricity in 11 different
22 states, a huge consumer of coal and we transport a

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1 lot of that coal to our power plants. We move
2 about 75 million tons of coal annually on the
3 inland waterway system.

4 And speaking of those tonnage, in 2012,
5 the inland waterway industry delivered 565 million
6 tons of commodities on the inland waterway system,
7 commodities that keep the lights on, products that
8 power our vehicles, materials used to produce
9 products that we use in our day-to-day lives,
10 products that build America, and grains that
11 export to feed the world. And according to a
12 study performed by the Texas Transportation
13 Institute for the National Waterways Foundation,
14 the inland waterway system moves these commodities
15 in the safest, most environmentally friendly, most
16 fuel efficient, and most cost-effective manner of
17 delivering bulk commodities within the United
18 States. And while our inland waterway system
19 continues to be a reliable means for transporting
20 bulk commodities, the efficiencies we gain by
21 shipping on inland waterways is being challenged
22 by our aging infrastructure.

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1 Outages on the inland waterway locks and
2 dams have increased from 28,000 hours in 1992 to
3 180,000 in 2008. That's a 543 percent increase in
4 out-of-service time in a mere 16 years. While
5 we've seen some improvements from 2008 to 2013,
6 however, in 2013 we still experienced 142,000
7 hours that locks were out of service, meaning
8 that's an increase of 407 percent as compared to
9 1992. And I don't believe it's going to get any
10 better.

11 As of 2014, 60 percent of the Corps of
12 Engineers' inventory of locks and dams, or 144 of
13 the 242 locks are over 50 years old. Add six
14 years to that, by 2020, 70 percent of those
15 facilities, 169 of 242 of them will be over 50
16 years old. And let's go all the way up to 2030,
17 remember that 16-year time frame, from '92 to
18 2008, 16 years from now 85 percent of these
19 facilities or 207 of the 242 lock facilities in
20 the Corps' inventory will be over 50 years old.
21 And according to the Corps of Engineers, these
22 facilities are built for a design life of 50

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1 years. So, we are facing infrastructure problems
2 as the engineers have been speaking up here in one
3 of the previous panels.

4 Now, navigation is not the only
5 beneficiary of the inland waterway system. While
6 it's certainly true that dams hold back water that
7 creates pools for the freight delivery, dams also
8 provide water for municipal and industrial use.
9 Dams create pools of water that are vital for
10 recreational boating. Dams hold back water that's
11 utilized by hydroelectric facilities. Dams hold
12 back water for irrigation of our farmlands. Dams
13 hold back waters that increase land values, and
14 dams hold back water that assist in flood
15 prevention during high water events. So, you can
16 certainly see there are many more beneficiaries to
17 locks and dams besides navigation.

18 Now, the recent Water Resources Reform
19 and Development Act of 2014 which was signed into
20 law by the President in June 10th of this year is
21 a good start to recapitalizing and improving our
22 aging infrastructure. However, there is one

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1 component that did not make it into the WRDA bill,
2 and that component that wasn't included in the
3 WRDA bill was a legislation that would have raised
4 our inland waterway user fee from 20 cents a
5 gallon to between 26 and 29 cents a gallon. This
6 additional 6 to 9 cents a gallon increase in our
7 users' fee is being volunteered by the shippers
8 and carriers that use the inland waterway system
9 to help address our aging infrastructure
10 challenge.

11 However, the routine maintenance needed
12 to keep these locks and dam facilities
13 operational, thus keeping them from needing
14 recapitalization, we need more routine maintenance
15 on these locks and dams. We expect to these
16 outages continue to increase as these facilities
17 age, and similar to your vehicle that you operate,
18 the more years, the more mileage you get on it,
19 the more maintenance you have to put into it
20 before you have to recapitalize and buy a new car.

21 Continued escalation of lock outages can
22 cost the consumer due to the increased delay costs

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1 for the raw materials. In the last four years,
2 there's been seven major lock outages that have
3 increased shipper and carrier costs by over \$240
4 million. These costs are passed on not only to
5 the consumer, but can also have a negative effect
6 on our exports as we continue to compete in a
7 world marketplace.

8 Now, here in the United States, American
9 Electric, our river-served power plants rely on
10 the inland waterway system for delivery of fuel
11 and environmental consumables to produce
12 electricity and are dependent upon this inland
13 waterway system. During the cold weather, we've
14 heard the polar vortex brought up a couple of
15 times today, during the cold weather in January,
16 American Electric Power utilized every bit of the
17 capacity we had available to feed the grid which
18 included 89 percent of all the coal-fired power
19 plants that we must retire next year due to the
20 maths really. Despite the extraordinary
21 performance of these plants during this harsh
22 winter, they're not going to run after June of

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1 2015, they're going to be shut down. And as these
2 older plants at American Electric Power get shut
3 down and other utility companies get shut down;
4 it's going to be even more important that we avoid
5 disruptions and deliveries of fuel and
6 environmental consumables to the base load power
7 plants that will be running more often in order to
8 keep the grid supplied with power.

9 So, I want to summarize my comments.
10 Number one, we need to recapitalize parts of our
11 aging infrastructure, inland waterway
12 infrastructure. We also need to increase
13 maintenance on our aging inland waterway
14 infrastructure in order to keep lock and dam
15 facilities from falling into a state of disrepair
16 to the point recapitalization is needed. And if
17 we can achieve recapitalization and continue to
18 maintain the facilities that are currently
19 operational, our export products will be even more
20 competitive in the world marketplace. We'll be
21 able to keep the lights on. We can continue to
22 build America, and consumers will be able to continue

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1 to receive the benefits of the safest, most
2 environmentally friendly, most fuel efficient, and
3 most cost effective means of delivering bulk
4 commodities in the United States, our inland
5 waterway system.

6 Thank you. I'd be happy and look
7 forward to your questions.

8 (Applause.)

9 MR. HEDERMAN: Thank you, Marty. Matt
10 Woodruff is our next speaker. He's Director at
11 the Kirby Corporation which is the nation's
12 largest tank barge operating company. Matt?

13 MR. WOODRUFF: First of all, I'd like to
14 thank the Department of Energy for giving us an
15 opportunity to present today because I think this
16 is a very important discussion for the nation, and
17 the fact that you recognize the importance of
18 marine transportation as part of the overall
19 energy equation for the nation I think is very
20 good for a start.

21 As was stated, Kirby Corporation is the
22 largest operator of both inland and coastal tank

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1 barges in the US. Marine transportation, both
2 inland and coastal, has long played a vital role
3 in the nation's energy supply chain. Moving
4 energy by water is not an emerging trend in any
5 sense. We've been doing it safely, reliably and
6 efficiently, but also somewhat quietly for
7 generations.

8 And when we're talking about moving
9 energy, we're not just talking about getting it
10 from the well to the refinery. The molecules that
11 go into our daily life often move many times
12 between the well head and the consumer by water in
13 the form of feed stocks, intermediate feed stocks
14 and finished products, both the petroleum products
15 as well as petrochemicals. You've heard already
16 that marine transportation is the most efficient
17 form of surface transportation, I won't expand on
18 that. I think Marty covered it well.

19 It takes infrastructure, Marty talked
20 about some of the public infrastructure. And
21 whereas, you know, Marty said it might not get
22 better, I want to believe that it can get better,

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1 and that the WRDA bill that was just passed
2 provides us a framework to improve our system,
3 that if we do the funding pieces and we focus on
4 this problem going forward, that relatively
5 modern, or modest I should say investments, that
6 we can ensure our waterway infrastructure will be
7 safe, reliable, and efficient in the future so
8 that we can continue to meet the energy
9 transportation needs of the nation. As I said,
10 WRDA is a good step in that direction.

11 But there is also private infrastructure
12 involved. Our industry is literally investing
13 billions of dollars, not just in terminals but
14 especially in new vessels to meet the energy
15 transportation needs of the nation. And you know,
16 sometimes I hear in energy discussions people
17 talking about, well, we don't have as many tankers
18 as we once did, we just don't have the ship count.
19 People focus on the ship count and really ignore
20 the coastal barge count.

21 I don't think that people realize that
22 the barge of today isn't your grandfather's or

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1 your father's barge. Many of the barges that our
2 company operates are larger than the tankers that
3 served as the mainstays to the American fleet in
4 World War II and well beyond. And so, you know,
5 our barges, 150,000-185,000 barrel barges that we
6 operate are really medium-sized barges. We have
7 competitors who operate barges of twice that
8 capacity. And so, tankers-barges really become
9 interchangeable in terms of capacity. And so, if
10 you're looking at one without looking at the
11 other, you're not really looking at the picture.

12 The renaissance that we're seeing today
13 in shipbuilding is hugely important in terms of
14 jobs, which I know we're talking about energy, but
15 jobs are important, too. Our company is currently
16 building two 185,000 barrel tug barge units on the
17 West Coast. The shipyard that's building the
18 barges has provided 300 new jobs to conduct that
19 project. The shipyard building the tugs has taken
20 on 150 new workers to do that, and that's being
21 replicated across the nation.

22 Yesterday, I heard the Admiral who

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1 commands the 8th Coast Guard District, the
2 Midwest, he says the Coast Guard is currently
3 inspecting 8 to 10 new barges being delivered from
4 shipyards each week in his area of responsibility.
5 That gives you an idea of the level of investment.

6 What we're talking about really, when
7 we're talking about energy today, we're talking
8 about American energy independence. And I would
9 submit that we can't have American energy
10 independence if we don't have a domestic maritime
11 industry to get that energy where it needs to go.
12 The domestic energy provides national security.
13 We maintain the shipyard industrial base that we
14 share with the Navy, the ability to construct
15 naval vessels. Our personnel can be diverted from
16 our vessels to man the reserve fleet in a time of
17 a national emergency.

18 Homeland security is an important issue.
19 You've heard some concerns expressed about
20 transportation safety. Our vessels are all
21 American-owned, American-built, American-crewed,
22 and that is important. Every mariner who works

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1 for us goes through security screening. We know
2 who those people are. The people who are moving
3 those energy cargoes along our coast and into our
4 cities like Chicago are American citizens,
5 security screened. I don't think we want to turn
6 that job over to folks that we don't know who they
7 are or necessarily where they came from.

8 We, I think, are a vital part of the
9 supply chain, an important part to be maintained.
10 As I said, to have energy independence for this
11 nation, we must have a domestic maritime industry.
12 The domestic maritime industry is strong, we're
13 building, and we will continue to meet the needs
14 of the nation and we're prepared to work with the
15 Department in any way we can to identify and
16 ensure that we're doing that job.

17 So, I appreciate the opportunity to be
18 here today and present. Thank you.

19 (Applause.)

20 MR. HEDERMAN: Thank you, Matt. I have
21 at least two takeaways from your remarks. One is
22 that water transport is not an emerging industry,

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1 and I guess the Phoenicians would agree with that.
2 And the other was it's the absolute first time
3 I've heard American-crewed used the way you used
4 it. So, that was interesting.

5 We'll turn to the state perspective here
6 now, and our first speaker from Illinois
7 Department of Transportation is Kevin Schoeben.

8 MR. SCHOEBEN: Great. Well, thank you,
9 and maybe good afternoon. And thank you for this
10 opportunity to address you today and to the
11 Department of Energy. This is a very important
12 matter. And if there is one word I could try to
13 summarize my presentation is the word engagement.

14 The State Department of Transportation
15 is now engaged into waterway planning. Several
16 years ago, when we, two and a half years ago when
17 we were developing our long-range transportation
18 plan, our Secretary of Transportation emphasized
19 that you can't just focus on highways and
20 railways. You need to also include the movement
21 of our freight on our waterways and how important
22 that was.

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1 And like Assistant Secretary Darcy
2 mentioned, we had a scare in the mid Mississippi
3 River region when the navigation on the
4 Mississippi was threatened and the impact that
5 would have meant on State DOTs, not just in
6 Illinois but through all of the State DOTs
7 throughout the region, it would have been
8 devastating. So, that was a wakeup call for us.
9 And since then we've been actively engaged in
10 waterway navigation.

11 So, it's important to point out the
12 Department has, we heard a lot of talk about State
13 DOTs and level of engagement, the Illinois
14 Department of Transportation, what is our role?
15 Well, we have ownership as was mentioned in our
16 highways, but we don't have ownership of the
17 railways, the waterways, over the ports. But we
18 feel it's in our obligation from a planning
19 perspective that we do engage into thoughtful
20 promotion and advocacy of our freight
21 transportation system, and especially connecting
22 the modal networks as well. And as was mentioned

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1 in the previous panel, it's just basic
2 understanding of what's going on and awareness is
3 so important so that State DOTs, not only in
4 Illinois but the other State DOTs get an awareness
5 of what's happening in terms of freight mobility
6 in the private sector.

7 So, with that, our role was basically
8 somewhat defined. It was encouraging from US
9 Congress and USDOT in administering the MAP-21
10 requirements. And it establishes, there are three
11 main areas, that strategic planning is a must not
12 only at the national level but also at the state
13 level, and that regional collaboration also is a
14 must, that we need to start beginning to develop
15 our regional collaboration and freight policies to
16 build around that. And of course, condition and
17 performance measurements which are going to be
18 integral to the part of State DOTs in developing
19 freight performance measures and so that we can go
20 back to Congress and advocate for additional
21 funding for freight programs.

22 So, with that, Illinois' freight

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1 strategy, there are simple points here and it's
2 important and this was somewhat highlighted with
3 the discussion on the earlier panels, getting an
4 understanding of the commodity flows with the
5 energy. And just two years ago when we had our
6 state rail plan and our freight plan, the
7 mentioning of energy independence was nowhere
8 really to be found. And that's alarming because
9 that just shows how State DOTs and how state
10 freight plans need to be ongoing. It can't be
11 something that is done every five years and put on
12 a shelf.

13 And part of that is getting the ongoing
14 collaboration from private industry, because it's
15 private industry that must work through the supply
16 chain. We tend to see, I tend see some of the
17 state bureaucrats not only in Illinois but in
18 other states, we tend to be focused by modes and
19 promotion of whatever mode in particular. But
20 when you talk to the private industry, they look
21 at the supply chain. They don't even look at the
22 modes, they look at what is mostly efficient for

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1 their supply chain, and that's something that
2 State DOTs need to reach out and get an
3 understanding of that.

4 Identifying chokepoints, this all leads
5 to identifying chokepoints and bottlenecks. In
6 Illinois, we established an Illinois State Freight
7 Advisory Committee, and Commissioner Scheinfeld is
8 a member of that and Ben Brockschmidt back there
9 is also and a couple of others. It's important
10 that we get from a local perspective those
11 bottlenecks and chokepoints at a local system.

12 And what I say here, and I put
13 qualitative analysis as very important because our
14 engineers are real good at rounding things, data
15 sets to the nearest decimal point, but when you
16 ask them, okay, here is a bottleneck on this
17 particular highway or this infrastructure, why is
18 it happening, and then they give you a blank
19 stare. So, from a planning perspective, you know,
20 qualitative analysis is important. To take a more
21 wholistic view what's happening with that
22 bottleneck, an inter-modal facility or ethanol

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1 facility is in the area, so including that into
2 our planning process is also important.

3 Supporting all freight modes in a multi-
4 modal system is essential. And then what can
5 State DOTs provide? And that's essentially
6 provide modal connections and promotion of modal
7 connections so that it optimizes opportunities for
8 the private industry. Because if you take one
9 particular mode out of their supply chain, of
10 course that increases their cost of
11 transportation.

12 So, this may seem like a simple model,
13 and it basically is. But I'm finding out with
14 part of our involvement with the National Freight
15 Advisory Committee and Mayor Emanuel talked about
16 the importance of strategic planning at the local
17 level, this is so important, especially the first
18 and last mile issues, and how that builds into the
19 state plan and the national plan. But what I
20 suggest to you today is that we just don't stop
21 there.

22 Here, I mentioned the importance of

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1 including the metropolitan planning organizations
2 as well as also private industry. But regional
3 collaboration is important. We talked about
4 CREATE, how that's important, that was a regional
5 collaboration and how that's a project of national
6 significance.

7 But then we can't stop there when we
8 develop a national strategic plan. If one
9 recommendation that we can make today is that the
10 USDOT take the lead in working with Department of
11 Energy, EPA, Army Corps, Labor, Agriculture and US
12 Commerce, all have a stake. I think it was Dr.
13 Holdren that said each individual agency makes
14 individual decisions that have ramifications that
15 affect transportation. So, it's important that we
16 have a national plan but also developed into a
17 North America plan because freight mobility in
18 Canada and Mexico is a lot different when you look
19 at also the international perspective, too. So,
20 part of the advocacy here today is that each
21 level, and you have different levels of
22 engagement, but at the federal level, not only the

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1 state and local governments needs to get engaged
2 in the federal planning but also the federal
3 agencies as well.

4 One of the examples of a maritime
5 collaboration is with the Council of Great Lakes
6 Governors. And these are ten states that got
7 together, ten governors that got together and
8 challenged the states to get more involved with
9 maritime navigation issues. And we are, we
10 actually submitted a TIGER application that's
11 going to look at commodity flows, energy flows on
12 the Great Lakes, but it's really to help State
13 DOTs to get more involved and do an assessment on
14 the infrastructure needs, not only on the locks on
15 the Great Lakes but also the ports as well.

16 And I can never do a presentation
17 without including this. This is very indicative,
18 we had talked a lot about the rail movement from
19 Wyoming, the waterways, and of course the
20 railways. And it's so important especially when
21 we're talking about the barge movement, when you
22 look at the waterways and what's absent from here

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1 and USDOT is going to help us, is the tonnage
2 movement on the Great Lakes. But this shows the
3 tonnage movement on the Mississippi River, and
4 this was a concern, as I mentioned earlier, about
5 the point of failure, if the Mississippi were to
6 close, what that would mean to the infrastructure
7 on the rail and the highway system throughout the,
8 not just in Illinois or the region, but really
9 impacting freight mobility throughout the United
10 States.

11 So, these are statistics about freight,
12 and this is very indicative of what we see at the
13 federal level in terms of freight growth. And the
14 point here I want to make with waterway again is
15 that 10 percent, even though it's 10 percent, if
16 we were to have to trans-load that onto the other
17 systems, it would be devastating.

18 So, just a brief highlight of some of
19 the points. Illinois, we have 7 Class I
20 railroads. I think Louisiana may have 6 or 7, but
21 we have an extensive interstate system. And then
22 this is a key for us and this is what State DOTs

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1 need to get more involved in is those inter-modal
2 connections. Well, we don't own those other
3 modes, but at least we can help provide access
4 because in terms of logistics for a private
5 sector, it's not only location, location, location
6 but it's also access, access, access. And that's
7 something that State DOTs can help provide in
8 terms of surface access as well as port
9 development access as well.

10 This is something that was not included
11 in our freight plan two years ago which is now
12 going to be, and especially in light of today, is
13 the freight movement that has moved on our
14 pipelines, in terms of what impact other states
15 have in this in their freight plans. And this is
16 real important to include this because of the
17 impacts it would have on our other infrastructure.
18 So, we have to have an understanding of the
19 freight movement, and in particular energy
20 movement that's on our pipelines.

21 This is just a brief illustration of
22 what's moved outbound, and clearly energy, coal,

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1 petroleum, is almost two-thirds of what moves down
2 the Illinois waterway system, and agriculture
3 being a quarter percent. So, it's essential, the
4 waterway navigation and the Illinois and the
5 Mississippi Rivers are always important to our,
6 not just our regional economy but also for the
7 value of the nation.

8 And then in terms of energy, areas of
9 the state that we're looking at, of course you
10 have the oil transport coming down from the Bakken
11 area, and then of course we have wind energy that
12 is thriving in the central part of Illinois, and
13 fracking, the potential of fracking down in South
14 Central Illinois, and then of course coal being
15 the dominant commodity down in far Southern
16 Illinois.

17 And we've heard a lot of talk about
18 locks and dams, and I could talk hours about this,
19 but the single point of failure, Illinois is
20 between two great waterways, there are 5 locks in
21 the Mississippi, 2 in Illinois that were funded by
22 Congress that were not yet appropriated. And

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1 that's about \$2.4 billion, and we're hoping with
2 the passage of the WRDA that is freeing up funding
3 for Olmsted, that we can earmark some real funding
4 for the locks and dams. It's disturbing to hear
5 today that by 2090, that the maintenance would be
6 perhaps completed. That cannot be tolerated
7 because it's too important to the nation.

8 So, point of failure is very important.
9 It shakes the nerve of every State DOT because if
10 we had to shut down the Mississippi or one of the
11 locks and dams, State DOTs would then have to help
12 deal with that impact.

13 And then here are some pictures of some
14 locks and dams that are really quite concerning
15 and disturbing. This was provided for the Army
16 Corps of Engineers, the St. Louis or the Rock
17 Island District.

18 Not only with energy but agriculture, as
19 I mentioned, 25 percent, well, 60 percent of what
20 moves down our waterways has grain. So, perhaps,
21 and I suggested this to the soybean industry, that
22 the agriculture community as well as the energy

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1 industry need to get together with the promotion
2 of, with advocacy of maintaining our locks and
3 dams and modernizing them as well.

4 The State DOTs, the first time that five
5 states, talk about in terms of regional
6 collaboration, and Dr. Perry talked about this,
7 the five states, this is the Maritime
8 Administration at USDOT, they designate the
9 waterways. There was an obvious admission here
10 and it's from St. Louis to St. Paul, and we got,
11 Illinois took the lead along with Wisconsin,
12 Missouri and Minnesota in applying for that. And
13 just this last week we got notice that it's going
14 to be a designated route, and that's important
15 because that puts it on the map within USDOT which
16 is generally a highway-centric agency, to be
17 branched off to a more multi-modal perspective.
18 And this is an important corridor and so it would
19 be increasingly important with the oil transport.

20 In terms of barge renaissance, there are
21 some questions here that, you know, we're closely
22 watching from a State DOT perspective. It's how

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1 will, you know, how could this impact the locks
2 and dams in terms of capacity and competition with
3 the other, with the coal, the grain and the
4 agricultural commodities. An important question
5 is how this market will dictate the modal shift
6 onto other local state and other regional
7 networks. So, that's something that we're closely
8 looking at as well as the impact it would have on
9 port and river terminal development as well.

10 And this was mentioned about the WRDA
11 bill, some three main points about the WRDA bill.
12 Harbor maintenance, that was important that they
13 finally come around to putting some real funding.
14 That was already there but they're putting a path
15 forward by 2025. It's important for the Great
16 Lakes, dredging for the Great Lakes, and it's also
17 important for dredging down south of Baton Rouge.

18 In terms of the inland waterway system,
19 the inland waterway trust fund, I mentioned about
20 the Olmsted Dam moving off budget a little bit.
21 Hopefully that will free up funding for our locks
22 and dams infrastructure, but a lot more investment

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1 is needed.

2 And then also in the WRDA bill are two
3 pilot programs, one for public-private partnership
4 opportunities that we are also looking at. And
5 then also they included a WIFIA program which is
6 similar to the TIFIA program on the highway which
7 is a federal loan program to entice public-private
8 partnerships.

9 This slide, I just wanted to end with
10 this because federal government, even though the
11 MAP-21 bill was extended until the end of May,
12 there are some freight provisions here that we all
13 need to pay attention to. Mayor Emanuel talked
14 about the first mile and the local issues, that's
15 establishment of urban freight corridors that was
16 left out of the map earlier this year. That's
17 going to be essential, inter-modal connectivity,
18 the establishment of freight committees and
19 empowering the state freight committees to approve
20 of the state analyses which are real important.
21 But one thing I want to point out here is up to 10
22 percent, in the Senate Bill proposal, up to 10

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1 percent may be used for rail and port facilities,
2 so that is going to be something to watch for in
3 the new reauthorization bill when it expires in
4 May.

5 So, the last thing I wanted to leave,
6 and I borrowed this from a colleague of mine, is
7 why is planning necessary? And you look into the
8 future and you see all these kinds of projections
9 in 5, 10, 20 years from now. Well, 26 years from
10 now, if you look back with what Shanghai was, what
11 it looked like in 1987 and what it looks like
12 today which is quite alarming, and if you compare
13 the two, it's really remarkable. And it's a port
14 city, it's an inter-modal facility, but it just
15 shows that with proper planning, and it's really a
16 scare tactic, too, that the United States really,
17 we're at a crossroads here with our infrastructure
18 with not only our waterways, our railways and our
19 highways, that you know, we need to come together
20 as a nation with our infrastructure. Thank you
21 very much.

22 (Applause.)

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1 MR. HEDERMAN: Thank you very much.
2 We've heard a little bit about North America, and
3 I think Mike Forde will be speaking to that as
4 Chair of the Illinois International Port District.
5 And I do ask the last couple of speakers if you
6 can try to stay the allotted time. Otherwise,
7 we're going to be really crunched on in
8 discussion.

9 MR. FORDE: Good afternoon. Thank you
10 to the Department for putting this together and
11 inviting me to speak. My name is Michael Forde,
12 I'm the Chairman of the Illinois International
13 Port District which operates the Port of Chicago
14 located on the southeast side of the City of
15 Chicago. We have facilities on both Lake Michigan
16 and Lake Calumet on the southeast side.

17 Chicago is the nation's busiest inland
18 port. The Port of Chicago is a critical part of
19 Chicago's transportation hub network. The Port of
20 Chicago has somewhat unique characteristics. We
21 are the crossroads of the inland waterway system
22 and the Great Lakes. We are located within the

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1 city limits of the third largest city in the
2 country, located just 12 miles from Chicago's
3 central business district. And we are served by
4 three separate rail lines including two Class I
5 rail lines. We're also surrounded by a whole
6 network of interstate highways.

7 Chicago is part of the Great Lakes
8 navigation system of course, located in the center
9 of the country's industrial and manufacturing
10 heart. The Great Lakes economy which consists of
11 the eight states and one Canadian province that
12 about the Great Lakes has a combined GDP of \$4.9
13 trillion, responsible for 46 million jobs. This
14 would rank the region fourth in the world in GDP,
15 behind only the US, China and Japan, and ahead of
16 Germany, France and the UK.

17 The iron, steel, cement manufacturing,
18 agriculture, and energy sectors all depend on
19 shipping through the Great Lakes system. Shipping
20 for these sectors means jobs for the region and
21 translates to lower cost to energy, steel and
22 concrete. In addition, maritime shipping offers

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1 significant environmental and congestion benefits
2 relative to other forms of transportation. Kevin
3 touched on this a little bit, but a single
4 thousand-foot Great Lakes carrier hauls the
5 equivalent of seven 100 car trains of cargo, or
6 3,000 trucks with 25 ton capacity. Likewise, a 15
7 barge tow moves the same tonnage as over a
8 thousand trucks.

9 Now, as you know, oil and petroleum
10 products are increasingly being moved by rail,
11 truck and barge. These shipments are almost
12 doubled in 2012 and are continuing to increase,
13 moving crude oil from shell formations in North
14 Dakota, Texas, Canada and elsewhere to the US
15 refineries. In 2011 and 2012, oil delivered to
16 refineries by barges increased 53 percent
17 nationwide.

18 The recent growth in domestic energy
19 production has been great for economy, our
20 businesses, and our energy security. At the Port
21 of Chicago, we have not yet seen these dramatic
22 increases in energy shipments that other

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1 facilities have seen. Energy products comprise
2 about 28 percent of cargo on the Great Lakes
3 overall, and just about 10 percent at the Port of
4 Chicago. But we are seeing early signs that we
5 will see increases in that level of energy
6 shipments at the port, especially as we see
7 transfers between crude shipments by rail to truck
8 at our facility.

9 Our policies and investments need to
10 catch up to this new reality. We need to make
11 investments in our transportation infrastructure,
12 including our ports, to ensure that we can
13 continue to grow our economy safely and
14 efficiently to meet our current and future energy
15 demands. Now, these dredging and port investments
16 are key for both Chicago, the local economy, and
17 the Great Lakes regional economy.

18 There are 60 federally maintained deep-
19 draft ports in six connecting channels that the
20 Corps of Engineers must dredge on the Great Lakes,
21 including 25 of the nation's top 100 ports by
22 tonnage. The Corps reported that almost 30

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1 percent of commercial vessels arriving in the US
2 ports are constrained by inadequate channel depths
3 because of inadequate funds to maintain our
4 maritime infrastructure. The Corps estimates that
5 it needs more than \$200 million to restore Great
6 Lakes ports and waterways, though the Great Lakes
7 have only received \$20 to \$30 million in recent
8 years to address these issues. The Corps is also
9 responsible for dredging 1,200 miles of navigable
10 waterways in the Upper Mississippi River system
11 including the Illinois River. The Illinois River
12 system that connects Chicago to St. Louis has
13 eight locks that currently require over \$500
14 million in immediate investment.

15 While the Port of Chicago may be
16 different from other ports, in some ways our needs
17 are very typical of any ports. Specifically, the
18 Port of Chicago needs infrastructure investment to
19 support the growth in trade and goods shipped
20 through the city each year. For instance, we have
21 a 300,000 foot long timber dock wall that was
22 built over a hundred years ago and requires

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1 substantial investment. The water level changes
2 that we've seen in Lake Michigan in recent years
3 have accelerated the need for repairs at our
4 facilities. Low water levels and inadequate
5 investment in dredging have caused some harbors in
6 the Great Lakes region to close in recent years.
7 And dredging continues to be a major issue for us
8 at the Port of Chicago.

9 Congress took a great step toward
10 addressing dredging issues by passing the WRDA
11 this year with the important fixes to the harbor
12 trust fund distributions and special attention for
13 the Great Lakes navigation system. Under this
14 reauthorization, more harbor maintenance trust
15 fund revenue will go toward harbor maintenance and
16 will continue to increase until 2025 when we hope
17 100 percent of the harbor maintenance trust fund
18 will be used for critical harbor infrastructure
19 projects. The WRDA also reclassified the Great
20 Lakes navigation system as a unified body which
21 puts the Great Lakes on equal footing with the
22 country's other water systems and will help

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1 prioritize these regional projects. This new
2 classification will improve harbor dredging across
3 the Great Lakes and help shorten the dredging
4 backlog that has held back our growth at the Port
5 of Chicago and throughout the Great Lakes.

6 As this new funding becomes available,
7 we're looking forward to working with the Corps on
8 new projects to bring Chicago's port
9 infrastructure in the 21st century. These
10 investments are needed for Chicago and the country
11 to stay competitive in the 21st century. If our
12 ports are not prepared to handle our energy and
13 other transportation demands, we will fall behind.
14 Thank you.

15 (Applause.)

16 MR. HEDERMAN: Our last speaker today is
17 Carl Bentzel from DCI Group.

18 MR. BENTZEL: Thanks. I don't know if
19 it's a blessing or a curse to be the last person,
20 but if you're running over it's probably a little
21 bit of a curse.

22 So, I am with the DCI Group. I'm here

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1 speaking from my personal perspective. I worked
2 for 15 years on the Senate as a counsel working on
3 surface transportation and maritime policy. So, I
4 actually worked on railroads, trucks, pipelines
5 and maritime, but the maritime issues are near and
6 dear to my heart.

7 But I wanted to talk a little bit about
8 the intersection of energy policy and maritime and
9 what it's meant. My fellow panelist talked a
10 little bit about the growth, but it's interesting
11 that the, what's happening in energy really is
12 having a remarkable effect on the maritime
13 industry. And what we've seen is the traditional
14 pattern of production of energy in the United
15 States change.

16 Traditionally, we got most of our energy
17 from the Gulf of Mexico, Alaska, but now we're
18 seeing places like North Dakota, Ohio, potentially
19 New York at some point, California, providing
20 energy. And what this means is this means a
21 stress on the transportation structure which has
22 been designed really primarily to move product

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1 from the Gulf Coast as it came in to other areas.
2 So, we're seeing a challenge. But it's also an
3 opportunity, and it's an opportunity because we
4 are seeing economic growth in areas of the country
5 that have not had that. And we're seeing an
6 opportunity for the transportation segment to grow
7 their operations in new areas.

8 I was talking to someone who manages the
9 Ship Builders Association and he told me that the
10 order book for shipbuilding in the United States
11 right now is at a 30-year high. And as Matt
12 mentioned, the barge builders are actually going
13 from where they were building one and a half barge
14 a day to 2.5 barges a day, so they're doubling
15 their employment at some of these facilities.
16 This in large part is attributable to, for the
17 most part is attributable to the energy production
18 in the United States and what that's meant.

19 The maritime community is diverse and
20 segmented. You have your coastal shipping, large
21 tug barge operations. You have tankers operating
22 from the Gulf of Mexico to the refineries. We

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1 have international shipping coming in. These are
2 the container markets on the coast.

3 And they're all impacted by energy. And
4 it's not just the production of bulk commodities,
5 it's oil and gas. It's the movement of sand
6 that's used in the production of gas. It's the
7 movement of piping. It's the movement of
8 equipment that's used in it, and the waste
9 products that go out.

10 So, all of these elements have impacted
11 the transportation system. Although there has
12 been some stress on the rail, all of this is a
13 result really of the energy production and the
14 changing patterns of energy production. And I
15 anticipate that there will be opportunity both for
16 growth and challenges in how to deal with this.

17 A little statistics that I wanted to
18 talk about just in terms of the scope of the
19 industry. The United States, in 2008, the
20 statistics that we have are always askew but it
21 takes a couple of years for it to catch up. But
22 in 2008, 48 percent of all international trade was

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1 transported by sea. 12 percent of the domestic
2 trade was transported by water in the United
3 States. And it represents about \$30.9 billion of
4 gross output and in employment of a quarter of a
5 million workers. And that was done by the
6 Maritime Administration.

7 More recently, a PriceWaterhouse study
8 was produced by the Maritime Administration that
9 said that the domestic maritime industry supports
10 nearly 500,000 family wage jobs and generates
11 close to \$100 billion in economic output. And
12 this sort of assessment, as I like to say, is
13 those people that work in the industry but those
14 people that are connected to the industry. And
15 maritime is not like rail, they can't get to
16 Wyoming, they have to have a canal, they have to
17 have a river. But they connect to those nodes, so
18 the shipment of maritime cargoes is integrally
19 connected to the terminal, to the railroads, to
20 the trucks, so it's part and parcel.

21 I've had an opportunity to visit most of
22 the big ports there, and when you go into a

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1 meeting about a port, you're going to have
2 railroad interest there, you're going to have
3 trucking interest there, and you're going to have
4 maritime interest and you're going to have
5 shippers there. But what I would like to talk,
6 just in conclusion because I'm wrapping up and I
7 see the light is changing colors, is some of the
8 policies that will impact the transportation
9 challenges in that which the quadrennial review
10 considers in the future. And I see these as
11 substantial ones.

12 Permitting issues. Permitting issues in
13 the United States are changing. We've seen, for
14 instance, they were trying to permit coal
15 terminals on the West Coast, and for the first
16 time people were calling for life cycle emission
17 evaluations as part of the permitting of a
18 terminal. Traditionally, when you looked at a
19 terminal, you did an environmental review, you
20 looked at the proximate and local issues related
21 to what the population has, and you should address
22 health and safety issues. But there are calls for

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1 now assessments of what the product that went
2 through that terminal created in terms of carbon
3 emissions, what it created while it was being
4 transported, and what it will be assessed to be
5 used for in the future.

6 And this is an issue that will be
7 problematic for the transportation world as they
8 go through the issues of permits. You've seen it
9 with L&G where we've never exported gas, we can't,
10 it's a stranded product. But we're looking at
11 that possibility. And permitting, the permitting
12 process and the challenges of how we do this is
13 going to impact how well we can continue to drive
14 energy production in the United States, oil and
15 gas production in different areas of the United
16 States, whether or not we do offshore production
17 in the South Atlantic.

18 But one thing I would stress is that all
19 of these challenges and changes have potential
20 growth. And so, how we as a nation choose to take
21 steps to address those will affect whether or not
22 we can capitalize on the resources that we have

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1 and potentially can use both domestically and
2 internationally. It's funny, when you look at the
3 balance of our trade, the biggest gap that we have
4 is energy. And now we're getting to a point where
5 we are going to be potentially exporting energy,
6 and that's a big change.

7 And so, with that, I'll let everyone get
8 to the questions and get out of here. So, thanks.

9 (Applause.)

10 DR. HANSEN: Okay. We're running a
11 little behind, so we have basically room for one
12 question. So, I'm going to ask, the most
13 important is QER really taking on a huge task.
14 From the maritime point of view, what is your
15 advice for them? What could you offer them in
16 terms of words of wisdom, recommendations, advice?
17 Marty, let's start with you.

18 MR. HETTEL: Words of wisdom. National
19 freight policy is certainly the route we need to
20 head down. We've heard today about the congestion
21 on the rail, the congestion on the roads. There
22 is capacity in the inland waterway system. That

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1 capacity needs to be utilized.

2 We can and will get through this
3 maintenance issue. You know, these locks and dams
4 weren't built in a day. It's going to take time
5 to repair them. But the capacity is there and the
6 inland waterway system has to be part of that.

7 The collaboration between these agencies
8 is critical, between the Department of
9 Transportation, Energy, and the Army. If you stop
10 and think about it, the Department of
11 Transportation primarily is involved with air,
12 rail and interstate. They do have a Mari-Ad
13 division but it's not a very large division. But
14 yet the Corps of Engineers is the one that
15 maintains the entire inland waterway system.
16 Collaboration between those government entities is
17 crucial.

18 MR. WOODRUFF: I think if you're looking
19 for a good bang for your buck, a great return on
20 investment for the nation, that the nation needs
21 to invest in our ports and waterways. If you
22 remember the slide we saw earlier that looked at

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1 the needs for the highway system and compare that
2 to the number that was posted for the waterway
3 system, it's rounding error is what it would take
4 turn this system into a system that will be
5 reliable in perpetuity.

6 You know, we, I hear that the discussion
7 and it was mentioned today about 50 years, I'm
8 here to tell you that 50, you're not quite over
9 the hill yet. We have some 50-year-old assets
10 that still have some life in them. But they do
11 require a bit more maintenance and, you know, I
12 think that we'll see some of those locks and dams
13 serving this country very well when they cross the
14 100-year-old threshold if we put the proper
15 maintenance into them, and where appropriate and
16 necessary recapitalize those systems.

17 So, we've got a plan. That plan was
18 brought forth in the WRDA bill we've all talked
19 about. It's time to implement that plan to get on
20 about the business of focusing on those things
21 that need to be done now to keep the system
22 reliable, and then continue that maintenance as we

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1 go forward to ensure that we're addressing the
2 government's part of the equation in terms of
3 marine transportation infrastructure. And we in
4 industry will do our part and invest in our
5 infrastructure and our people to ensure we meet
6 the transportation needs of the nation.

7 MR. BENTZEL: US energy production and
8 resources are an opportunity for us. We are at a
9 position in our economic development where we can
10 take advantage of it or we can lose the
11 opportunity. And I would hope that as you move
12 forward, that you make some recommendations, you
13 identify what the impediments to safely produce
14 and transport and utilize these resources. If we
15 don't do it right, someone else is going to
16 produce energy and natural resources and ship it
17 to us.

18 MR. SCHOEBEN: Assistant Secretary Darcy
19 mentioned today and Secretary Foxx mentioned the
20 other day at his town hall meeting about how they
21 are working together with permitting and
22 streamlining permitting, and that instead of

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1 looking at it sequentially, they're looking at it
2 more concurrently. And I would suggest that it
3 should perhaps not just stop at permitting, but it
4 also should be with planning as well. When you
5 look at the energy reports from the Department of
6 Energy, the Corps does a series of reports on the
7 Panama Canal expansion, Department of Agriculture;
8 they do a lot of reports on grain mobility and
9 even multi-modal studies that relate to rail and
10 waterways which is important. Then the US
11 Commerce does their own on their supply chain.

12 So, I think perhaps the USDOT can pull
13 all those folks in together and from a planning
14 perspective put together, as I suggested, not only
15 a national plan but also a North American and
16 international plan as well.

17 MR. FORDE: I would echo what Marty said
18 and say that it is especially true in the Chicago
19 area. The projections for what the roads and the
20 railroads will look like 10-15 years down the road
21 in terms of congestion with trucks and trains of
22 course are really quite terrifying. And while

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1 that is going on, we have this capacity on the
2 waterways. And to unlock, you know, to really
3 fully realize that potential, it does require
4 investment in dredging, in the port facilities.
5 But everything that Marty said is very true, and
6 especially true for people like Kevin and myself
7 who are looking at this from a local perspective.

8 DR. HANSEN: Okay. I was told that I
9 shouldn't shortchange you guys, and so I have one
10 more question. I ran out of difficult questions
11 so I'm just going to ask about financing and
12 paying for all this. You know, the WRDA, all of
13 you said that WRDA is a good step forward. But I
14 think most of you have said it's not going to pay
15 for everything. Where is the rest of the
16 financing? Is there room for creative financing?
17 How do you stimulate investment? Obviously there
18 is a good ROI in some respect on this. Where does
19 that extra money come from? Marty, let's start
20 with you.

21 MR. HETTEL: If I had that number, I'd
22 be in Congress with that answer. You know, I hate

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1 to digress. We've heard about Olmsted Lock and
2 Dam, when you get a facility that's authorized for
3 \$775 million in 12 years and the final cost is
4 \$3.1 billion, and it will almost be 28 years
5 before completion, that's what started the whole
6 problem on not recapitalizing our inland waterway
7 infrastructure. We put together a capital
8 development plan with the Corps back in 2010,
9 parts of that are in WRDA, and that's where we,
10 you know, our industry said enough is enough.
11 We've shared our portion of Olmsted.

12 As far as the funding, you know, the
13 public doesn't realize what this inland waterway
14 infrastructure does for them. To move a ton of
15 freight \$11 a ton on average less expensive than
16 truck or rail keeps your electricity bill lower.
17 It keeps your fuel costs lower. It keeps your
18 white goods, your washers and dryers you buy at
19 your house because the raw materials that are
20 delivered to build those is less expensive.

21 It's not, you know, everybody talks
22 about billions of dollars, we need about \$8

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1 billion to, you know, according to the 2010
2 schedule, to really make our infrastructure a lot
3 more reliable and resilient. Think about the
4 population of this country that benefits from the
5 waterways, let alone the recreational, the
6 municipal water intakes, everything else that I
7 mentioned that is an ancillary benefit to the
8 nation.

9 So, I wish I knew where the funding
10 would come from. We're willing to step up and pay
11 more to help the problem. We just need to build
12 some facilities on time and on budget.

13 MR. WOODRUFF: For our coastal ports,
14 the moneys are there already. We're collecting a
15 harbor maintenance tax, we're putting it into a
16 trust fund and we're not spending it on the work
17 that that tax has collected to pay for. And the
18 WRDA bill puts forward a plan to increase the
19 spending and get us to the point where we will
20 maintain our coastal ports the way we should.

21 To echo what Marty said, we need to step
22 back and not just look at the inland waterway

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1 system as the inland waterway system, but we need
2 to look at the nation's transportation system and,
3 with reference to what we're talking about here
4 today, our energy transportation system and
5 infrastructure and say where do we put the money
6 to get the benefits that we need. There are many
7 beneficiaries, and I'd submit one of the
8 beneficiaries of a strong inland waterway system
9 is the highway system that isn't having to
10 accommodate the cargoes that move best by water.
11 And so, I think that we just need to recognize the
12 national importance, as Marty said, and then have
13 the national will to put the modest, relatively
14 modest investment we need into the system.

15 MR. BENTZEL: I would divide it into two
16 segments in terms of financing, public financing
17 for those elements that are controlled by the
18 federal government or they have the mandate to
19 manage. On that segment, I would say that we have
20 a problem in Congress, both sides, Republicans and
21 Democrats. I've worked on transportation policies
22 for 25 years, and for the most part the industry

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1 and the shippers have been willing to both
2 increase the amount of their user fee in gas for
3 highway programs and maritime programs if those
4 funds were used for infrastructure. And despite
5 the fact that the industry and commerce and all of
6 the folks are supportive of those, those members
7 of Congress are scared to vote to increase that.

8 And I think people need to put pressure
9 on them and say instead of taking no tax pledge,
10 increase tax pledge, let's take a look at funding
11 what we need to fund on both sides. And so,
12 that's the only thing that really is going to
13 address the amount of funding that's needed for
14 the public infrastructure. You can do some stuff
15 with public-private partnerships and such, but
16 that's necessary. And the industry supports it.

17 On the private side, I think you have
18 some issues with the permitting process. If we
19 don't get that set up, as I mentioned, there was
20 five coal terminals for export that was considered
21 at one point, now you're down to three. And
22 that's because that process, industry can't tie up

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1 their money for that long in trying to invest in
2 something. They have to have some certainty on
3 what their investment is going to go in.

4 MR. SCHOEBEN: Your question kind of
5 reminds me of a question that we posed the Chief
6 Administrator Chip Jaenichen just a few months
7 ago, and we asked him, what's the one thing that
8 you think is really important and that you would
9 try to do. And without hesitation he said a
10 Superbowl commercial. If you don't get, because
11 the inland waterway is deemed the invisible mode
12 of transportation, I mean it just serves to point
13 out that, you know, it's unfortunate but the
14 inland waterway system and the navigation is so
15 important to our national economy and it serves to
16 the point that it's just not well respected and
17 appreciated the way it should be.

18 In terms of the WRDA bill, public-
19 private partnerships was included. Congress did
20 not go with the additional tax on diesel fuel, but
21 instead they went forward with these 15 projects
22 in the WRDA. General DeLuca who is the overseer

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1 of the Mississippi River Area said, you know, last
2 month, because you know, you really need to
3 challenge the State DOTs to think big, take a step
4 back and realize how important this is to the
5 nation, not just to your own region, and perhaps
6 suggested that these 15 projects be pulled in
7 together as one so that we get that national
8 attention. But nonetheless, there are 15 projects
9 and I think if you do a public-private
10 partnership, Congress is used to doing projects by
11 incremental, I don't think you can do that with
12 the Mississippi because when you go to the
13 shippers, you can't really advocate them to fix
14 one particular lock and dam on the Illinois River
15 because they're going to want to know what's going
16 on with all the locks and dams and the
17 infrastructure all the way down to the New
18 Orleans.

19 So, it's a system approach, particularly
20 on the inland waterways that you've got to
21 acknowledge that it's a difficult challenge for
22 public-private partnership. Perhaps the

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1 opportunities for public-private partnership could
2 be on their port development. That could perhaps
3 serve to utilize the federal program. But the key
4 there is innovative financing is not funding, you
5 have to come up with the actual, you have to pay
6 back the loans that you get to make the public-
7 private partnership work.

8 MR. FORDE: I agree with what Kevin
9 said. I mean I think in particular the need for a
10 systematic view on this, on the funding structure
11 I think is very important.

12 DR. HANSEN: Okay. Well, thank you very
13 much, panel.

14 (Applause.)

15 DR. HANSEN: I would now like to invite
16 the EPSA representatives to come up to the podium.
17 This is the public comment section.

18 (Pause.)

19 DR. HANSEN: Okay. I guess we're just
20 going to start with the public comment here. Bill
21 is up here from DOE EPSA, so he will be taking the
22 notes, and so let's start off with Tucker Perkins.

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1 Oh, John Richards is coming up. Sorry, John.

2 Okay. Is Tucker Perkins in the room?

3 SPEAKER: No, he left.

4 DR. HANSEN: Okay. How about Chris
5 Smith?

6 SPEAKER: It looks like he left.

7 SPEAKER: He was on the panel.

8 DR. HANSEN: Okay. Jeff Petrash? There
9 you. Petrash, did I get it right?

10 MR. PETRASH: Petrash, Jeff Petrash.

11 DR. HANSEN: Petrash.

12 MR. PETRASH: I'm with the National
13 Propane Gas Association. And I want to make a
14 couple of points for you.

15 As the first panel noted this morning,
16 and particularly Secretary Moniz and his
17 colleagues, propane had a very difficult winter as
18 a result of the grain harvest, the polar vortex
19 and really quite importantly the replumbing of the
20 energy infrastructure involving both natural gas
21 pipelines and natural gas liquid pipelines. We
22 are seeing a number of natural gas liquid

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1 pipelines going out of service in the market area.
2 Most importantly, in the Upper Midwest, the Cochise
3 pipeline which no longer will be bringing propane
4 into Minnesota, Illinois and Wisconsin. The
5 results of that is that our business will have to
6 look much more heavily at rail and at motor
7 carrier modes of getting propane to these Upper
8 Midwest states.

9 This past year, we had some significant
10 difficulties with those modes of transportation as
11 well, particularly delays with rail. And I think
12 there's a real question about the capacity of the
13 rail system and a real need for oil pipelines to
14 be bringing oil out of the Bakken instead of the
15 virtual rail pipelines. There is considerable
16 concern in the Upper Midwest about whether the
17 rail system will be able to meet the heating needs
18 of states like Minnesota and Wisconsin.

19 Similarly, on trucks you heard about
20 hours of service waivers that we had this year,
21 and there have been two Congressional bills
22 expanding those powers in the spring and summer.

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1 But there is also a big issue about weight limits
2 which basically cannot be waived by the federal
3 government, almost anything short of a hurricane
4 or nuclear war. And we had instances with trucks
5 in Janesville, Wisconsin not so far from here
6 waiting in line 12 hours to fill with propane from
7 terminals, and then leaving with less than a full
8 load because of weight limits.

9 So, the bottom line is, and we'll be
10 submitting comments to you, both motor carrier and
11 rail are extremely important for the winter
12 propane situation, particularly in this area and
13 farther north, also somewhat less for New England.
14 Thank you.

15 DR. HANSEN: Okay. Is Lee Hutchins?
16 Okay. Then I'm going to open it up. Is there
17 anybody else who would like to make any comments
18 to EPSA here?

19 Okay. Then I'm going to officially
20 close this meeting. Do you want to say some final
21 words here?

22 MR. HEDERMAN: Okay. I just want to

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1 point out that anyone who wants to add written
2 comments, please submit them into the record. And
3 all of the information presented today will be put
4 together. And thank you very much for your input
5 and for staying around and listening to the whole
6 thing.

7 Okay. So, the site, if you want to
8 submit, is qercomments@hq.doe.gov. So, thank you
9 again and well done.

10 (Whereupon, at 12:55 p.m., the QER
11 meeting was adjourned.)

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