THE BROOKINGS INSTITUTION

# OFFSHORE OIL AND GAS GOVERNANCE IN THE ARCTIC: A LEADERSHIP ROLE FOR THE UNITED STATES

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P R O C E E D I N G S

MR. EBINGER: Good afternoon, ladies and gentlemen. Delighted to see such a good turnout this afternoon. Thank you very much for coming.

I'm Charlie Ebinger, the director of the Energy Security Initiative here at Brookings. And this report we're releasing today culminates nearly a, I think, 15-month effort. You'll hear more about the methodology of what that really involved, in terms of the types of people we met, and where we went.

I'm going to be joined -- I'm not going to read the bios, since you have them -- but we're going to be joined on the stage, after a brief video, with my colleagues John Banks, a non-resident senior fellow in our program, and Alisa Schackmann an associate in our program, as well. We three are the principal authors of the report.

And Heather Conley, from CSIS, has been shortly detained. She will be here -- has very kindly agreed to moderate this afternoon's session. For those of you that don't know Heather, she has a very distinguished public service record in the State Department, high up in the Red Cross, and, of course, at CSIS, as director of their European program. You can see her full biography, but we're delighted, because she is also a leading luminary on the Arctic, particularly during her years in the State Department.

So, without further ado, let us show a brief little video, which we hope you'll find amusing, that will introduce us to the subject today.

(Interruption)

MS. SCHACKMANN: (in progress) sort of kick off -- there we go, for this research, was that the U.S. is that the U.S. is going to be assuming the chairmanship of the Arctic Council in 2015.

So, with that, we started to look at areas where the U.S. might be able to play a leadership role. And, being the Energy Security Initiative, we looked at it from an energy security perspective.

What we ended up finding was a lot of room for improvement in terms of offshore oil and gas governance. So we kind off our research from there. And then, just to premise this a little bit, our research was not conducted with the goal of stating whether or not offshore oil and gas drilling is good or bad. It also did not -- just for the sake of scope, we did not get into legal liability regimes, shipping, and a few other issues, just, again, for the sake of scope.

So the background of our research, there is already a lot of literature out there on various topics related to the Arctic. And so we did an extensive literature review. And then to supplement that review, we also interviewed, I think, about 80 Arctic experts from the U.S. Canada, Russia, Finland, Sweden -- a whole bunch that are all listed in the report -- who gave us just phenomenal advice and insight that we incorporated into our research.

And at the end, the final analysis and the conclusions and recommendations we present, are those of ESI alone. And the interviews that we did conduct, we conducted under the assumption that they would be confidential, and would not be directly attributed. So you won't see any direct attributions for that purpose.

So, with that, I'll turn it over to Heather.

MS. CONLEY: Well, Alisa, thank you. And it's great to see such a wonderful turnout to talk about the Arctic. I always say it's a good day when we can have a good discussion about the Arctic. The weather has given us a perfect opportunity to think Arctic thoughts. It took me 20 minutes to get a cab in 20 degree weather. So, as I

thaw before you, I certainly welcome you. And thank you to Charlie, to John, and to Alisa.

First, thank you for inviting me into this conversation. That's a great privilege. And congratulations on a terrific, terrific report.

I want to share just, if I may very briefly, before we dive into a conversation up here about the report, and then we want to welcome you into that discussion as well -- I often say that we are really embarking on a new diplomacy. This is climate change diplomacy, this is economic diplomacy.

And I think, at it its very heart, it's preventative and proactive diplomacy. Because what this report does, it's looking into the future. It's trying to provide stability, strength in governance, norms, rule of law, into a new area. Because this is a new ocean, which the five coastal states are trying to grapple with, where non-Arctic states are trying to grapple with, and indigenous peoples who are suffering every day from these changes are grappling with.

So, my friends, welcome to a new world. And welcome to a very important report that helps us think through this new world.

I had an event a month or two ago at CSIS, and one of our participants had a great line, so I'm going to share it with you. He said, "You know, the Arctic isn't like Vegas. What happens in Vegas, stays in Vegas. What happens in the Arctic doesn't stay in the Arctic." And I thought, oh, gosh, that's good. So I stole it. But it's absolutely true. So, if there is an oil spill -- heaven forbid -- or an accident in the Russian Arctic, that affects the American Arctic, and the Chukchi and the Beaufort Sea.

So, if we don't have standardization, harmonization, we can all do our thing in our exclusive economic zones -- that's what international and UNCLOS tells us --

but what happens in one place impacts us, and impacts, in some ways, the global ecosystem, because this transmits beyond the Arctic. So this is incredibly important.

And so what we'd like to do with the remaining time that we have is talk, and dive into some of the issue matters. Not only do we have a new diplomacy but, as of a few weeks ago, we have a new geopolitical shift, with the Russian activities in Ukraine to throw into the mix here, and we'll want to talk about that, as well.

But just, again, my opening thoughts: Congratulations, it's a terrific report. It's all about American leadership in the Arctic, which is so important, and building that awareness. Because next May, the U.S. takes on a pretty big role -- not only the chairman of the Arctic Council, but the Arctic Council turns 20. The teenage has grown up, and they're about to be sent off into a new era. So we're ready for that conversation.

So, let me begin. And I want to sort of build the conversation out a little bit. I want to start -- and what's so great about the report, it's very pragmatic. A lot of reports will come out and say, "We need a new treaty," "We need new governance." And this report says: Now wait a minute, we've got a good level here, let's be pragmatic. Let's see what we can do.

And one of the recommendations I really liked was it was talking about how do we integrate the private sector. Because while governments and state-owned companies will be involved in Arctic development, it's going to be private companies that are going to be developing and thinking about oil and gas in the Arctic.

So let me begin -- maybe I'll point at you, Charlie, first, but everybody jump in.

So, the private sector -- and we're looking at economic trends -- how much as U.S. unconventional oil and gas started to impact Arctic oil and gas trends? Because we don't see even Arctic development. We see Russia and Norway very, very

significant economic oil and gas development. In Greenland, we saw a little experimentation, perhaps not commercially viable. And in the United States, we're having a pretty big conversation about whether, and if, we'll explore those offshore resources.

So, I'd welcome your thoughts on how are the economic trend lines in global oil and gas impacting Arctic oil and gas exploration?

MR. EBINGER: Well, thank you, Heather.

There's no question that the unconventional oil and gas revolution -- and, particularly, at the prices that we're developing in unconventional gas -- has had a dramatic impact on the Arctic, with people, I think, believing that the Arctic now probably is out another decade from what we might have thought before.

At the extreme level -- not to offend anyone, if we have someone here from TOTAL, but we've had statements out of the chairman of TOTAL saying that it's at least 30 years away, and kind of dismissively wondering if it isn't even beyond that.

And in the course of our investigations, we had some other energy companies saying that when you talked about areas like east Greenland, that it was really a resource they would be looking at seriously in the 2030s. So, a long way out.

But that's not to say that we should, because of that, be complacent. We argue very strongly in our report, it's precisely because the activity in the broader Arctic is still at a fairly minimal level, that now is the time to make sure that we get the regulatory standards in place, and standards that are Arctic-specific, not standards that may be fine for the Gulf of Mexico, but enhanced standards in the wake of what we learned out of the Macondo oil spill.

And, you know, the 2030s sound like a long time away, but when you think about how long it takes even to develop a conventional energy project in the Gulf,

you know, it can often be 5 to 10 years. So, at 10 years, we're already, you know, at 2024. And so the 2030s aren't as far away as we think.

MS. CONLEY: Absolutely.

Alisa, John, do you want to --

MR. BANKS: Yes, I would add a couple of things to that. I think there are two or three different streams of comments we've heard from the private sector. First of all is that they are seeking a stronger role. And I think it's not just the industry itself, but a number of other stakeholders -- that there needs to be a better way to integrate the private sector into the governance conversation.

Now, that's happening. For example, the private sector, the companies participate in the development of ISO standards. The International Oil and Gas Producers Association, the OGP, has undertaken a number of efforts to look at strengthening standards in various areas. So the industry is taking steps. But they're looking for better, more meaningful ways to participate. That's one of the messages that we heard -- and, again, not just from the industry, but from a variety of stakeholders.

Along the lines of whether or not these kinds of market developments, like the lower-48 shale gas revolution, and tidal oil revolution will affect the Arctic, I think Charlie's absolutely right: I think it doesn't really make a difference whether there's going to be extensive commercial oil and gas offshore oil and gas exploration in 10 years, 20, or 30 years, the idea is to get prepared now. And I think that's the lesson that comes out of Deepwater Horizon.

And, by the way, I think that theme, that message, is shared by the industry. The Deepwater Horizon Commission that looked at the accident, which was bipartisan, and did have members of the industry on it, the Ocean Energy Safety Advisory Committee that was created by former secretary Salazar, a bipartisan

committee, also had members of the industry on it -- all agree, you know, sort of, we need to put in place Arctic-specific, Arctic-tested standards, and that should happen now, in advance of any extensive commercial drilling happening.

So, I think, to a large degree that message was shared amongst a wide variety of stakeholders, as well as the message that there needs to be more meaningful private sector participation in strengthening the governance regime.

Now, I just want to add that when we talk about industry response, it's not monolithic -- right? We heard sort of different messages from different companies. Total stands out as having stated that they don't think they can economically go after oil. Gas is another issue.

So, I think one has to be careful in trying to characterize general industry response. It's a little more nuanced than that.

MS. SCHACKMANN: Yes, I would just add also that, you know, as John mentioned, there is already a lot of good industry participation out there, sort of happening in pockets. The Norwegians are very proud of their involvement, of the private sector, bringing them into all of their discussions when it comes to regulations and standards, et cetera. And even -- not just the Norwegian government, other governments, too, do acknowledge that bringing the private sector into the discussion does add value, because at the end of the day, the private sector or the operators are the ones out there working in the harsh conditions, who know what's going to work, what's not going to work, and who have a lot at stake. Because as Heather mentioned at the beginning, one accident there affects not only other regions, but the industry as a whole.

MS. CONLEY: You know, and a tricky question here is how do we plug the private sector in in a meaningful conversation? I sometimes find that, when talking about private sector -- and now the Arctic Council has created an Arctic Economic

Council, it's one of the new agenda items on the Canadian chairmanship -- but I often find there's a disconnect. Because, for some, the private sector in the Arctic means business development, and sort of the meet-and-greet, and how do we connect industry with opportunity. What you all are talking about is making -- you know, having the private sector not only tell governments and stakeholders what they see as the future line, 2030, 2040, 2050 -- so, what we're seeing. But also, how their standards, what they've already been doing in the Arctic can have a meaningful impact in shaping the policies that the Arctic Council, or individual Arctic countries produce.

I often hear some comments from industry, number one: "The Arctic isn't new. Hello. North Slope, we've been working there for decades." So there is experience. That's one common comment I hear.

And then the other comment is: "I'm not sure the government regulators fully appreciate the investment that this takes for oil and gas companies to look at these very difficult Arctic explorations." And then the drilling season is very short.

So, I mean, I think in some ways these issues were raised with the Obama administration several years ago. They created a task force to streamline the licensing and process of that. But it's still not great. Secretary Jewell, in testimony today, said, well, you know, we're going to get to that. We're working on it.

So, we have some real questions here in the United States.

MR. BANKS: And the other interesting thing we heard vís-a-vís our own government is we heard a number of private sector people -- they weren't being critical, but they were saying they would welcome a lot greater access to some of our senior State Department officials.

MR. MURRAY: Yes.

MR. BANKS: They felt that oftentimes there was almost a feeling in the higher levels of State that it was -- "unseemly" is not the right word, but that it was inappropriate to be meeting with a particular company -- perhaps out of concern that it could be perceived that they were getting some kind of favoritism at the expense of another company. But we heard a number of oil companies expressing concern that they did not feel they always had access to the highest councils of our own government, as they thought they had something to contribute to the debate.

MS. CONLEY: Yes.

You had some recommendations, John, in the report, about the Arctic Council, and trying to perhaps either use the framework of the either members, plus the permanent participants, the indigenous community, or perhaps plugging in directly. We know one of the Arctic Council working groups does focus on maritime, the safety and pollution standards.

What were your reflections on how can the private sector -- you know, they may have some slight observer status maybe, but they're not able to plug into the premier forum for discussing these issues?

MR. BANKS: Right. Well, this falls into the category of sort of it depends on who you're talking to. You do get some feedback from the private sector that we would like to have a stronger role, or at least some voice, or some mechanism to work with, speak with, roll up our sleeves and have substantive discussions with the Arctic Council.

The OGP did apply for observer status to the Arctic Council, but it didn't go through in the last round. This is just a very simple mechanism, or example, of how the private sector might be better integrated.

So, on the one hand, you do hear the companies say we would like to have some access and a way of participating, for example, with the Arctic Council. On the other hand, you also hear some private sector people say it depends on what we're doing with them -- or any group, for that matter. It could be a waste of time. They want sort of meaningful interaction.

So, you do hear some people just sort of dismiss the Arctic Council as a waste of time for the private sector, but if they're given a meaningful mechanism to talk with and work with the Arctic Council, then they're interested. And I think the OGP is, for example, one -- as a trade association representing the international oil and gas producers -- for one is very interested in working with the Arctic Council.

So that's -- again, it really depends. It's a very sort of nuanced view. It's not a monolithic response from the companies.

MS. CONLEY: I think one of the frustrations -- and you've articulated this very well in the report -- you know, feeling like "We have some time. Time is on our hands, here." You know, this 2030 -- yeah, we'll figure this out, don't worry. And sort of the concern that, look, exploration is happening. It's now. Are we behind in creating the type of interaction and standards that we need? That need for speed? You highlight that in the report.

What's the message to policy-makers? I mean, sometimes, I mean, in think-tank world, we have to be very provocative to move that needle just a little bit.

So, Charlie, say something very provocative. What do we need to get our policy --

MR. BANKS: That's the right person to ask.

MS. CONLEY: Exactly. It was a softball.

Charlie, how do we bill some urgency into this? And I'll give you another example and then I'll let you talk, and I'll shush.

I really noticed -- and this is a State Department initiative -- to bring the five Arctic coastal states together to talk about potentially a regional fisheries policy in the central Arctic. Okay, there are no fish there, so that's great. That's preventative, proactive policy that says, we may have a problem here, we need to talk about how, you know -- is it moratorium? We want to do our utmost.

But on oil and gas, we're already there. We're doing it. And we're playing catch-up to how to do this.

How do we build urgency into the debate?

MR. EBINGER: Well, one of the themes we heard constantly -- and I think it's a very telling theme -- was the perception: Is the U.S. an Arctic nation? And what we found is that, actually there are public opinion polls that would alarm you on how many people say we are not an Arctic nation. Amazing numbers of people do not know we have a border on the Arctic.

But that aside, we think there's a difference between thinking of ourselves as an Arctic nation in the sense that we have one major state, Alaska, that borders the Arctic, and all kinds of issue arise in a purely Alaskan context, versus thinking of ourselves as an Arctic nation in a broader circum-polar North. Or, as precisely what Heather said in her introductory remarks, you know, we've got fish migrations moving from one jurisdiction to another. We've got, very likely, the prospect, if Shell's not drilling in the Chukchi Sea, we're very likely to see drilling, even this next season, in the Russian sector of the Chukchi Sea. And as she pointed out, if there were an accident there, and oil flowed into our territory, we have virtually very small capacity to deal with it.

So, we really have to start thinking about are we an Arctic nation? Do we have strategic interests in the Arctic? We argue we do. And I'm not particularly talking about a military context.

But one of the most telling observations I think we had was, I think I can say, from the head of the Coast Guard, who said to us: "My worst fear is not having to deal with a major blowout of an oil and gas well in the Arctic once they're up there. My worst fear is that a cruise ship with 1,500 people on board hits an iceberg, is sinking, and the President says, 'Admiral, you've got to do something.' And I have to say, 'Mr. President, I have no capacity to do anything.'"

Because the reality is there are no ports in Alaska, outside of way down in Dutch Harbor, almost 800 miles away from where Shell would have been drilling is the nearest port of response. There's no land capability, so that if you could airlift people off a sinking ship, where are you going to put them? You know, there aren't motels and hotels in these little coastal villages.

We have to get serious when start talking about -- we have one icebreaker capable of operating in the Arctic at this point in time. The Russians have a number, far greater.

MS. CONLEY: 25.

MR. EBINGER: 25? Each one is roughly costing $800 million. So, when you start talking about, you know, even getting 5 or 10, we're talking serious money. Having a presence in the Arctic cannot be done on the shoestring budget that we have pretended and continue to pretend we can do it on. But we have to first have a consensus. And most notably, on Capitol Hill, where knowledge of the Arctic is, unfortunately, very low, about the resources that are needed, and whether we can generate the political capital on both sides of the aisle to start effecting those, so that 10

years from now, we really do have a capability to deal with some of the challenges that are going to confront us.

MR. BANKS: if I could just add a thought, so maybe tie a few issues together here.

So, part of this is the resources are there, the receding ice cap is allowing greater access to those resources. The coastal states' governments have largely established policies to exploit those resources, favorable to and promoting the exploitation of those resources. And there's commercial interest in those resources. And then we've talked about the nature of the Arctic, with its transnational, trans-boundary issues, pollution in one area affecting that in another area.

But the issue is that a lot of this commercial interest is moving into areas that are isolated and have different environments. A lot of it -- yes, it's true there's been an activity certainly in the Arctic on-shore, and some offshore and the near offshore over the last several decades. But what's different is it's moving further north, into different conditions, and in more ice-infested waters.

And so what you see, and what you hear -- and this, again, goes across a wide array of stakeholders -- is the need for Arctic-tested or Arctic-specific standards, issues related to seasonal and area drilling, issues related to polar-class vessels, enhanced pipeline infrastructure, training, human resources development to handle the Arctic environment, et cetera. This is what many are focused on, in terms of strengthening the government's regime, and that is necessary, as you move into these newer areas.

Now, what complicates that is, the Arctic isn't just the Arctic writ large, it is full of different regions and sub-zones that are different. Within the Barents Sea, itself, there's something like 20 or 30 different classes of ice pack -- right? So this calls into

question whether or not you can put in some sort of governance regime that is addressed to the Arctic writ large, or whether it's more specific to a zone or a particular region.

And you will hear the companies, and others -- not just the companies -- argue that it makes more sense to have regional or targeted governance standards and other regulations targeted to those specific areas.

Lastly, even with strengthened standards in these areas -- and we now have, as the video said, the Arctic Council helped shepherd into being an Arctic oil pollution agreement -- that's great, if you have that in place, and if you have the standards in place. But if you don't have the infrastructure in place, how are you going to enforce it and carry it out?

We heard this from industry. President Grimsson of Iceland highlighted this at the Arctic Circle Conference last fall, and to us, in person. We heard this from indigenous representatives: It's great to have a search-and-rescue agreement, and an Arctic oil pollution agreement, but if you don't have the infrastructure, what good is it?

And so that's why the other piece of this governance approach is the sort of resource-sharing approach. And Tommy Boudreau has talked about this in developing Alaska-specific standards: How do you get industry and government to work together to ensure that you have the assets in place to at least give you the operational capabilities to implement whatever standards you have.

We had one person tell us, a very senior former U.S. government representative, saying the emphasis actually should probably not be as much on the standards themselves, but on the infrastructure to get the standards operational.

And so that's another take on this -- that it's not just the standards, but it's the infrastructure to actually make them operational.

MS. CONLEY: So, you make a very bold -- well, you make several bold recommendations. One -- check the box -- and you argue for an "Arctic ambassador," "Arctic envoy." It's actually going to be an "Arctic Special Representative," we're told. We're all anxious to hear who that individual will be.

So, do you think putting a point person, a U.S. special representative -- in addition, you also recommended, hey, we want this topic, we want oil and gas governance at the top of the U.S. chairmanship of the Arctic Council?

Tell me a little bit, structurally -- this is where it's the best thing to be a think-tank, because we can think about how we would design it in a perfect world, and then we can watch if that's actually practical.

But you had some really good, interesting recommendations on structure, on individuals, and on agenda items. I'd love for you to talk about them a little bit more.

MS. SCHACKMANN: Well, briefly, we did recommend having an appointed Arctic ambassador --

MS. CONLEY: Check the box.

MS. SCHACKMANN: -- the power of Brookings, we got that one, it's all us. But then we also recommend creating a regional bureau for polar affairs within the State Department so it doesn't just fall on one person going to all these meetings, where it's a lot of big talk, and not so much nitty-gritty details.

We think that establishing a more robust group of folks who focus on the Arctic, on both Arctic sides, but not just necessarily on oil and gas issues, but in general on the region, would help sort of unify this sort of bifurcated approach we're taking right now to looking at the Arctic, depending on which agency you're talking to.

MS. CONLEY: Charlie?

MR. EBINGER: You know, some people may say the last thing we need is another regional bureau in the State Department. But the reason we argue for that is -- and we heard from a lot of people, including former State Department officials, who argue that, in the past, Arctic affairs have been seen as "technical issues," not as strategic issues that would belong in one of the more politically-oriented bureaus.

We heard stories that, even in things like the Office of Canadian Affairs, that there really wasn't a polar expert. It was over in the Economic and Business Bureau.

And as I say this, I want to give the highest praise to the Arctic officials we do have in the State Department, as they do yeoman service and, in fact, work far beyond the hours of the day that they probably have in front of them.

But we just feel that, as long as it's seen as a technical issue, it's not going to go up to the level, probably, at the assistant secretary or above, until we have a crisis, obviously, of some kind or another.

So, we feel an office directed to polar affairs -- and it wouldn't just be the Arctic, but would include the Antarctic -- is very important.

We also realize we can't be committing new positions all over the U.S. government. But perhaps in one or two other locations we might want someone who's extremely knowledgeable about polar affairs, with that designation as their primary order of activity.

We think, until you get that, they're going to remain fairly modest issues down the line. And, as I say, it will only be when we have a crisis that it will get elevated higher up into the bureau.

Now, obviously, the State Department is only one part of the component. We obviously have a lot of very knowledgeable people working, and some of you may be here today, working in the Interior, at EPA, and other, Homeland Security, on these

issues. But we really feel that as the lead agency in our international orientation toward the Arctic -- again, believing that we have circumpolar Arctic interests, not just Alaskan interests, it really is incumbent on State to elevate the role of polar affairs in the department.

MS. CONLEY: Absolutely.

Well, I mean, in the administration's defense, my goodness, there have been a flurry of strategic documents that have been coming out -- big, thick ones -- and from the Defense Department. And the Navy upgraded its Arctic Road Map. And we had this very detailed White House implementation plan. So, sort of the counterpoint is, my gosh, we're doing an amazing amount of work on the Arctic.

So, you know, again, in the flurry of the strategies and the documents, Charlie, I think you're absolutely right, I think we have a structural problem here. There's an extraordinary complexity to U.S. policy-making toward the Arctic. 22-plus federal agencies have a hand a role in it. And I'm not even at the state level. And, obviously, the State of Alaska has an enormous role here. So, this is very, very complex. And I think we've all been trying to scratch at this organizational component to it.

But it has real impact on the U.S. chairmanship, because everyone has some items that they would like on the top of their list. If I had my wish list -- yours is oil and gas governance. Mine is shipping -- getting to one of the questions you didn't hit -- because I think the Arctic safety factor, whether that's oil tankers, cruise ships, fishing vessels, you name it, shipping is a real key.

But the structural challenge -- and it gets also back to how does the private sector, where do you plug in? Do you go to the Department of Interior? That's where you normally plug in. Or do you go to the State Department for the international issues?

MR. EBINGER: But even within these strategic documents -- and I commend the administration for having so much focus on these -- there are some striking differences. I mean, for example, you take the DoD document, Arctic strategy, as opposed to, say, the Coast Guard's. The Coast Guard's, I would say, is a visionary, forward-looking document. It is essentially saying these problems that we're talking about, maybe not here and now, but they aren't far down the road, and we've got to really act, we've got to commit resources for more ships, and so forth.

The DoD document is far more complacent. You know, it talks about we've got to be sure that, you know, the ice really is melting as fast, that these will be concerns but, you know, maybe they're concerns down the road a little bit. We've also got to be assured that we don't rush in and put a lot of money into the Arctic that may take away valuable resources from other pressing military theaters around the globe.

I mean, if you read the two documents side by side -- I'm not doing it very poetic justice here -- it really is striking, the difference of tone. And I would say, to some extent, the Navy's is much closer to DoD's than the Coast Guard's. The Coast Guard is really out there and, I think, probably demonstrates that they are on the front line, certainly in Alaska and elsewhere, in dealing with these resources under very constrained budgets.

MS. CONLEY: The last word: budgets. And I think that is what we're grappling with, because we're seeing new challenges, but not making the resource allocation.

Is there, John, is there a budget issue related to sort of getting the oil and gas governance framework, strengthening it. I mean, we're talking about what's the venue for the private sector to engage more completely. What are the infrastructure costs?

I mean, this is where the strategic rubber meets the budget road, and we haven't met it yet.

MR. BANKS: Yeah. So, we did not look at numbers related to what it would take to put in place the infrastructure that I was talking about before, in terms of the pre-positioning of assets and equipment in order to complement the actual regulations in place, and as they change, complementing them. And, as Charlie mentioned, individual icebreakers are close to a billion dollars apiece, et cetera. So we didn't dive in, necessarily, to the budget -- although it clearly is an issue if you're going to pre-position those assets and build the infrastructure to support the governance regime.

So I think that's the part where the role of the Congress and budget issues are critical to supporting what we're recommending.

In terms of the creation of the Polar Bureau and the ambassador, you know, in our discussions, both with high-level U.S. officials who deal with the international community, as well as those we spoke with in the international community, similar questions come up all the time: What is the U.S. policy? What is your approach? Who do I deal with? What do you think of this issue, what do you think of that issue? And constant questions about when are going to accede to UNCLOS, when are you going to do this, when are you going to do that? Are you serious about Arctic policy?

This is the reaction from the international community, the Arctic Council states, to the U.S. position.

So I think part of what we're getting at in those higher-level recommendations on the ambassadorship and the Polar Bureau, is to provide that institutional structure and that face, not just internally but externally.

MS. CONLEY: What I'm struck, in the infrastructure, and the pre-positioning part, and then going back to the Coast Guard strategy, a lot of this is science,

and understanding the climatic, the environmental changes, the severity of the storms, the shifting of the sea ice. It has real, really important implications for standardization, whether that's in platform construction, spill-response, maintenance.

How much does, again, the science factor, helping NOAA with, you know, satellite maritime domain awareness? Help us understand where that plays in. Because I know the private sector, they do fund a lot of the science. The oil and gas companies would say, hey, I'm almost as big as Uncle Sam when it comes to supporting the understanding of what's going on. And, of course, the National Science Foundation, other agencies, play a huge role in understanding this.

How does that play into your conversations?

I'll let the first person to take a look at it.

MS. SCHACKMANN: Yes, well, we did hear from -- remembering one interview in particular, that, you know, when we're talking about leadership roles for the U.S., where are these gaps right now in the Arctic Council where the U.S. can plug itself, it's research and R&D. You know, the U.S., we might have a debilitating bureaucracy and political system and, you know, these convoluted standards and, you know, all of that. But what we do do very well compared to the international average, I guess, is science, and research, and funding that goes into that R&D. So that was something that did come out.

And I think, you know, again, this would be sort of a next step past this report. I think with this report we're just trying to say, if anything, the first step is to educate people. And there is a lack of knowledge on what's going on in the Arctic.

So, you know, with this, take it and run with it, you know, and see where we can start putting these fundings. And, you know, the numbers and the budgeting -- like John said, we didn't get into those details.

But I do think that bringing in science into Arctic Council could be one of the avenues.

MR. EBINGER: I was astounded, personally -- I guess it was my own ignorance -- to realize how much of the Arctic waters, and sub-Arctic waters in parts of Alaska, aren't even adequately charted, I mean, as to the basic questions of depth. When you look at something like the Bering Strait, you know, a little over 50 miles, and there's not even agreements on egress, and coming in and out, and ship channels. And still not complete information, according to the Coast Guard, of, you know, where rocks are on either side of the straits.

NOAA does wonderful work. But I think, too, relative to the need, it's probably vastly underfunded. I know everything is underfunded, but I think we have to get serious. Because, you know, one major accident up there, and people are going to have a completely different view of whether we should be there at all.

If I could just digress one moment, your interest in shipping -- I think one thing that came out in our report, although it wasn't the focus, is we actually think, as the Arctic opens up, that it's currently going to be minerals that are far faster, and being developed, and more cargoes as these various polar routes open up, participating in that. We were staggered when we were in the extreme north of Scandinavia, to see the size, the mining investments in northern Norway, Sweden, Finland, and on into the Karelia region. I mean, we're talking about hundreds of billions of dollars of investments underway right now, or planned in the next year or two.

In the northern Canadian islands, when we sat up in Ottawa, it's staggering when all of a sudden they showed us a map, and all the minerals that were being developed on scores of islands up there.

So, this is where -- and that will, of course, be a major problem as we have more and more ships traversing through these dangerous waters, if we don't have adequate information as to water depths, rocks, and so forth.

MS. CONLEY: Yes, I think one figure, I think the Arctic has been hydrographically mapped to only 8 percent of international standards. That's a pretty surprising number.

I think you're absolutely right, it's in the near term mineral resource. I mean, some of the largest mines, zinc, iron ore, rare earth's potential, which is what's getting everyone's attention in Greenland, potentially Iceland, perhaps. You're absolutely right, the geo-economics of the Arctic, as we like to argue, is shaping the issue very profoundly.

MR. EBINGER: The other interesting observation -- and it was only one or two companies -- but it's quite startling on the one hand, to hear a statement, "Well, the Arctic is 30 years away." On the other hand, when you talk to some of the shipping companies in places like Finland -- now, obviously, that's not a coastal state, but it makes a huge percentage of the vessels that actually go into the Arctic -- you hear these people thinking this is the next generation of their business. And they aren't talking the next generation being 30 years, probably being 10 years.

So, you know, on the shipping side, you hear -- we had a big conference in Reykjavik, I was startled to hear major shipping companies start, as you talk about a trans-polar shipping route, as opposed to the northwest passage, or the northern sea route along Russia, people seriously looking at Iceland as being a place that could become a major center for transpolar activity. Or even place like, that most people don't even know where they are, the Faroe Islands, looking at them, as that area of the earth

develops commerce as the ice opens up, becoming a major repair facility for all kinds of ships that would transit through the transpolar corridors.

So, the shipping industry seems to believe things are happening faster than at least some parts of the oil and gas industry.

MR. BANKS: And a lot of those companies we talked to on the shipping side are companies that support the oil and gas industry. And what they're telling us is they're prepared, they're preparing now, for that expected increase in commercial activity -- not just in the oil and gas sector, but including it.

MS. CONLEY: Absolutely. We talked to Finnish icebreaking companies, Korean companies that are building ice-hardened LNG tankers and things like that, you're absolutely right, we can see the future a little bit by their order books.

One -- we'll stay on shipping, and I'm transitioning here a little bit, it is very clear that for the Russian government, the northern sea route is going to be a significant transit corridor, not only for what we call destination shipping, which is going up to get the mineral resources, the oil and gas from the Russian Arctic, the Norwegian part of the Arctic, but potentially trans-shipment through the northern sea route.

And I think we're all curious, cautious, concerned, what developments in Ukraine mean for the Arctic and our cooperation. I think we all agree, the Arctic has been an amazing area of cooperation with Russia. Some of the most significant advances in the Arctic Council, which is the search-and-rescue agreement using the framework, was because of U.S.-Russian co-leadership. For the oil-spill and response agreement, it was Norwegian, Russian, U.S. trilateral leadership of that.

And we note this week the senior Arctic officials are meeting in Canada. So I think everybody showed up, so that's good. We're still talking through it.

We're completely speculating. I have no idea. But I'd love your thoughts on how does this shift in Russian behavior, sanctions by the United States, Europe potentially, what's the impact in the Arctic? And particularly the oil and gas which, for Russia, considering the enormous investment of Rosneft, Novatek, the biggest companies, Igor Sechin's strong role in Arctic development, this is very important to Mr. Putin. What will he -- how will this pan out?

MR. BANKS: Well, yes, this is pretty good timing for our report, because one of our recommendations is to work more closely with Russia on Chukchi Sea issues.

Two thoughts -- one is, I would certainly hope that this atmosphere of tension right now doesn't deteriorate any more. But, more specifically, I would hope that it would not affect the relationship on issues like this, like talking about our shared marine environment with the Chukchi Sea.

One of the things we heard in Alaska, and from the Coast Guard, is that there are longstanding sort of peer-to-peer coordination arrangements with the Russians that have been going on for quite a long time, on issues regarding law enforcement, fisheries, even to some extent on oil and gas. I think we mention in here that the MMS, the old Mineral Management Service, has had a relationship dating back to the early '90s and the Soviet Union days, working on oil and gas governance issues.

But we heard from the Coast Guard and others in Alaska is that there are these sort of working arrangements, not on a high-level, diplomat-to-diplomat level, but on a sort of working-arrangement level that have been taking place for quite a long time. And these go on every day, these kinds of communications, just pick up the phone and talk to your counterpart across the strait.

And that's one reason why we like this sort of "neighborhood" approach, which is to tackle governance issues in your shared marine environment with your

neighbor, because, obviously, what happens on one side of the Chukchi's going to affect what happens on the other side.

So, this all to say that I would certainly hope that tensions around, sort of Crimea and Ukraine wouldn't divert attention away from the need to continue to talk to the Russians on these sort of peer-to-peer networking, neighborhood-like issues, including on oil and gas governance, and not have that take our ball off the importance of the oil and gas side -- as well as the range of other issues that we speak to the Russians on on a day-to-day basis.

MS. CONLEY: Charlie?

MR. EBINGER: well, as you probably saw, it already has had some, the Ukraine has had some impact, because in the case of Novatek, one of the persons who was sanctioned by our government was a substantial holder, and has now had to divest his interests, which may be up for grabs by others, and sent Novatek stock plummeting. So there has been some rippling effect.

It's clear to me that Mr. Putin sees the Yamal Peninsula, the Kera Sea, and the ocean father east as the future of Russia. He's given speeches, you can see chapter and verse both his Arctic advisor and his great polar explorer advisor whose name is eluding me at the moment --

MS. CONLEY: Chilingarov.

MR. EBINGER: Thank you -- spoke at a conference in Iceland, and they very dramatically showed that their vision of the future, as Russia developed all its natural gas reserves, particularly, that it would be able to ship east or west. And they saw them playing a vital role in the world -- and they mentioned "the world" LNG market, not a fragmented LNG market. And Putin has made other speeches hyping the same theme.

I get a little concerned by some of the hysteria about Russian military deployments in that part, because the reality is, as John was alluding to, the Russian military is probably one of the few groups that actually has a capability to effect things like search and rescue, and oil spill prevention and response if something occurred. I mean, we all know that Russia is a highly militarized society but, you know, this doesn't mean that they're going to necessarily try to do a land-grab of the oceans up there -- although, of course, we have the famous story of the flag being planted.

So, I think we just need to, without diminishing the significance of the Ukraine, or particularly if the crisis spread, I think John's right, on a long-term basis, it's in the interest of both nations, particularly in areas of the Chukchi, where we share a border, but even more broadly. I mean, Putin has to know, also, that he does not have the technological capacity to develop his Arctic regions without the help of our great oil companies, and those in Western Europe and elsewhere, that have the capacity to operate in those environments.

So, I think, hopefully, this won't degenerate into something where we have a major crisis, with contracts that have already been signed not being honored. I think that would be a disaster for both parties. But we have to wait and see what happens.

MS. SCHACKMANN: in terms of sort of cooperation, U.S.-Russia cooperation, I would also encourage sort of this divide in thinking of what goes on at the top diplomatic level. We're talking U.S. administration and Mr. Putin, military side. You can think of that on one level.

But then one level down is where you have, you know, the head of the U.S. Coast Guard calling up his counterpart over in Russia, and having this very -- we

hear from both sides -- a very productive, cooperative sort of working arrangement that they have.

And so keeping these two levels distinguished a little bit, I think is really important, given everything that's going on right now.

Another thing, too, is, you know, we don't really know what Russia's plans are. You know, we have an idea what their capabilities are, et cetera, but, you know, on one example, you mentioned they have 25 icebreakers. I also heard someone, on a lower, more working level from Russia, say that, you know, a lot of those are going to be retiring in the next few years, and they're not giving us money to build any more to replace them.

So, you know, I think it's one thing to sort of see what they're putting out there as statements of their presence, of their strength, and another to sort of take a step back and think, okay, what does this really mean operationally?

MR. EBINGER: We might want to move to the floor.

MS. CONLEY: That's exactly -- I love it when he thinks right where I'm going to go, because I could keep this going all day, but we want to bring you into the conversation.

So, we have some microphones around. If you could raise your hand -- please let us know your affiliation. And you have the firing-squad up here, so fire away.

Yes, sir. Right down in the front.

MR. EBINGER: Do you have a mic?

MR. HASKELL: Hugh Haskell, from the Institute --

MS. CONLEY: Oh, could you identify yourself, please.

MR. HASKELL: -- yes -- Institute for Energy and Environmental Research.

MS. CONLEY: Thank you.

MR. HASKELL: It was 50 years ago, about, that we implemented the Antarctic Treaty, which had some pretty strong articles about how the Antarctic area could be developed.

And given that the conditions between the Antarctic and the Arctic are dramatically different, what lessons can we learn from how that treat has played out over the last five decades?

MS. CONLEY: I'll just frame for an issue -- again, remember the difference between Antarctica, it's land surrounded by waters. And, of course, the law of the sea is the governance, the international legal framework for the Arctic, because it is water, ocean, surrounded by land.

So, in some ways, just a point of clarification, and I'll let you --

MR. EBINGER: I would just say that when the Antarctic Treaty went into effect -- and, of course, we have a number of countries that made territorial claims, some based on historic exploration, some based on elongation from their southern borders straight to the South Pole.

But it was generally deemed that the area was so sensitive ecologically, we realized that a huge volume of the krill that get thrown out by the current system into the ocean, and are so important in global marine life, literally around the globe -- that this was probably an area, since there was no immediately perceived need for resources, that we got the countries to agree, in terms of most resources, but certainly oil and gas, putting their claims into abeyance. It didn't mean they gave them up, but they agreed to place them into abeyance, as long as the treaty remained in effect. And, of course, the treat gets -- I think it's every five years. I may be off on that -- gets ratified.

So I think the consensus still is that that's probably the best thing to do with the Antarctic, continue to have major scientific exploration of the region, but don't touch the very sensitive marine and fish life.

Now, does that have applicability for the Arctic? I guess if you're somebody that believes that, in the final analysis, we shouldn't be drilling for oil and gas up there at all -- and there are certainly people, maybe some in the room, who legitimately believe that, and have argued that persuasively in some scientific and academic journals -- our feeling is, as we say, we don't support or not support. We say the cat's out of the bag, and rather than pretending that it's not, and that we can put it back in, we think it's better to try to come up with some strong rules that make any development be done as sensibly as possible.

MS. CONLEY: John?

MR. BANKS: Well, building from that question, building on one of our findings, and in this research, is that there is this discussion about whether you can have a sort of Arctic-wide treaty and, specifically, whether you can have an Arctic-wide oil and gas governance framework that just blanketly covers the Arctic.

And I would say that mostly what we heard from the stakeholders we talk to is that it's better to build on what you already have in the governance framework, rather than trying to create something from scratch.

So, we have a graphic in the report that sort of shows how the current governance is structured -- right? You have the coastal states with national regulations and standards, you have some international legal instruments, like UNCLOS and some others. You have bilateral mechanisms, regional mechanisms. And you have a set of voluntary instruments -- ISO standards, trade association best practices, things like that.

So you have this kind of multi-layered governance approach, with all these components to it. And the sum of those parts equals the governance regime.

And so what we heard was it's probably more appropriate, and a better use of time, to strengthen those individual pieces, and that the sum of strengthening of those pieces equals strengthening the entire structure -- rather than trying to create a new regime altogether.

And so that's why our recommendations sort of target, you know, working with Canada on a bilateral basis, working with Russia on a bilateral basis, on our respective shared marine environments, to strengthen the governance regime. And working with the Arctic Council, trying to strengthen the Arctic Council's efforts in oil and gas at the regional level, so that we have these selected recommendations to try to address some of these pieces -- not all of them, but some of these pieces. Acceding to UNCLOS would be one that addresses the piece that's the international component.

So I think that's the thrust of our recommendations, is to try to build on the existing governance framework, and target these individual pieces, and strengthen the whole that way.

MR. EBINGER: Do you want to add anything to that?

MS. SCHACKMANN: No, I think you guys covered everything. Just one quick not, maybe, is that -- sort of going off what John was saying -- you know, the other effective sort of component of working in smaller bits, and focusing sort of more on bilateral or regional mechanisms, is that a lot of what we heard across the board, depending on who we interviewed, was that when you start to go for more institutionalized, overarching agreements, what you end up getting out of it -- like the guidelines that the Arctic Council released in 2009, some of the authors of it told me this, they said, you know, it's just the least common denominator. What ends up getting put in

there isn't necessarily what's most important, and what is put in there isn't addressed properly.

MS. CONLEY: So, very pragmatic.

John, yes, right down the middle.

MR. FARRELL: John Farrell, U.S. Arctic Research Commission.

Two of the recommendations in the report have a link. And Heather touched on this -- and one was strengthening the Arctic Council without changing the mandate. And the second one was involving private sector to a greater extent.

And, as Heather mentioned, the ministers at the last ministerial asked that a circumpolar business forum be established, also referred to as an "Antic economic council."

In light of that, how would you, if you were tasked with creating that, how would you do it? And what would you consider, in terms of who would be on the forum, what mandate would they have, how would they engage with the ministers, and how would you balance concerns from other parts of civil society -- such as ENGOs, that might be quite nervous about the private sector having special access to ministers?

MS. CONLEY: Oh, that John Farrell, he asks the toughest questions.

All right, the gauntlet has been thrown down: How would you -- you're advising the Arctic Council on what the Arctic economic council must do. What should it do?

MR. BANKS: We asked that question of a counterpart that was involved in this. My understanding is that it's still proceeding, in terms of its structure. It's not completely decided yet.

Their response was that it's an incredibly difficult task, that it really encompasses trying to get everybody involved -- indigenous communities, what kinds of

businesses are you talking about, and how do they have meaningful input into that forum?

And on the private sector side, we heard, yeah, we're interested in this, but no one's come to us yet. And they were a little frustrated that it was proceeding without the private sector being at the table from the outset.

Now, that's based on a few interviews. Maybe that's not a large enough data set. But I think that's one of the challenges, is how you get the right people at the table from the outset -- and, in particular, the private sector.

And I think that, I think, is the whole crux of the matter. You have to find the right structure, the right people, and the right mechanisms to get them talking. And that's the challenge. I mean, it's not an answer to your question, but I mean, that's what they're struggling with. And when we asked them that, they were struggling with it.

MS. CONLEY: I think we don't know what we want it to do. This gets back to what is the mission of this?

MR. EBINGER: Right.

MS. CONLEY: Is it to have a cocktail party for industry on occasion in the Arctic Circle? Is it --

MR. EBINGER: Not a bad idea.

MS. CONLEY: Well -- I'd go. Is it about industry helping to inform, and shape, and educate Arctic governments about what they're seeing, what they need, what guidance, what regulations, what standardization do they need?

So, is it a two-way street? Is it a one-way conversation?

And I, quite frankly, find your question is absolutely spot on. And even if there was clarity going through the last year of the Canadian chairmanship, this is going

to fall right in the American chairmanship -- "What are you doing with this, again?" And "How are American companies going to work?"

This is really, really, I think, one of the key questions as the Arctic Council is coming of age. It's, I think, how you integrate the private sector in a meaningful way, and then how do you integrate non-Arctic actors, the permanent observers that were decided -- how in the world do you integrate them more fully into the Arctic Council, without particular Arctic Council members feeling that that's not a good thing to have.

MR. EBINGER: Well, the first thing you do is hire John Farrell as your consultant.

MS. CONLEY: I agree. I agree -- step one.

MR. EBINGER: No, but on a serious note, I just want to state very strongly, you must have the indigenous peoples represented, and not have this just kind of be industry -- and we can argue about which industries should be there -- industry talking to the governments. The natives have to be there, and have to be there with very strong representation.

At the most superficial level, I would agree with you, Heather, the most important thing would be to have the respective -- people representing industries be people who could talk about the real-life problems they are encountering, whether they're in mining, oil and gas, shipping, tourism, whatever, to have those views, I think, heard very strongly by people in the Arctic Council. To move beyond that, or how you keep -- because if you're talking about five or six industries, and indigenous peoples, you're already talking about a rather unwieldy group. Maybe you can have subgroups.

But it's a good question we need to think about, because we don't, obviously, have a good answer for it.

MS. SCHACKMANN: One thing that we talk about a lot in our paper, or brief, is sharing best practices. So that might be a good approach, sort of going into it. And in terms of what industries you invite, you know, if you want to start small and work your way out, I think starting with those who are present there now -- not the ones who say, "Hey, we will be interested in the region when things are developed," but starting with the operators who are there now, sort of giving them a platform to just share all their best practices, and then invite indigenous groups, or whomever has a stake in these things, to sort of review and be aware of what's going on.

MS. CONLEY: It's a huge challenge.

Yes, sir, we have one up here. Microphone is coming.

MR. TOZEY: I'm Jim Tozey, with the Pan-Arctic Forum.

I compliment you on your statement on the regulatory regimes that are dominant in the Arctic. And you stated that there was one group of people that you spoke with preferred the U.S. regulatory regime, which is very prescriptive. Then you mentioned another group of people that supported the performance-based regulatory regime, which was advocated by Norway. And later in your report, you said you spoke to people in there, was the fact that many of them said, or some of them said that the U.S. did not support some strengthening of the Arctic Council.

And I was wondering if that divide was in any way related, or that concern was in any way related to the difference in regulatory governance procedures between the use of prescriptive standards versus performance standards.

MS. CONLEY: Who would like that one?

MR. BANKS: I think I would say that they were somewhat separate. As we mentioned in the report, there's the school of thought that thinks that the Arctic should be strengthened, in terms of changing its legal personality to have sort of more teeth, and

to make it, in effect, more of a treaty-based organization. And that was the theme in a debate that ran through our discussions.

In the context of that particular discussion, the issue of prescriptive versus performance standards didn't come up as much. It had more to do with whether or not people thought the Arctic Council was certainly running well the way it's currently crafted, and you would really lose those advantages if you changed its legal personality. That was sort of a separate discussion.

The discussion around the performance standards versus prescriptive standards, clearly that's, it's moving towards performance standards. And even the U.S. government, DoL, is looking at that now. Canada is also looking at that. And it seems to be moving in that direction -- or, at least, in some hybrid fashion.

And I think that, largely, certainly industry felt strongly that that was the right way to go, that performance standards provide more of an incentive for innovation, and innovation and technology is exactly what you need as you're moving into the Arctic.

So, I think the short answer to your question is those discussions were somewhat separate. WE didn't see the approach to standards as part of the discussion on what the Arctic Council should look like.

MS. CONLEY: Great. Super question.

Other questions?

We have one in the back, right in the middle in the back, right there. First we have to find you, then we have to get the microphone to you, and then you're all set.

Caroline.

MS. ROLOFF: Caroline Roloff here, from CSIS. Thank you for a great presentation.

My question regards a little bit more the leadership role the U.S. should play in the Arctic, specifically strategic objectives. And, in light of everything that's happened in Ukraine -- and you guys did touch on this a bit -- there's been quite a bit of discussion in Europe regarding their energy dependence on Russia, and how Europe can perhaps change that. And there has, of course, been a growing debate here in the U.S. on exporting gas and oil to Europe.

And while that's not, perhaps, an immediate solution, it's still a ways in the future, I wonder, could current sort of geopolitical transformations affect the U.S.'s strategic goals in the Arctic? Could this transform how the U.S. looks at the Arctic region, and perhaps could this also provide the political initiative to Congress, or other government agencies, to address the Arctic more directly and, you know, develop more, perhaps, cohesive policies?

MS. CONLEY: That's one big plug for a lot of Norwegian gas to go to Europe -- potentially.

Charlie.

MR. EBINGER: The reality, you know, the reality is, lots of people though that as we developed our shell gas and no longer needed LNG, that our LNG, the LNG that had been destined for the United States, could now move to Europe, putting great pressure on long-term contracts with Gazprom. And there are still people writing as if that has happened, when nothing could be farther from reality.

If you look at numbers for 2013, in reality, gas exports to Europe from Norway, from the Netherlands, and Algeria all fell, and Russian gas exports -- this is before Ukraine -- rose about 13 percent. And I think most people believe that, with European -- first of all, European gas demand is projected to be flat, by most analysts, for certainly the rest of this decade, and possibly substantially longer.

Russia will, from a purely commercial standpoint, be able to probably undercut the price of any LNG that could come in. Now, if Europe decides, or Eastern Europe decides, for strategic reasons they're willing to pay a higher price, well and good. But keep in mind that one of the problems we have in the Ukraine is that you have very low retail prices, so consumers are probably not willing to pay more. The retail prices, sadly, are so low, even though Ukraine has tremendous opportunities for energy efficiency, there's no financial incentive to do that.

So, I think if one can step back -- and I hate to do that, because I tend to be hawkish on these matters. I was telling my wife we should have another Abraham Lincoln Brigade like we had in Spain going into Ukraine -- somewhat jokingly.

But I think the reality is that Russian gas is going to be able to penetrate the European market, to the extent there is a market. And it's not going to be a dynamic market, it's going to be more that -- unless Norway's found some new fields, if that can get their production back up over time, well and good. But LNG's going to have a hard time competing against pipeline gas from Russia for a very long period of time.

Does it affect our Arctic strategic interests? I don't believe so. Because there is at least the potential of the Arctic as one of the last great frontier. Ironically, with all the technological problems that you have in the Arctic that we've talked about in our report, one thing that came through very loudly from almost all of the energy companies we talked to, is they saw that technological risk as less than the political risk of their standard places they buy oil and gas from around the world, with the rise of national oil companies, being denied access to bidding or to new acreage when it pops up around the world.

That was very interesting. That was almost across the board: We can handle the technological risks. Can't handle the political risk as well.

So, I personally think Russia will emerge as a major player, even bigger than it is today, with LNG going east and west from the Arctic, if we're looking 20 years out. They have tremendous, still have tremendous shale oil resources in the west of the Urals which, at some point they could develop if they need to do so. All kinds of reasons you can argue why they haven't been able to do that, and may continue not to be able to do that.

But Russia is a resource giant, and it's not going away.

MS. CONLEY: Charlie, if I can follow up -- and this is more of a domestic question, on Alaska -- certainly, North Slope production going down, sort of questions about where exploration could happen within federal government lands in Alaska.

Isn't this a really important issue -- whether there's offshore exploration in the Beaufort, (inaudible) for Alaska and, again, on the oil side, for the trans-Alaskan pipeline -- don't we have a little bit of urgency within the state of Alaska on figuring out what their future picture is.

I'm far from expert, but I'm just reading -- is anybody worried about this?

MR. EBINGER: We have great urgency, and it's been absolutely ridiculous, the debate that we've had on the Keystone Pipeline, what TAPS is far more vital to our national security, in terms of keeping the flow of oil through that.

MS. CONLEY: Yikes.

MR. EBINGER: Now, you know, if you look at where Shell was drilling, even if Shell had found something, you know, it's pretty difficult to get it from there to TAPS -- a pipeline across very difficult terrain.

But unless you want to get serious -- and this will be controversial -- unless you want to get serious, and let's really assess what may be in the national

petroleum reserve, let's really assess -- "assess," I didn't say "develop" -- let's assess what's available at ANWR, what's available on Port Thompson, and some of the other areas that might allow production to come on stream that could get the pipeline at least back up to some reasonable level of flow, then we don't have an Arctic strategy for oil and gas.

MS. CONLEY: Wow.

MR. BANKS: Maybe to put those two together, one of the arguments that people are making for accelerating approval of LNG exports to help Ukraine is even if the ships don't hit the water for a few years, the signal that you're sending to the market -- and maybe, in the case of oil, the more oil on the market is, you know, you put more commodity on the market, you decrease prices. So, maybe the connection here is that it could feed into Arctic strategy, not just because of TAPS, but it's important for us to develop on-shore and offshore Alaska, because it gives the market more liquidity, and there's the national security argument that that helps us, that this helps us with our allies, as we see in the case of Russia -- right? Because this is one of the main arguments that people are making in the case of Ukraine.

So maybe that feeds into the Arctic strategy in that perspective: Let's develop what we have, because more oil on the market helps lower prices, and keep prices down, and that, effectively, can help us with our allies.

MR. EBINGER: It comes back, too, if you honestly believe that all these projects, LNG project, before DoE are actually going to get built. But we did a study in 2012 which, with minor modifications, I would stand behind, and we say the U.S. companies that get into the LNG market between now and 2020 will do very well because of the price arbitrage in European and Japanese and American markets.

But after 2020, you have lots of LNG coming into the market from around the world. And you probably have some intercontinental pipelines being built -- possibly even between Russia and China and Korea or Japan. You're going to have some other countries -- you can argue about which ones -- beginning to develop shale gas.

And, remember LNG principally competes in power markets, and unless we put a global price on carbon, you're going to have coal being very competitive with LNG, at least in Asian power markets.

There are 10 world-class coal projects under construction, as we speak, that will hit the market starting in 2019 and into the early 2020s. Despite what people think, coal is not dying, it is not going away. Asian Development Bank just did an assessment projecting that about 2035, coal will be the largest fossil fuel used in the world -- more than oil, more than gas. It's not going away.

So, the people that think, after maybe eight -- we can argue. Let's say we build 10 LNG plants. The people that think 10 through 23, or whatever it is at the moment, are going to be built, they can't, they won't be able to be financed, because the financiers are going to sit there say, "Where can you guarantee you have a 60 percent off-take agreement?" -- as the market evolves the way we foresee it going.

So this idea that all of a sudden we just gave 23 licenses, not to mention they still have to get through the FERC process, that this is all going to hit the market, we need to bring some rationality into this debate we've been having on Capitol Hill and the administration. Because right now it's simply, it's not based on facts.

MS. CONLEY: Wow.

We have one more question, and I want to end on a slightly more positive note, if we may.

Who's got the last -- just right over there.

SPEAKER: I don't know if I can make it more positive.

MS. CONLEY: Okay -- well, do your best. Thank you.

MR. EBINGER: Anita, you always make it more positive.

SPEAKER: This has been a remarkable, totally remarkable discussion and excellent report.

Just, I was quite interested, amongst other things, and what you were saying about the companies' lack of access, whether it's to the U.S. government, or within the framework of the Arctic Council, how is that going to unfold.

And what kind of occurred to me was in the context of the post-BP spill, the limitations placed on the Oil Pollution Act, in terms of liability, caps on liability.

And it seems like a question is -- so we have at least two or three or four, or many, different perspectives, and it's kind of how to get everyone at the same table willing to put something on it.

And so I wonder how -- and not to just focus on the industry, because environmental folks, you know, also take certain positions that might be considered hard-line.

So, I wonder, how does one approach the industry to say, well, maybe don't try to have a limitation on liability caps, when there's been an enormous spill, which huge impact, and on environment, on communities, on capacity to engage in economic activity?

MS. CONLEY: Who would like it?

MR. BANKS: So, how do you get the companies at the table on the discussion of insurance and liability?

SPEAKER: How do you not --

MR. EBINGER: Not put a cap --

SPEAKER: -- a limit (inaudible), as a way of saying "we're all in this together," and if stuff happens, stuff happens, and we need to respond to it.

MR. BANKS: Uhh -- that is not an issue we looked into specifically. I will tell you that the insurance and liability concept theme came up a lot, in terms of our discussion, in terms of the overall governance package addressing offshore oil and gas exploration and production -- right?

That is one component of the governance regime that needs to be strengthened, and it needs to be addressed. Essentially, there really isn't very much in place that is similar to what is in place for shipping, in general, but not for oil-spill liability.

There is an example, I think it's under OSBAR, there is a regional liability scheme that's used for that particular region, but it doesn't address all of the Arctic.

And the companies, the companies are at the table, and have signed on to that. I forget, I think the acronym is OPAL for that, O-P-A-L. It's essentially a regime that companies operating in that region have agreed to, in terms of the approach for insurance and liability.

That is not something we specifically looked. In fact, we specifically took it out.

I would recommend the Hoover Institution did a recent excellent report looking at recommendations for strengthening the insurance and liability approach.

But it comes to mind that one particular regional grouping, to address insurance in that area, is a model that was cited in the Hoover report, that might be applicable to the Arctic. And it's a way of bringing the companies together.

MS. CONLEY: And there's been some really excellent work, and some early work, thinking about how you look at model of regional seas agreements and their

applicability to the Arctic -- some excellent work that I know my colleague, (inaudible), and others, have been doing.

Well, let me say thank you, again, thank you for allowing me to have this wonderful conversation with you.

MR. EBINGER: Thank you.

MR. BANKS: Thank you for coming.

MS. CONLEY: Good questions. This education process is working, because this is a very informed audience.

And, again, congratulations, great report, Charlie, John, Alisa. Well done.

And everybody bundle up, because it's Arctic outside.

So, thanks so much. Have a great afternoon. (Applause)

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

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