

THE BROOKINGS INSTITUTION

BROOKINGS DOHA CENTER

THE ROLE OF LNG IN A CHANGING ENERGY WORLD

Doha, Qatar

Thursday, April 21, 2016

ANDERSON COURT REPORTING

706 Duke Street, Suite 100

Alexandria, VA 22314

Phone (703) 519-7180 Fax (703) 519-7190

PARTICIPANTS:

SULTAN BARAKAT, Moderator
Director of Research
Brookings Doha Center

AMOS J. HOCHSTEIN
Special Envoy and Coordinator for International
Energy Affairs
U.S. Department of State

H.E. ABDULLAH HAMAD AL ATTIYAH
Chairman
Abdullah Bin Hamad Al-Attiyah International
Foundation for Energy & Sustainable
Development

* * * * *

P R O C E E D I N G S

MR. BARAKAT: My name is Sultan Barakat, and I'm the Director of Research at the Brookings Doha Center, and have the honor of moderating this very distinguished panel this afternoon, on a very important topic. And I take the opportunity to welcome your excellences, ambassadors, and other senior officials who are here today; as well as our viewers on Al Jazeera Mubasher, who are following up for this event.

The focus of today's discussion is going to be on the liquefied natural gas. And as you know, we are all living in very exciting, very dynamic, almost transformational time, really, in terms of energy and the options and the strategies that various countries can choose; both in terms of producers, and equally important in terms of consumers. The drop in oil price had been significant over the last year or so, and the signs for its recovery are not particularly positive at the moment.

Earlier this week we had a very important

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314

Phone (703) 519-7180 Fax (703) 519-7190

meeting here in Doha, that ended with no conclusive decision as to what the OPEC countries will be doing in the coming few weeks and months. To have all of that discussed, understood better, and in particular to try and draw more attention on the liquefied gas business, and how it works. Both from the perspective of Qatar, as one of the major producers, and continue to be, I think until now, the leading producer, although there are countries that are catching up quickly, in Australia, with potential in East Africa and elsewhere, Qatar plays a very important role in the liquefied gas industry, and from the perspective of the United States.

The United States, as you know, recently entered the market of export, is exporting now liquefied gas, and has its own weight, not just nationally, but international in terms of dictating policy and outcome of energy strategies. The liquefied gas and gas in general, has a number of positive advantages over traditional forms of energy. And that, with the slumming of -- with the lowering of

DOHA-2016/04/21

the price, it may offer consumers greater opportunities to meet environmental demands and various other possibilities for diversification of energy sources, and so on.

But, again, we don't necessarily see that being captured substantially around the world. There are still some fear, some concerns, you continue to hear about context like in China, Central Europe, et cetera. They are going back to coal, which doesn't quite make sense when the gas is readily available and cheap, and accessible.

To help us understand all of these trends, and I'm sure there are many others which our two speakers will bring to the fore, we have two of the most important and distinguished experts, decision-makers on the subject. Although they represent two generations, I think, between them we have a continuity of the story right from the very beginning of the 1970s until today, and there is a lot of expertise that we would like you to tap into during this session.

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

And therefore, we designed it so that we have an hour 15 minutes, and I know Amos is in a rush to catch a flight right after our discussion. We will keep the presentations limited, as our guest, and this way I'm saying he's not just a guest of the Brookings Doha Center, but more so the guest of His Excellency, Al Attiyah, in Qatar; we would like to offer him 10 minutes to start in terms of introduction to the subject, and then we will start the debate.

But before I ask him to say a few words, I'll just say a short introduction about his background, and I know for all of you he's a well-known figure, but just to those who are here for the first time, Amos Hochstein is the Special Envoy and Coordinator for International Energy Affairs, who leads the Bureau of Energy Resources at the United States State Department. He oversees the United States foreign policy engagement in the critical intersection of energy and national security.

In his role he advises Secretary Kerry on global energy security and diplomacy, and promotes

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

U.S. interests to ensure energy resources are used to increase economic opportunities, stability and prosperity, not just in the United States but around the world. Mr. Hochstein previously served as Deputy Assistant Secretary for Energy Diplomacy where he led the Bureau of Energy Diplomacy efforts, and prior to that for almost 15 years, he acted as an Advisor for various U.S.-elected officials, and candidates for public office, and many other bodies.

We are very honored to have him with us today, and I'd like to ask him to start with his 10 minutes intervention before I introduce His Excellency, Abdullah Al Attiyah.

MR. HOCHSTEIN: Thank you. Thank you, Sultan. It's a pleasure to be here, and thank you to Brookings for hosting this event. You know, it's always in -- There's nothing more intimidating to be a foreigner, to be an American, coming to do things in Doha. One is to talk about ladies LNG, talking in Qatar, as a Non-Qatari, about LNG, is already a disadvantage when you come into the birthplace of LNG.

And the other is to do that while sitting next to His Excellency Al Attiyah, who is world-renowned for everything he has done to create this sector. So I'm in a double disadvantage, but I take that challenge because it was a real opportunity for me to be able to sit with His Excellency to have this conversation, because I believe that as we look at the energy markets today, and the headlines, we see a dominant coverage of oil and oil markets, and very little about the effects of natural gas.

And I have been taught since I'm a little kid to never disagree with my host. But I'm going to disagree with my host on one thing. In his introduction, you said that we are in almost transformative, and I'm only going to offer a slight change. I think we are in a transformational time. I think we are even more than that, I think we are living in a revolutionary time in energy, overall. And what used to be a stagnant and constant oil market has been revolutionized over the last few decades, and it keeps getting -- the transformation keeps getting

faster.

And the reason I say that we are in revolutionary times in energy it's because it is not isolated to one aspect of the energy market or another. It's not about oil, it's not about gas, it's not about renewables, it's about everything. We are seeing the fact that the change in technology and innovation has allowed growth into new areas in oil exploration, whether it's the unconventional, or it's the ultra-deep water, we are seeing that renewable energy has been able to compete with hydrocarbons in a way that nobody assumed before.

We had a famous American journalist who wrote, bring on \$200 oil, a few years ago because the concept was, it was no other way to develop an affordable market in renewable energy unless we had \$200 oil. And yet in 2015 we had low prices of oil, and the investment in renewable energy was actually greater than it was in 2013 and 2014 when we had higher oil prices.

In the United States we reached close to \$45

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

billion of new investment in renewable energy in 2015, and worldwide at \$329 billion in investment. The fact that all of this is happening at the same time, is what I think is such a revolution, or is creating such a revolutionary effort.

Now, looking at LNG and gas, what's happened over the last several years is that natural gas which started really as a sideshow to oil, where you didn't want to even develop it, to the point where we could - - we then moved to being able to deliver gas by pipeline, which was a Catholic marriage of sorts. Once you build a multi-billion-dollar project between the producer and the consumer, it was set, and you were committed to it for a very long time. And I'll get back to that point.

We then, thanks in large part to the efforts of His Excellency, Al Attiyah and Qatar, we developed and LNG market, which created the flexibility in the gas market and started the road to making natural gas a commodity, that is tradable, more and more independently. But I think that that transformation

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

continues, it did not stop there, because you still in gas, unlike in oil, you need infrastructure. You can't simply put oil onto a tanker, and like oil moving onto a tanker and send it somewhere.

You need the infrastructure to liquefy it, you need the infrastructure on the other side to regasify it, and therefore not everybody can become a consumer, and it wasn't cheap. You had to build multi-billion-dollars worth of infrastructure in order to receive the gas. But over the last several years, we've seen another development, and that the FSRU, the Floating Storage and Regasification Unit.

Meaning, I can order a boat that will dock in my waters and can serve as a regas facility. That just made natural gas, LNG, even more accessible, faster, and cheaper. It won't take you three to five years to build it any more, it will take you 18 months to get it.

And that timeline is going down. It also means that you are more flexible as far as buying the gas. You can have a mix of spot price gas, and long-

DOHA-2016/04/21

term contracts, and it enables you to have that kind of flexibility. You don't have to buy the FSR unit now, you can lease it. All of this is to say, that I believe that natural gas has become, is fast becoming a much more independent commodity to oil, or seeing the price separation from a complete and total link to oil prices, beginning to change.

And if you want to look at examples of recent years, of recent days, over the last few weeks the U.S. oil prices went from below \$30 to \$42, and natural gas prices, the Henry Hub price went from \$1.70-something to \$2, it did not jump anywhere near the ratio that oil did.

The second part of the equation is what this means for the development. We have seen during the time of \$100 oil, enormous amount of investment into oil and gas sector around the world, and as a result we are now seeing the following. From a world where Qatar was the dominant, single dominant LNG exporter, it's going to be joined by others, as was said by Sultan, and Australia will likely be a similar size to

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

Qatar as far as exports by the end of the decade. And the United States, if everything is built that we have approved, will do the same.

The U.S. transformation has been nothing short of remarkable. When President Obama came into power, he was briefed about energy, and when it came to gas the briefing was as follows. We don't have enough gas, we are the largest importer, we are going to be a far greater importer of LNG, and we will have to use our diplomatic effort to ensure that we have a secured supply.

As was said just a few minutes ago, a few weeks ago we exported our first cargo. If you think of a six-year transformation in an industry that didn't change over a hundred years, that in six years, we can go from being the largest importer, with every analyst and expert in New York and London, on Wall Street and in London, saying that the graph showed that we were going to grow into the future. And at six, seven years later, we were going to be in a position of not only not importing anymore, but

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

converting our export facilities -- our import facilities to export facilities.

And Qatar is part of that transformation with us. With the recent announcement that we are moving forward on the Golden Pass Terminal, that Qatar is invested in the United States. That was originally supposed to be an import facility, and is now being transformed into an export facility. But that means that we have a lot of gas coming on the market; from the United States, Australia and Qatar, but not there alone. Mozambique made the largest discovery in a long time. Tanzania, their neighbor to the north made a similar discovery. We've all read about the discoveries in Israel, in Egypt, in Cyprus. There is more gas coming on the market.

The question becomes, do we have the demand for it? And that's where, I think that as we look for the next several years, we have to consider carefully, the delinkage of natural gas, of LNG prices, to oil. Because I believe that even if we do see a rebound in oil prices, too many people are taking for granted,

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

that the old paradigms will continue. That as oil prices rise, LNG prices, gas prices will rise in the same ratio that they used to.

I'm not so sure that's accurate. I think we need to be prepared that we are a lot of LNG, a lot of gas on the market over the next few years, and that may mean that regardless of what happens in the oil markets, we may see prices of gas remain relatively low. I'm not saying they'll stay at the prices where they are today, but relatively low.

Where I think the benefit of is, is that we need to look at gas as a transition fuel. If you looked at what happened to the United States this past year, where for the first time, we produced -- we generated electricity more from gas and from coal, and the transmission from coal to gas, which is happening as part of a market-driven phenomenon, where natural gas is so cheap that it's better to -- It's just simply an easier fuel to use.

This is the kind of development, that as we look post-Paris, on climate, gas has to be a dear

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

friend to us, in the effort to transform and commit ourselves to the climate change goals, but not everywhere in the world that a policies in place to support that. And as we look into the future that's more than a year away or three years away, and in my opinion more than 2020, that's where we, as governments, have to start focusing.

How do we put in place the kind of regulations and policies that will encourage the development of gas markets, that will encourage the investment in gas infrastructure and trading, and the infrastructure meaning pipelines, to allow for that to grow? Whether it's in India, in China, in Eastern Europe, in Central Europe, that's the effort that I think we have to focus on in order not to have a situation as we do now in some countries where the focus on renewables has actually meant an increase in renewables alongside an increase in coal, and a decline in gas.

Part of that is the diversification effort, and let me touch finally on this. Because of the

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

structures of what I talked about before, of that original infrastructure side of gas, that was this -- I called it a Catholic marriage between consumer and producer. If you look at Europe, we have two markets of gas in Europe. One that is diversified, traded, and that's on the West, but in the East and Central, Balkans to Baltic, we have infrastructure that was built during the Soviet times, that delivered gas from Russia through a set amount of pipelines, that still operate today.

If you are in Bulgaria or Serbia, or in Hungary, that is your only way to receive gas. There are no LNG terminals that can deliver gas into that area, and no alternative mechanisms. So as we look into the future of LNG and we can agree that LNG is the key, I believe, into this transition towards a cleaner future, it won't come without a change in policy, without a change in focus on diversification, on trading, on investment regulations and on creating the environment that will allow for gas to become a dominant factor.

DOHA-2016/04/21

If we do all of this, as we get to the end of this decade, not only will we see increased deliveries of product on the market of natural gas, but we will be creating new markets for it, and allowing all of us to live side by side, as producers, as exporters in a more effective, more efficient and cleaner world of energy. Thank you.

MR. BARAKAT: Thank you so much. Our second panelist today, is His Excellency, Abdullah Hamad Al Attiyah, who has more 30 years of experience in this sector, and Al Attiyah, as you know, started in 1992, as the Minister for Energy and Industry, and Chairman and Managing Director of Qatar Petroleum, and as Amos said, pretty much shaped the whole industry and the whole discussion around LNG that we are engaged with today.

He occupied many senior positions in Qatar including Second Deputy Prime Minister in 2003, and Deputy Prime Minister in 2011, and was later appointed as the Chief of the Amiri Diwan. His Excellency, Al Attiyah, today is the Chairman of Abdullah Bin Hamad

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

Al-Attiyah Foundation for Energy and Sustainable Development, which is known to all of us here in Doha, as the one entity that started to quickly shape the discussion around a lot of energy issues, and it's a very active think tank, first growing within the Middle East.

I will ask Mr. Al Attiyah, to maybe start by responding to the theme of the United States. Is this sustainable that they can, at the prices that are offered to day, is it sustainable to investment?

MR. AL ATTIYAH: Thank you very much. I think, you know, Amos covered a lot of the kind of how -- the strategy of the new challenge, of especially gas and oil. For sure, today, yes, I agreed what he said before that the United States, a few years ago, they were so concerned about the big shortage of gas, so even we and ExxonMobil, we were so -- exciting about this beautiful market. What a nice market. Just to go there.

So we went there, we invest over \$1 billion to build the most beautiful terminal ever built in the

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

United States, the Golden Pass, I call it the Golden Terminal. But when they complete, I presented this terminal a few times. We are very proud that this is the first time -- to build the biggest -- that time, you know, in the United States the fashion, everyone want to build terminal. And I think everyone that time had received, you know, the permission, they would have built more than 100 terminals.

But, unfortunately, when we, you know, started you know to send the first cargo, the shale gas show up, and then the Henry Hub price from \$17 (inaudible) with you under \$2. It was even not to cover the cost of transportation. So we enforced to stock any cargo there, so we just send once, what we should do with this beautiful terminal. You know, there are debates at that time, you know, and then we discussed with our partner at ExxonMobil to say, now the only chance is to convert it, to selling, to produce energy.

Yes, I agree with Amos, if you say that to an American five years ago, or to anyone, he was

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

shocked. He will pretend that it is a joke, or 1st of April fool. But then we decided, you know, to build a -- to change it, because the cost will be more or less, because only to build a reclassification, but the tanks, the barge, everything there. But we faced one problem, and I hope Mr. Amos, my friend, Amos, might hear, when he go back to Washington, D.C., sit in his office, discuss with his, you know, boss, about the one thing that we challenge in our terminal in Texas, the permission, we got it.

Now we are on the pre-feed, on the feed, but the problem is none -- is FTA. So we don't -- We need a Non-FTA. FTA, the United States side, FTA would limit countries that even sometimes they cannot have airport to import. At that time I discussed it with them, and my friends, America say, we want to go to Europe. Europe is more strategy for America, to creating the stabilization and security of supply.

If we don't go to Europe, as Amos say, how about the Eastern Europe and others who -- other means, you know. So America should work. If the

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

European Union will not sign the FTA, but they have to work with how to deal with the special case; and as the security of supply to Europe, and give that as an exception, that we can take the LNG from USA into Europe. Otherwise we will change this challenge. I hope, Amos, when he -- go after the lecture to his airplane, think about it.

Other things, and I don't, you know, to talk, only a remark, I don't want to talk, I mean, just to explain, I will get some time, you know, because when we talk it's becoming boring, but I think it's always a question on his Q&A, we can find the truth.

MR. BARAKAT: Thank you so much.

MR. HOCHSTEIN: Also I can tell you, that the good news is that we are moving forward. We just announced the movement forward on Golden Pass, and the approval process, for the non-FTA.

MR. AL ATTIYAH: Oh. That's good.

MR. HOCHSTEIN: I think you'll have good use of --

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

MR. AL ATTIYAH: So I give you free of --

MR. HOCHSTEIN: -- but it's all thanks to what you just said now --

MR. AL ATTIYAH: You see how my Foundation will give free advice. (Laughter)

MR. BARAKAT: Well maybe, Amos, if I could press you on this, if you can explain to us exactly the relationship between the U.S., sort of, government regulation and the market, how does it work in the U.S., and how does it affect us in the Middle East? Should we worry at all, or it's just of no concern?

MR. HOCHSTEIN: First, there is no room to worry. On the contrary, I think there's room -- I think what's the development of the United States are extremely positive. First the fact that we are producing the shale gas revolution, means that we are producing a lot more gas, it also means that we are strengthening ourselves as a market for gas. We are consuming more and more, and when businesses in the United States know that there is 100-year supply so this is not going away, the gas is affordable and

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

reliable, they convert businesses to gas.

So we are seeing, for the first time, certain kinds of manufacturing are coming back to the United States from other places, because even if labor costs were higher, but the fact that energy prices are lower, specifically natural gas, it is worthwhile, from an investment perspective, to do it in the United States.

So we are already seeing that development. So we are not only creating more -- we are not only producing more gas, we are also creating more consumption in the United States, which I think is a positive development. We don't regulate who gets gas, that's the private sector, everybody can -- once they convert the Golden Pass Terminal, the companies involved, whether it's Exxon in Qatar, will decide who to sign contracts with based on the market alone. The United States will not make that decision.

What we are bound by is the Gas Act, which decades ago told us that if you have a free trade agreement with the United States, it is automatically

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

approved, essentially to apply, but it is automatically approved. If you don't have FTA, then we have to go through a process where our regulators have to approve the building of the -- and the constructing of the facility, of the LNG terminal.

But because, as His Excellency just said, we don't have that many FTAs, if you want to count that as a market; most of the gas that we are approving is going to non-FTA, and therefore that process, moving along, we have approved a significant amount of gas for approval, to the point that I don't believe they'll all be -- I think there's doubt whether or not they will all be ultimately constructed based on today's price, because it just has to -- we have to have a market demand for it.

When it comes to the relationship here in the Middle East, and I get asked this all the time, does this mean that we are competitors? Does this mean that we are breaking down the relationships between the United States and the Gulf? And I think it's exactly the opposite. We are partners, there is

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

no doubt that the role and the terms of the relationship when it comes to energy have changed, because we are not the consumer that we were, but we are partners.

We've had years of American companies investing here, the road is turning and we are now seeing more investment, Qatar led the way, but we are seeing more investment from the Gulf in the United States, the integration and interconnection between our two countries -- our two regions, is strengthening, and that opens up the opportunity for more close collaboration.

I think it is in both of our interests, for the gas markets around the world to develop, both for business purposes to be able to sell more gas into the market, as well as what I described before from a climate perspective. We want to be able to move more around the world from coal to gas, and if you look at Southeast Asia, and look at China, where there is still the construction -- they are still constructing coal fire plants, when there is an abundance of gas,

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

and affordable gas.

So I think that this is something that we can work on together, we can partner with, it's the purpose of my visit here, is to look at the opportunities of collaboration on these kinds of areas. So I think this is a positive development.

MR. BARAKAT: And for that to work, you'll be looking for a minimum price, some kind of a ceiling for the price for it to help your investment and the government investment, or it doesn't matter?

MR. HOCHSTEIN: The market is going to decide what the price is, and the development of more production is also going to determine that. We are not seeing enormous investment in new production and new wells being drilled in the United States for shale gas because of the price, but the efficiency that's been achieved through the decline in price has allowed for very little decline in gas production.

So I think the market will take care of that, and everybody thought that our -- that the gas in the United States will go to Asia, because

DOHA-2016/04/21

differential is so great. But with the prices coming down in Asia and Europe, to almost parody, the distance between the United States and Asia for the transport cost, is going to be such where actually Europe is going to be more of a common-sense approach, and we are seeing our own neighbors in the Central America, in the Caribbean, in South America, started, wait a minute, we are so close to a center of gas production, we don't have the gas to fulfill these, but maybe we should have FSRUs in the new LNG terminals.

And that goes back to what I said before, it's creating new markets of gas because they are affordable. So it's the decline in price is hurting some, but it's also creating new markets.

MR. BARAKAT: Thank you. Maybe, Your Excellency, could you tell us a little bit of how the decline in price has affected Qatar, specifically, over the last couple of years?

MR. AL ATTIYAH: Okay. You know, we have to understand that Qatar, when I was appointed as a

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

minister of 1992, power production for LNG was zero. In that time, you know, and everyone knows, 1971 Qatar discovered the biggest non-associated gas in the world. Both Qatar in the rank three after Russia and Iran, but in one opportunity we are better than the whole (inaudible), was there from a single field, so it's easy to manage it and to operate it.

By the time when shale was discovered, this field, it was a big truck, bad news it's gas not oil. So it was through the government even, on shale, left it, and say we don't need it. So the government took back the concession, leave it for 20 years, to sleep nicely. At that time because there is no market, you know, for gas well, put it far away from -- You know, and at that only in Asia started to use LNG only at that time, Japan and then Korea. And then started K1, but it's just a small quantity.

Now we are lucky in that time even when we start to default our LNG in the mid of '90s, the price of oil was below \$10, the gas was very cheap. But we always believe, I've been in the business, not 35

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

years, 45 years, I start working in Oil Ministry in 1972, so I've been in that, all my life, involved in the LNG, I saw the cycle, 73, I saw the cycle. You know, the hits in '81 of the high oil prices, I saw in '85 the oil price was \$5 or \$7, I saw that from '85 to 2000 the average of oil, nominal, is only \$17, not (inaudible), so I saw the whole cycles of oil go up, and this is all separate.

This is not the last time, this is not the first time. But we have the challenge, that even today, yes, when we start to develop at that time, we succeed our charge. And remember, I create -- I invite people to talk on the conference. We sponsored under the name of Qatar, Doha Gas Conference. And I invited Zaki Yamani as the guest of honor.

So Zaki Yamani came and he gave the speech, he was shocked for us. He said, he will not believe that gas has a future. And, you know, it means that by the time that he believe that we are wasting of time, and he believed that, and he advised us, we should not waste our time and money, in how to develop

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

Qatar as a gas producer.

I'm very glad I did not hear him, and I didn't take his advice. In within just a few years, Qatar became the biggest LNG producer in the world, and still we produce almost one-third of the whole LNG in the world, capacity of 77 million tons. Now, more than 15 years since we started import -- I'm sorry -- export to the whole almost three continents in the world; now even to Asia, even to Europe, even now to Middle East, Dubai, Kuwait. And do you know, the biggest gas producer -- the gas consumers now today, not in some part of Asia, but this area.

It will be the biggest, the need is so huge of course. Also now we contracted to supply almost to Jordan and Pakistan, we signed a big contract with Pakistan, 3.5 million tons. And also we believe there are 2 billion out of people, out of the -- one-third of the whole population -- These microphones sometimes. Okay.

So they have now exist -- to energy. So the whole world needs energy, but today, yes, the price

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

energy -- of gas is low, and this is, normally we see this cycle, why so we right and have reacted, and we are just pretending that we have a short memory, we have to remember a few years ago. You know, it's the cycle, but when the oil and gas is cheap, it doesn't mean it's good news for the consumer countries. It will create a habit that also it will face the challenge in the alternative, because now as, I will say, if I want to build a power, gas, in our pace, it would only take me 18 months.

If I want to build in coal, it will take me three, five years; in (inaudible), 12 years. You know the gas is the best practice and best choice, as clean energy and easy, as now, the technology is cheap, now as they say, the floating -- you know, reclassification is becoming more challenge. So I believe that today, I'm not concerned about cheap price, and Qatar it will almost now we are a big challenge, because our cost is zero, I mean, of course, some cycles, you know, we cover the whole course, and now we are operating also the biggest LNG

DOHA-2016/04/21

transportation fleet in the world, so we are the most flexible to be and serving our customers.

Yes, we are more than 40 million tons coming from Australia, Mozambique, others, but we have to be -- carefully, in the price of today, they will work for cash flow only, they are not going to make profits. And this is also the other challenge. The new project in the paper, it will never exist so far, because of the cost also. Now the consumers, they will not talk to you about long term, they will talk to you about spot now.

So, also, it will go to the new project and the risk, the energy you cannot start, you cannot just, you know, close it, you will need to operate 24 hours, so there a lot of talks about it but --

MR. BARAKAT: Are you saying that under the price, Qatar is still able and willing to invest in maintenance and development, regardless?

MR. AL ATTIYAH: Yes. And also in our challenge -- and even to reduce more cost, and I'm a big believer in technology, technology solves a lot of

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

problems. Technology the time, you know, when we believe it's impossible, as I must say it in some examples, and use (a) when you talk about, other, and so the technology help in how to reduce the cost, and how you make -- competitive. Yes, we can because we are still the cheapest, we are still competitive, we can handle it, we can do it, all I say, the Suncoast, we've already covered for many, many years ago. So we can, too, compete.

I mean, our customers, they know that for a long time, you know. A Japanese, you know, my first customer in Japan, Turbo Electric, they came a few weeks ago in Qatar, the President and Chairman of the company, and they came to see me. They are so happy that almost -- we were, you know, reached since '97 -- almost about what -- Seventeen years, or 18 years, you know, from supply to Japan with none default one cargo. And this is very historic.

Even our customers in India, Teheran, Korea, even now Thailand, even our customers in Europe, as in Spain, Italy, U.K., we supply U.K. by 30 percent of

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

their whole needs, even now Poland, I think next year we will start, send the first cargo to Poland. We believe that we are very reliable, we are maybe one of the real country who has the whole chain, upstream, downstream in transportation.

When Japan hit by the tsunami and the big earthquake, and they were forced to close their nuclears, the only country, they asked us to supply them, immediately we converted hundreds of cargos, immediately to them, because of that flexibility that we had, the others they don't have it. For the last 18 years, we are pioneer in the LNG business, we are pioneer in the transportation, we are, you know, serving our customers, always.

Even when I was a minister, I have good habit. Every year I visit my big customers, Japan; I visit India, Korea, China, and all my big -- also China is a big customer. Well I always visit -- Even in Europe, even in USA I was visiting USA every year. I start with Washington, D.C., and then I have to go to the capital, and others, you know, to talk with

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

congressman, trying to educate them, what it means, LNG, what it means to (inaudible) supply. You know, it's nice to talk with people. Then I go, my favorite city, Houston, Sevierlle.

MR. HOCHSTEIN: The real capital?

MR. AL ATTIYAH: The real capital. And people, sometimes when they talk, even when I had been elected, 2011, as the President of the Climate Change Committee, even when I was elected in 2006 as the President of the Sustainable Development Conference in the United Nations, it was my big challenge in how to help, you know, the other nations, and how to replacement the clean energy. Today, the big challenge, environmental the big challenge, what happened after Paris; how the new agreement, how they will challenge about -- to introduce the emission and the commitment of a mission.

The world needs, you know, today, you see how the cheap gas affected other alternatives. There are many, many alternatives, you know, companies now, and there a lot of pressures. Now if you -- if you'll

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

ask me, the biggest coal company in the world, the news (a) declared bankruptcy, and also this is way to show you that I believe, yes, the cheap gas will attract more, you know, consumers to replace clean and efficiency.

MR. BARAKAT: If you allow me to go back to Amos on the idea, the vision that you propose of collaboration, which I think is extremely admirable, particularly if it has an effect on the -- a positive effect on the environment, and so on. For that to happen you need a forum where people could get together to debate the issues, to agree some kind of mechanism maybe to govern the affairs, or you just leave it for the market to dictate what should happen?

Earlier this week, we had this big meeting here, of OPEC, and as you know, the result was non-conclusive, they came up with a conclusion, I think, that they needed more time to consider --

MR. AL ATTIYAH: I will come back on this one.

MR. BARAKAT: Yes. We'll come back on this

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

point?

MR. AL ATTIYAH: Yes.

MR. BARAKAT: I'd like to hear from both of you.

MR. AL ATTIYAH: Okay. Let me, to comment first. I think -- You know, a few months ago when they start to talk about consumer -- you know, how to bring the producers, Non-OPEC and OPEC. I said publicly, in a lot of interview, even Al Jazeera, even with Reuter, Bloomberg, all other, you know, when they asked me what you think, and I said, my advice, don't come in the conference, don't do it, unless you cook it behind the scene, and you agreed in a concrete solution, then come and announce it.

But to come with no concrete solution, even an understanding; don't come. The market is so psychological, the market is oversupplied. Market today oversupply 1.5 million barrels, the inventory, either SPR or commercial almost 3 billion barrels, is the highest over the last 40 years. So I advise them, and I give them even free advice. Don't come. Don't

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

do it.

They came here and then after the discussions, they say it in the final statement we need more time for consultation. Why not do consultation before you come? Save your money, save your tickets, save your own trips and come -- and do your consultation before. It's very strange, they find out after we came that they don't consult.

MR. BARAKAT: That's because of the political tension in the region.

MR. AL ATTIYAH: No.

MR. BARAKAT: And the reality is that there are very few channels to consult, but you know --

MR. AL ATTIYAH: Oh, that's nothing.

MR. BARAKAT: Or better, you know -- Maybe I missed a few things.

MR. HOCHSTEIN: No, I'm enjoying this.

MR. BARAKAT: As an outsider how do you see it?

MR. HOCHSTEIN: I'm enjoying this. As an outsider I'm enjoying this. Look, I'm still confused

about the threshold questions. As you just said, we are in an oversupplied market that has been spurred, to some degree, by a market that was living in too high a price for too long, they created essentially incentive. No drill was too expensive. So there's been a lot of development, it's been a lot of oil on the market that created a glut in the market.

When you have an oversupplied market, and you are going to go through a major effort to freeze supply at peak production it doesn't affect the oversupplied market, because you are putting the same amount of oil on the market. So it seemed to me before the meeting, for the months that people were talking about it, that there's going to be a huge effort, to produce a temporary freeze, a four-month freeze I think they were talking about. To freeze it at the current conditions, but the current conditions are the oversupplied market.

MR. AL ATTIYAH: It's the highest.

MR. HOCHSTEIN: So that's my first question, my second question is, in reality if you look around

DOHA-2016/04/21

the world, we always look at spare capacity. Spare capacity in oil lives in one country only, and therefore most countries that came to the meeting are already at a freeze, because they are producing it peak capacity. Those who are producing not at peak capacity are into two groups.

One group had declined already, and they can't maintain the January levels of peak capacity production. They wish they could. The other group of countries, are countries that can increase production, but they don't have the technical for spare capacity. It's not that they can, at will, turn the dial and increase production, but because if you look at Iran, or you look Iraq, or you look at Libya, they have the oil, they just, for a variety of different reasons, they can't produce more, but they would if they could.

And therefore I think this -- I don't understand -- It's me, I'm sure I'm missing something, I don't what it is, and I think therefore to use my friend's terminology, this was more about the psychology of the market than it was about the market

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

itself. And so when you ask the question about the forums for us to get together, I think companies have plenty of abilities to get together.

They have no shortage of environments in which they can get together. You have OTC in Houston coming up, where you have the Offshore Technology Conference every year, you have several conferences, and companies know where to find each other. They also tend not to talk to each other as much openly when they are not one-on-one.

As far as governments, we have different kinds of governments. I don't have the ability, and nobody in my government does, not even the President of the United States, to affect production levels. If he called the CEO of Exxon or Chevron, or Marathon, and said, I'd like you to cut production, it's a call that would never happen, because it doesn't exist in our system. And no matter who the President is. In fact, they'd likely do the opposite just to make sure we all, in government, understand that they don't have to do what we say.

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

You have other governments that are in environment where it's national oil companies and they can direct it. So we can find forums to discuss. We have and IEA, we have IEF, we have a variety of institutions, but I have never seen a lack of conversation of a result of a lack of forum. If I want to pick up the phone and call my counterparts, I can. I can get on a plane, as I did this week, and I was in Egypt and Kuwait and here. And I can see the ministers and the prime ministers, and have the conversation. In other words, I don't think that we are lacking in forum. But I think the question is, what are we trying to achieve?

We have a low-oil environment, we are already significantly above the lows of a few -- of just a few months ago, so we've already seen the market interact, we've seen hundreds of -- You know, we are in the billions of dollars of CapEx reduction by companies, that's going to cause less investment, which means that, over time, less oil will onto the market. As a result we'll see, as demand continues to

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

incrementally increase, the market will come back into balance.

I am more resistant to political intervention because it's dealing with the short term versus the long term. And I think that's a sacrifice, and this interplay, and that's why I come back to what I said before, when you look natural gas versus oil, don't make the assumption that even if there is an intervention, or if it happens on its own, that we will wake up in new oil environment in the same as it was before.

I will add one thing to what my friend said. We have seen volatility in the oil markets since the beginning of trading. It's the nature of the business. It's a unique commodity; nobody else invests billions of dollars on day one not expecting a profit for years to come. It doesn't in other sectors the way it is, and the numbers, the sheer size and number of the dollars invested.

And we've seen 1985, and we saw 1998, and saw 2005, and every once in a while we say, will we

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

ever see \$20 oil again. Sometimes we say that when it's \$9, and sometimes we say that when it's \$30 and, you know, in the different directions. I do think, however, that this is not the same as it was. And I think the reason for the difference is the United States. What's happened in the United States as a result of technology, is introducing a new element to the cycle.

And that is that unconventional oil and gas is faster to come off, and faster to come back on. And it's not once, 1, 2, 3, or 5 companies that have to make that decision, it's over 4,000. So if the price does go up, at some point soon --

MR. BARAKAT: They'll come back.

MR. HOCHSTEIN: -- they will come back, and they will come back sooner than expected. When we talk -- when the price was coming down from 100 everybody said, that the magic number was 85, 80, 75, that shale oil, or unconventional oil will come down. It wasn't the case. But in America as in other places, what happens when you have such destruction in

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

price? Efficiencies, and we've seen an increase in efficiencies in the sector that have been remarkable.

It means that service companies have been hurt far more than the oil companies have, but it also means that rigs can do more for less, that the rig operators have also introduced new innovation in order to be able to do more for less. The costs are lower, which means, in return, that it's going to be a lower price on the way up, that will incentivize increased supply, and therefore while the discussion used to be about OPEC, I think there has to be a new discussion, which is, at what price does the U.S. production go back up?

We increase production by over a million barrels a year, for two years, in 2013 and '14. So the question becomes, as we move back up, is there some kind of ceiling there that will be dealt with, at least in the midterm, with increased capacity of production that did -- that is an non-OPEC production, that is a nonconventional production, that did not exist in previous cycles. So I think that is

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

something to think about as we move forward.

MR. BARAKAT: Great. Thank you very much. I'll ask one last question of His Excellency, Al Attiyah, before I open the questions to the audience here. And it's about taking it back to what Qatar and the way it's adapting to the pressure on its budget today. I mean, we are all aware of the subsidies that has been reduced or in some cases, removed. There are concerns that a lot of jobs are being lost in the sector. There is a tendency to replace experienced staff would probably tend to be more expensive, with cheaper staff and so on.

If you could just give us an idea; a little bit of how this adaptation is going forward, in particular with the condition that you think you still can be competitive in the near future.

MR. AL ATTIYAH: Okay. I think, you know, in Qatar, you know, it's not the first time, and I think not the last time, you know, experience of the fluctuation of oil price, and how to manage it, you know. We being -- and create immunity in how to

DOHA-2016/04/21

challenge. And I agree, you know, I must say it, you know, when we just not, you know, to react. Maybe, yes, the whole oil companies in the world, not even in Qatar, the whole oil companies, they react.

They cut jobs, and this is normally, it comes back in the '80s and '90s, and I remember in the '90s, you know, in end of '90s beginning of 2000, you know, when the oil price go back again, very high, the big challenge, and the big problems for challenging the oil companies that there not enough engineers in the market, because many, many people they convert not to go to engineering school, and they went to accounting, IT, financial, and this is what they call the flourishing, when I visited back in the '90s.

You know, San Francisco they told me, they take to Silicon Valley, and oh, wow. Everyone looking for how to make easy money, how to create a software and sell it worth hundreds of millions; this is the fashion. So, it's a cycle and we have to live with it. Any country in the world, they face you know, deficit (inaudible), and big countries even we see

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

countries are richer than Qatar, has agreed, Spain, Portugal, and they are almost bankrupt. So even, you know, the time, we see how the deficit, the time when they talk about more economy in the world being affected by the growth and negatives. You know, with China, the second growth -- the strongest economy in the world now, they are facing a lot of challenges, and they are facing deficit, and even in India and others.

But we believe, and I agree with Amos, in the business, in our energy business the price will go back again. This is a cycle, you know. We know that every time when the oil price go cheap, it's different than the '90s, and the '80s, and the '90s and the '80s, that time still there are not a lot of countries that's been developed. They are mostly not developed at the time. Now it changed. Even in Africa, even in Asia we see a new market for LNG. In Jordan, in Pakistan, even in Dubai, even in Kuwait, even in the Middle -- You know, with the world they call it oil-based countries, they will, you know, consume gas, and

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

will consume more energy.

Now even the Middle East, well they challenge now, even among the oil producers in the Middle East or even a part of the -- the problem, the challenge, the domestic consumptions has become -- more growth, more bigger from -- so they consume now, start to -- in their own local market, maybe triple that what's before 10 years ago. So this is always, because they need the development. When you need the development you need to consume more, when you have growth, you mean, you'll consume more.

And the deficit in the budget is normally, this is not, the new things, a lot of counties they face it, and how to manage it, and they will manage it. We can also cut jobs not 3 or 4 cheap jobs, no, this is not at all. You are not even in our -- in LNG and (inaudible), you will not cut a good engineer to bring a bas engineer, or a foreman to work on behalf of the engineer, this is not the way of our business.

But as Amos say, it's the technology today, and it used to be when we built a platform in the sea,

DOHA-2016/04/21

it's full of people, today it's the satellite platform. No man. It used to be when we built a power station, for instance we built, the last Ras Qartas Power Station, 2,730 megawatt with almost 60 million imperial gallon of desalination. It's only run by 120 people.

MR. BARAKAT: Right.

MR. AL ATTIYAH: So, technology today it helps, it solves a lot of problem, it makes you more efficient, more risk cost. So this is not only the challenge -- today, for instance, when I went to integrate one of our ships in Korea, the biggest LNG tanker ever build initiative in the world, we call the QMX, we have 14of them or 15. Every one, come to the city, 265,000 cubic meters; it's about 10 (inaudible) of the size.

Well, that is huge, I walk there, I lost 2 kilo, so it's nice to walk there. But do you know how many people running this ship? Fifteen people, including the cook.

MR. BARAKAT: That's amazing.

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

MR. AL ATTIYAH: Because it's on auto pilot. So, it's changed. The world -- I am a big believer in the technology, technology always solve the world's problems, and it will make you more efficient. So, I'm not worried about the change, I'm not worrying -- cutting jobs is -- normally, you know, now you see how many banks, they cut a lot of jobs, oil companies, other IT companies, telecommunication companies. You know, sometimes people, they say we are concerned about jobs, you know. Yes, must say, they have to cut jobs. Yes, I agree, technology, unfortunately against the human need.

I feel some (inaudible), I bought myself or the others, I always think, if I lost my job, and the technology is my enemy, because it makes solution for how to lose jobs. So, I agree with you. I remember when the first platform, we built it, early '80s, I visited, it was full of people. Then later a few years ago, we built a big, you know, platform with no money. No one there, it's a satellite. You've got full operation, and gas operations, with only just --

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

from time to time the helicopter will go with the technician to check.

About, everything is okay? He talks to himself, not to others, and then he went back. So I believe, you know, we are always, this is our challenge we are not concerning about budget, subsidizing, everything will change, because the time, you know, always you are trying, you know, to the motivation about how the reality, and how you move, and how you solve problems. This is the mathematics and we always, now, today, I always say it, we are an era; it has a lot of change.

MR. BARAKAT: Thank you so much. And thank you both, it's been absolutely fascinating, and we could stay discussing this between us for hours.

MR. AL ATTIYAH: We can talk about it for a week.

MR. BARAKAT: But owe it to the audience, because we are only left with 10 minutes, and we owe it to the audience to ask a couple of questions. And I'll take a round of three questions first. If you

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

can, please, we'll start with you. Introduce yourself a question, if you may.

SPEAKER: My name is Tarekh from Germany News Agency. My question is for both the distinguished guests. Now we are living in new reality, the oil producers from outside -- Non-OPEC countries, and the OPEC right now represents a third of the world's production, oil production, so do we enter the era to reconsider the oil market, and do the world need now for new organization instead of OPEC?

MR. BARAKAT: So let's take two more questions and then we'll come back.

MR. AL ATTIYAH: Okay. No, let me -- you know, I believe that --

MR. BARAKAT: Apologies, please.

MR. AL ATTIYAH: Okay.

SPEAKER: Ias Noseman, Jeddah Energy. Very interesting day. Thank you, gentlemen. Indeed as we are transforming from oil market into a gas market, the gas market itself is transforming from regional and local gas markets driven by pipeline into a

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

singular market for LNG. And that in turn is going to impact the price, as Amos said, probably we are going to see delinking between the oil price and the gas price. Would this lead into forming an OPEC similar cartel for the gas producers? A few years ago we heard about a Troika between Russia, Iran and Qatar, probably for -- specifically for gas.

MR. AL ATTIYAH: Already there.

SPEAKER: Would this still be the case? And this is for Al Attiyah. And Amos, what would be the U.S. reaction to having such an organization for gas? Thanks.

MR. BARAKAT: Thank you. Let me stop here, because these two questions are kind of related. And come back to you on --

MR. AL ATTIYAH: I'll think about the organization. We already establish an organization and the headquarter in Qatar, and I am one of the founders back, you know, a few years ago, and we met in Moscow, and the oil gas producers, and then we have, you know, the debate, where we should be

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

located. So most, Russia, they nominate, you know, Petersburg; and Algeria they nominate Oran; Iran, they nominate Shiraz, I nominate Doha, and finally we won in Moscow and by voting.

This is the first time we won in Moscow. You know, in a free democratic elect -- so we win by two votes, and now it's already, it's in the headquarters. But do you know, it's different than OPEC. OPEC it's how you cut the production. In gas, it's almost very difficult to cut the production because you have long-term contract, take and pay contract, and no flexibility to storage LNG.

So you have to, you know -- so this is it. But we create this gas organization to talk about corroboration, to talk about how to see management, how to create -- to convince consumer to embrace gas again as alternative as coal or others. Now how we can concentrate and to bring, you know, and to send a message to whole world, please -- use gas, it's the best alternative to you. So this is the way how to attract, and now the headquarter in Qatar, and it's

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

very active to create a lot of -- to create another (inaudible).

This is already, OPEC, you know, if we don't -- I'm a big believer, if we don't have OPEC, we should create OPEC, because at least it's a body to talk with even with the consumers, to talk with even with the consumers. Today the IEA, it used to be they created as against OPEC. Today, IEA and OPEC they talk to each other, they work with each other, they are trying, you know, to work as -- creating the security of supply, they convince even IAF -- and also this is an organization to create consumerable use of, you know, dialogue.

So the world today, you know, the fighting with each other is no more. I remember you know, the international oil company, they won the -- their relation with the national oil companies, very, very bad. The challenge, especially in the middle '70s, and they start what they call it -- I call the unholy war, because I always see the -- not happy because of the takeover of the various things.

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

But do you know, when I became a minister I have my own logo. I visit the whole, you know, ISG companies, even in Europe and in America, that time. And I say, with my message, you know, both, we don't meet -- anyway -- If you don't meet me and I don't meet you, join me, because today we believe now that we can work together, and we can be partners. I need you because of your technology, about your marketing capability, your financial capability, and also I need -- and you need me because of my reserves and my -- and our ministry so we can work together, equally.

MR. BARAKAT: And from a U.S. perspective, (crosstalk)?

MR. HOCHSTEIN: We have a slightly different -- Obviously the United States, we have a slightly different perspective on OPEC, and so on, but look, as I said before, I think when OPEC is 99.9 percent at peak production, and of capacity, and only one country has spare capacity, in Saudi Arabia, and you have new producers coming online, and a greater share of the market is Non-OPEC, I think that speaks for itself as

DOHA-2016/04/21

to where the future of OPEC lies.

As far as gas, I think it's okay to have conversations and discussions in organizations such as my friend just discussed. We obviously won't join, but I think at the end of the day, if you want to look at the challenges to create a cartel on gas, it's almost impossible for all the reasons that we just mentioned. In addition to that it's -- the democratization of the gas market around the world is in full swing. We have countries joining the club of producers every day.

So we may see Mozambique and Tanzania get to production, and they will join. So we are -- I don't see it as a relevant conversation for the future. I think the LNG market is well established, the traders are already well established, they are getting stronger, and you have 15-year contracts, side-by-side spot market contract, so who is going to start playing with the production. So I just don't see it, and with Australia and the United States joining the club, the Qatar club of major producers and major exporters, I think the market is on its own.

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

MR. BARAKAT: Thank you very much. We'll take one last round of questions, please, in the back.

SPEAKER: My name is Amisula Kam. I'm from Pakistan Embassy. My question is a little bit on, like both of the speakers spoke about the technology. As a layman my question, like, a century back, people would be making fun, you know, a city flying in the air, only a century back. Talking of element of course third wave, perhaps we are already into fourth wave.

So what is the future of oil and gas altogether when technology is at a rampant pace advancing into new areas, and like we already have, for example, a prototype aircraft flying purely on solar energy, a flight taking off from New Zealand to America on biogas? So alternate energy is coming to, really, into reality, and there is a very -- there is an assessment that perhaps in the next 15 years, all the domestic energy will shift onto solar. Solar energy is also becoming very cheap. So what is the future of oil and gas altogether in the midterm

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

(inaudible)? That's my question. Thank you very much.

MR. BARAKAT: Thank you very much. Please, Zachariah?

SPEAKER: My question is to His Excellency, Hamad Al Attiyah. We know that there is a (inaudible) in the LNG market. Nuclears are coming, the club of exporters and importers are coming more and more. My question to you, from 10 years, why don't do the diversificate your economy. Why you depending on hydrocarbons all the time, when the shock is coming so severe. If you diversifcate now, now Saudi Arabia start to diversificate they economy. When will you start diversificating yours, and not to be a hydrocarbonic country? Thank you.

MR. BARAKAT: Thank you so much. We'll take one last question. Please, here, the right-hand side. Yes. Give him your microphone. Thank you.

MR. SERGIE: Yes, thanks. Mohammed Sergie, Bloomberg News. My question is about supply to Ukraine specifically. A few years ago, I think Qatar,

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

Turkey and Ukraine had a trilateral, I guess, meetings to discuss or at least find out -- figure out ways to supply Ukraine, and I'm wondering now, with the U.S. becoming an exporter, and also looking at increases in Russian and Norwegian gas to Europe, how are we going to get LNG to Ukraine, through the Black Sea and through the Bosphorous?

MR. BARAKAT: Thank you very much. We will start with the first.

MR. HOCHSTEIN: I'm going to -- but I'm not going to touch the second. That I'll leave to my friend here.

MR. BARAKAT: On the alternative source?

MR. HOCHSTEIN: On the alternative sources, look, there is no doubt, that's what I was saying before; I think we are going towards a transformation in the world energy. Renewable energy is going to grow exponentially, but even with the exponential growth, we are going to see hydrocarbons being part of, and be with us for decades to come. That's why I think LNG is so important because gas is, I believe,

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

is a transition fuel that effective to go there.

You can't simply bring on renewable energy at massive amounts without also have tremendous investments into the infrastructure of delivery, because you need stability on the grid. The challenges in India when they had a power a power outage for 700 million people, was not because of a lack of generation, but because of infrastructure. Bringing on in an uncontrolled manner, enormous amount of renewables is a challenge in and of itself, and should be done, but while looking at the stability of the grid itself. So I think the renewable energy is coming. I think it's going to grow, and it will continue to grow, but we are not out of the era of hydrocarbons quite yet.

As far as the question on Ukraine, I think this is a great -- it's a great question. We are -- Ukraine used to get 50 percent of its gas from Russia, and the rest of Eastern Europe received its gas via Ukraine. Ukraine this year, as a result of a collective effort of the United States and Europe and

DOHA-2016/04/21

Ukraine together, will have its first year in history, where they did not have any -- they did not burn any molecule of gas that they directly bought from Russia.

Some of it Russia molecules from other means, and that was achieved through change in regulatory policy, reverse flow of the pipelines from Slovakia, from Poland, from Hungary, and I think that's only going to grow. The LNG terminals that I think are going to be coming in the coming year, two years, in places like -- in places like Croatia and Krk Island, in Greece, into Bulgaria, will allow Ukraine to have more access to international gas because the integration and interconnection in Europe must continue.

There is one major threat to that, and Russia does not want to see the reality that I just described, and the threat to that is Russia building a major new pipeline to Germany, called Nord Stream 2, this is a danger and a threat to the diversification in Europe and a real threat to an ability to bring new sources into Europe, and a potential collapse of

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

DOHA-2016/04/21

Ukraine as it will take away \$2 billion of revenue from Ukraine that it cannot replace, of transit.

That is the old way of thinking. It is relying on energy as a political weapon and tool, something that we have to get together and tell anybody who wants to do that around the world that is part of the past. The future has to be in energy around collaboration, and integration, not a political tool. So I think that we have Ukraine as the prime example of what is possible when you cooperate, and the threat of what is still out there in the world that we cannot ignore, which is using energy as a political tool and weapon against other countries.

MR. AL ATTIYAH: I will also to -- talk about Ukraine, you know. I've been Ukraine, Kiev, I've been in Turkey, that time, we talked with (Inaudible) and others. How Turkey that time, to be the gate of supply Eastern Europe. That time, you know, we say the decision, we are a supplier, we are ready to supply any customers, immediately, but the decision is the customer, how to build the energy, how

DOHA-2016/04/21

we will -- Turkey and Ukraine, how they will, and the net -- how the (inaudible) of the time.

You know, I heard, I've been -- and even in Croatia they talk about build energy terminal for 10, 15 years. You need the guts to take the decision, not to talk about what you will do. You know, the time I had -- every time I met a delegation from -- Korean, from Croatia, from all -- of many, Bulgaria and Hungary, they will start to talk about terminals, about how to create a different supply, a secretive supply, and they will talk to you hours about it. I listened very carefully. I always clean my ear and listen to my customers. But, then I say, when, when you will do it. We are ready. Call me. We will supply. We will supply any customer, we don't play politics.

We don't -- we never interfere with our customers. We always respect our combatant. We never even mix politics with our suppliers. Even sometimes we have a dispute, politically with this country or this country, but we never put all our contracts in

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

the middle, or trying, you know, to blackmail our customers. We always respect our -- you know, our combatant. This is why we are very successful, and why we have a good trust with all our customers, and we prove it.

So I hope, you know, you ask your country, when they build the terminal, and then we will be happy to supply. You know, I always believe, I learn in my business, don't first -- don't -- accuse first. I will never, dependent on one supplier. And also as supplier, also I advise them, don't be dependent on one supplier.

I always believe three suppliers, better than two, but four better than three; this is what I learn. Even for consumers or producers, because the time you always believe that you are available. As I say to you, Qatar is -- break record with their old consumers for the last 18, 20 years; we never, we never default in one cargo. Your question about --

MR. BARAKAT: Very briefly because we are running out of time.

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

MR. AL ATTIYAH: But it's a question, you know, I don't want for him to --

MR. BARAKAT: Think you are avoiding it?

MR. AL ATTIYAH: Yeah, to avoid. Yes, you know, we always talk, and every country in the world to talk about diversification, how we can, diversification, how we can, you know, the way; what is the best of the diversifications? You see, Qatar is a small country; it's a very dry country. We have, even, all our water, 99 percent come from desalination. You know, agriculture is not good for -- you know, we don't -- one of our choices because we cannot do it.

You know, we are one of the biggest producers in fertilizer in the world. We will use more than 80 million tons of urea, we only consume 5,000 tons a year here. So we import XXXsic export?XXX to 95 countries of urea, so the way we help the Arabs, you know, and how to protect it, but also, you know, yes, we have to -- when you talk about Saudi Arabia, Saudi is a huge country with different

climate, different ways and means, but yeah, we have also, how to embrace, how to -- the government or even the sovereign fund, you know, how to -- We always can sell, and this is always, we talk it, after oil and gas.

We know oil and gas is a depletive source. We know even when we say our gas and oil will take us 100 years from now. Even 100, for me and for you it's long, but for a nation it is short. Always we debate that, and we already debated for years. We always ask ourselves, what after oil and gas, we always believe that diversification is a very important in how to survive. We include also education, this is our big challenge, we brought the best university from United States and Europe, and other. This is also one of the areas, that how to create a nation with a very strong education.

You know, when we create our women, our men, in a very -- you know, they graduate from the best university, the best -- this is what, our challenge in the future. We always believe education is the big

DOHA-2016/04/21

challenge. We are well -- And this is why we believe that we will -- and we understand, and don't -- you know, I can assure you it's in our mind. We are nation, who lived in this country 60 years ago when you are -- If you come to this country you will not find even elementary school. You cannot find even no power, no electricity, even no doctor. Even we never saw a nurse.

You know, how this nation resist in a country -- it's very dry, even you know, they drink the brackish water from wells, but they survive. And they never left their country, and they die in this country. In the time, even 1941, one-third of the whole population died by hunger and by disease because of the second war and the collapse of the (inaudible), and died of coal burn, but we never --

I remember, I asked my grandfather once -- I was born 1953, when he first elementary school was open, because the first oil cargo left 1949, and the time even when they opened the elementary school, even they cannot find a teacher in Qatar, because 95

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

percent of people they cannot read and write. And one of -- and we bring a lot of teachers from the whole Arab world, including, you know, presence (inaudible) from Versailles, he was teaching in Qatar. And you know Abouyad, there are a lot of big, big names, they were teaching in Qatar, and they had a very strong rule in their own country later on.

So we believe -- As I said, we asked my grandfather once, but how you resist, you a Qatari, how they -- you don't think to leave. He said, oh, once I want to (inaudible) of Saudi Arabia, and I went there for a few days and I felt so homesick. So the next day, I went back to Qatar. So, you see you will live, and we will die, and don't we worry, we live more -- tougher this one, and we are ready to challenge it. Thank you. (Applause)

MR. BARAKAT: Very good. Thank you so much. This is a great way to conclude. I don't think we can -- I won't even attempt to summarize what was said today, except to say that it left us to really feel much more positive and encouraged. I think the whole

tone has been very constructive; the way forward is still there in terms of positive growth and mutual benefits on all sides.

So thank you very much, to all. Thank you to our audience. This has been part of our discussion and focus around our energy agenda. Those of you who follow the work of the Brookings Doha Center will know that annually we have the energy forum this time of the year. But we, too, have had to adapt with the changes in context, and we are very pleased that we've been able to make use of the visit of Mr. Amos, and the presence of His Excellency, Abdullah Al Attiyah. Thank you very much. (Applause)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

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

Carleton J. Anderson, III

(Signature and Seal on File)

Notary Public in and for the Commonwealth of
Virginia

Commission No. 351998

Expires: November 30, 2016

ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190