

**EASTERN MEDITERRANEAN ENERGY: CHALLENGES
AND OPPORTUNITIES FOR U.S. REGIONAL
PRIORITIES**

JOINT HEARING
BEFORE THE
SUBCOMMITTEE ON
THE MIDDLE EAST AND NORTH AFRICA
OF THE
COMMITTEE ON FOREIGN AFFAIRS
AND THE
SUBCOMMITTEE ON ENERGY
OF THE
COMMITTEE ON SCIENCE, SPACE, AND
TECHNOLOGY
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EASTERN MEDITERRANEAN ENERGY: CHALLENGES AND OPPORTUNITIES FOR U.S. REGIONAL PRIORITIES

THURSDAY, SEPTEMBER 8, 2016

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON THE MIDDLE EAST AND NORTH AFRICA,
COMMITTEE ON FOREIGN AFFAIRS AND
SUBCOMMITTEE ON ENERGY,
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY
Washington, DC.

The subcommittees met, pursuant to notice, at 2:29 p.m., in room 2172, Rayburn House Office Building, Hon. Ileana Ros-Lehtinen (chairman of the Subcommittee on the Middle East and North Africa) presiding.

Ms. ROS-LEHTINEN. The subcommittees will come to order.

After recognizing myself, Chairman Weber, Ranking Member Deutch, and Ranking Member Grayson for 5 minutes each for our opening statements, I will then recognize other members seeking recognition for 1 minute.

We will then hear from our witnesses. And, without objection, the witnesses' prepared statements will be made a part of the record, and members may have 5 days to insert statements for the record, subject to the length limitations in the rules.

We are also expected to be joined by the chairman of the Committee on Science, Space, and Technology, Chairman Smith, and possibly Ranking Member—oh, here he is, right on time—and possibly Ranking Member Johnson as well. Let me look over here. No. So I will be pleased to recognize them as they arrive.

The chair now recognizes herself for 5 minutes.

Three months ago, I led a bipartisan congressional delegation trip to Cyprus and Israel. I was joined by Carolyn Maloney, Gus Bilirakis, and my friend and colleague from our Middle East and North Africa Subcommittee, Randy Weber, who is participating today as chair of the Science, Space, and Technology Subcommittee on Energy. Energy was the focal point of our trip, and one of the major talking points we heard in both Israel and Cyprus was that the natural gas developments in the Eastern Mediterranean has the potential to be more than just an economic boost for both countries; natural gas development has the potential to drastically change the geopolitical landscape of the region for the better.

While in Israel, Prime Minister Netanyahu and other Israeli Government officials told us that the democratic Jewish state was

on the verge of reestablishing relations with Turkey, and, indeed, just a few short weeks after our trip, Israel and Turkey announced relations had been restored. No doubt the potential to collaborate on natural gas developments played a central role in those discussions.

Since the discovery of natural gas in the Eastern Mediterranean, Israel's relationships with Greece and Cyprus have improved. While in Cyprus, we were told that the Cypriots are working to bring the countries of the Eastern Mediterranean area together to create a multilateral forum that would include Israel. We were told by Cypriot officials that they consider themselves part of Israel's strategic depth and plan on working closely with Israel on issues of counterterrorism, security, crime, and trafficking. It was clear that energy has emerged as a key incentive that can help resolve the Cyprus problem and end Turkey's occupation of the northern part of Cyprus. A potential pipeline carrying Cypriot and Israeli natural gas to and through Turkey could not only improve relations in the region, it could be then routed into Europe. That would help our European friends in reducing their dependence on Russian energy and decrease Russian influence in that area.

We have yet to see the tangible contributions from Ankara regarding Cyprus reunification, an issue that is of utmost concern to this committee. With cheap Israeli natural gas, we can see Israel strengthening its relationship with Jordan and Egypt and reshaping the traditional alliances in the region, as both nations could benefit from alternative energy sources. So the United States has a vested interest in seeing these projects in the Eastern Mediterranean come to fruition in order to bolster our partners in the region but to also bolster our own national security interests.

Of course, the potential economic benefits realized by Eastern European nations should all these natural gas projects be developed would be immense. And it won't be just an economic benefit to the Eastern European nations. It was the U.S.-based company Noble Energy that made these potentially game-changing natural gas discoveries offshore both Israel and Cyprus. Exxon has also participated in Cyprus' latest round of licensing.

As the projects expand and come online, that will create more jobs and bring in more revenue. But there are, of course, still various important impediments in the way. It would clearly be in Jordan and Egypt's benefit to work with Israel so they can decrease their energy subsidies that heavily burden their economy in lieu of a cheaper alternative, but will they allow other political considerations to derail stronger cooperation with Israel? Are energy incentives sufficient to end Turkey's occupation of Cyprus, or will this opportunity pass and limit the extent of energy cooperation in the region? Is Israel ready to be a regional leader, and can it resolve its domestic issues favorably to allow these projects to go forward?

The United States can play a pivotal role in resolving some of these issues. We want to hear what positive steps the administration is taking to encourage these projects to go forward and how, if at all, we are providing support to Israel, to Cyprus, Turkey, Egypt, and Noble Energy even, to get these ambitious projects online and benefiting the region. We want to know how these issues factor in the administration's foreign policy when it comes to these

nations and the region, because the Eastern Mediterranean natural gas discoveries can drastically reshape the region and benefit so many of our allies.

And, with that, I recognize Ranking Member Deutch for 5 minutes. And I will then recognize the other members and ranking members. And I know that Ranking Member Bernice Johnson, Chairman Smith, and many others will be speaking as well.

Mr. Deutch.

Mr. DEUTCH. Thank you. Thanks, Madam Chairman, for holding today's hearing. Thanks to Chairman Weber and Ranking Member Grayson. And thank you to the witnesses for being here and for the good work that you and your agencies do.

Energy security is an integral part of stability in a volatile part of the world. Recent gas finds in the Eastern Mediterranean present opportunities for new relationships and unprecedented cooperation between regional actors.

I co-chair the Congressional Hellenic-Israel Alliance with my friend Congressman Gus Bilirakis, whom I saw walk in just a moment ago, who joined Chairmen Ros-Lehtinen and Weber on their recent delegation to Israel and Cyprus. Much of the work that we do in the caucus is focused on energy cooperation, and we have seen the way that these gas finds have really brought these three countries together and deepened their relationship in a really meaningful way.

These are countries that have so much in common, including a respect for and commitment to democracy, and now have an opportunity to work together to create energy independence for their own countries, to help their neighbors meet their rising demands, and to eventually bring this gas to new markets.

The trilateral meeting earlier this year between Israel, Cyprus, and Greece resulted in the establishment of a commission to explore possibilities for a pipeline to Europe. Getting this gas to Europe will go a long way toward decreasing Europe's energy dependence on Russia. And, from a national security perspective, helping Europe diversify from pro-Western sources can help contribute to increased international stability. Cyprus' discovery of the Aphrodite field in 2011 was the catalyst for the serious discussion of a pipeline connecting the Eastern Mediterranean gas fields. Unfortunately, the stalled reunification talks have hampered that planning process. I know that both sides are hopeful that talks can conclude before the end of the year, giving way to a new era of cooperation. Many have speculated on the role that energy played in the recent rapprochement between Turkey and Israel, and I hope that Special Envoy Hochstein will speak to how this development impacts Cyprus, as well, and how the current instability in Turkey affects prospects for regional cooperation on a pipeline.

For Israel, the discovery of the Tamar and Leviathan fields are a game-changer. Since the Tamar field went online, natural gas now accounts for 30 percent of Israeli fuel consumption, up from 11 percent in just 2008. Production from the Leviathan field has the potential to more than meet all of Israel's natural gas needs, leading it to be an exporter in the future. Israel also appears to finally be on the road to overcoming the regulatory challenges that have stymied progress over the past several years. Her neighbors

have recognized this potential for a stable gas source. Memoranda of understanding have been negotiated with Egypt, Jordan, and the Palestinian Authority for various gas deals.

Following the uprisings in Egypt in 2011, Jordan faced serious disruptions to its gas supply as terrorists in the Sinai repeatedly attacked the Arab Gas pipeline from Egypt. A pipeline from Israel to Jordan has been approved to facilitate a \$15 billion agreement between U.S.-based Noble Energy, the developer of Israel's fields, and Jordan's national electric power company. Noble Energy also spearheaded a 2014 deal to bring gas to the West Bank. And just this week, Israel announced a partnership with the Dutch to help supply gas to Gaza. Cooperation that brings about benefits to the people, real benefits that impact their daily lives, like alleviating water and gas shortages, can go a long way to reducing tension on the ground. Noble has also signed an agreement with an Egyptian firm for an undersea pipeline.

Now, it is no secret that relations between Israel and its friendly neighbors should be strengthened. I hope that the Governments of Jordan and Egypt continue to withstand domestic pressure to cancel these deals. Both of these countries are in desperate need of new energy sources, and these deals can provide much-needed relief.

Egypt, once a net exporter, has two LNG facilities that have not operated at capacity for several years, and the rise in domestic demand decimated Egypt's ability to export. If these facilities are able to be secured, they would be ideal for use by Cyprus. Egypt's surprising discovery of the Zohr field, the largest find in the Eastern Mediterranean, adds a new dimension to the regional aspect. Egypt is hopeful that gas from Zohr can reach domestic markets by 2017, and, depending on demand, the ability to export in the future could provide a much-needed boon to Egypt's economy.

Mr. Hochstein, I hope that we can discuss in greater detail how the Zohr discovery fits into planning for the future of Eastern Mediterranean gas.

And with all the activity in the Eastern Mediterranean, there is a real opportunity here for the U.S. to use our expertise to provide technical and political support to these countries as they move forward.

And, finally, Madam Chairman, you and I partnered to introduce and pass the U.S.-Israel Strategic Partnership Act in 2014. I know we are both proud of this legislation that showcased the depth and breadth of the U.S.-Israel relationship.

And one area that this bill made remarkable advances in was energy. In addition to authorizing a dialogue and a number of new energy initiatives and expanding grant programs, the bill authorized the establishment of a joint U.S.-Israel energy center in the United States that would leverage the experience, knowledge, and expertise of all that we have here in the United States and in Israel and move toward the development of domestic resources to address needs. And I want to stress that this showcases just how much there is for our two countries to do together and the substantial impact this kind of research can have around the world. And it is the kind of thing that doesn't get enough attention. And there is a lot more I haven't touched upon that I hope we have a chance

to get into and hear from the witnesses, especially how U.S. energy imports are impacting these developments around the world and Iran's reentry into the energy market.

I thank our witnesses and you and look forward to a fruitful discussion.

Ms. ROS-LEHTINEN. Thank you very much, Mr. Deutch.

And we are so thrilled that the full committee Science Chairman and Ranking Member, Smith and Johnson, have joined us today.

And Lamar is the only one who knows that my childhood nickname is Lily, so he is a good friend.

The chairman is recognized.

Mr. SMITH. I thank the chairwoman for working with the Science Committee to host today's hearing. Our shared jurisdiction over international energy issues is an important piece of U.S. foreign policy. I look forward to our discussion on the appropriate roles of the Department of Energy and Department of State.

Today, the Subcommittee on Energy and the Subcommittee on the Middle East and North Africa will examine the opportunities for energy development in the Eastern Mediterranean. We also will discuss how cooperative research and development with our allies can bolster U.S. diplomacy and provide opportunities for new scientific discoveries.

While the State Department's responsibility to execute U.S. foreign policy is well-known, the Department of Energy's Office of International Affairs also plays an important role in foreign policy. DOE describes the purpose of its International Affairs Program as integrating the Department's research programs, national labs, and science and technology policy to pursue U.S. Government objectives on energy and national security issues. The Department also provides subject matter expertise and vital information on the impact energy development can have on global stability and security, which is of interest to our national security agencies.

DOE currently engages on energy issues with dozens of countries. Its agreements include bilateral R&D partnerships and multilateral efforts on regional energy issues that range from energy efficiency and oil and gas exploration to providing electricity to rural communities around the world. By working to ensure energy security for our allies, the U.S. can engage in diplomacy that improves regional stability and increases innovation.

In the Eastern Mediterranean, energy issues have a significant impact on regional security. The United States has a long history of engagement in the region, particularly in support of one of our closest allies, Israel. On energy issues, DOE has led cooperative research efforts with Israeli scientists for decades, with formal agreements on energy research dating back almost 30 years.

Programs such as the Binational Industrial Research and Development Foundation and the Israel-U.S. Binational Science Foundation encourage collaboration between the nations' top labs and scientists. These programs research a broad range of topics that include oil and gas exploration, production, and distribution technologies, energy efficiency and renewable energy, and water desalination and treatment facilities.

The U.S.-Israel Energy Dialogue, reestablished by DOE in 2011, fosters scientific engagement on cybersecurity, civil nuclear energy,

and basic research and development activities. These programs leverage DOE national labs and researchers to produce the kind of scientific collaboration that can lead to the next technology breakthrough.

The recent discovery of the Tamar and Leviathan gas fields off the coast of Israel have the potential to foster new regional trade relationships. It could even provide a source of natural gas for U.S. allies in Europe. DOE-led cooperative R&D for natural gas production, transmission, and distribution can help drive this development. It can create the potential for Israel to become a net exporting country, establish energy trade with its neighbors, and ensure Israeli energy security for years to come.

I thank our witnesses, Assistant Secretary Elkind and Special Envoy Hochstein, for testifying today. We look forward to their comments about the role DOE plays in support of U.S. diplomacy and opportunities for energy engagement with allies in the Eastern Mediterranean.

Thank you, Madam Chair, for that recognition. I yield back.

Ms. ROS-LEHTINEN. Thank you so much, Chairman Smith.

And now we would like to turn to Ranking Member Eddie Bernice Johnson, who is recognized.

Ms. JOHNSON. Thank you very much, Madam Chairman.

And good afternoon to all.

I am so appreciative of you holding this joint hearing on energy opportunities in the Middle East and, in particular, on the research and development partnerships in the region.

DOE's international partnerships span the globe, and they are an important tool in expanding clean energy innovation and addressing climate change. One of the strongest partnerships we have is with Israel. Our Nation and the state of Israel have a long history of cooperation in developing clean energy technologies and in promoting and ensuring energy security for Israel in particular. This relationship is not only in each of our national interests but vital for our shared commitment to the region as well.

The U.S. supports a number of successful initiatives to promote this collaboration. The DOE's Office of Energy Efficiency and Renewable Energy has issued awards for research in wind, solar, energy storage, and many others. These funds are matched by the Israeli Government and the awardee, allowing for greater leverage on every dollar DOE invests.

In addition to DOE's work with Israel, the Department has also collaborated with industries in Turkey to employ better energy-efficiency practices and technologies. These partnerships strengthen our country's own R&D efforts and make a positive impact on our diplomatic work in the region. If we wish to continue to promote scientific advancement in energy security, great collaboration in research and development must continue to be a high priority.

I look forward to hearing from our distinguished panel on the progress we have made in this area and on the opportunities we should turn to next.

I thank you and yield back.

Ms. ROS-LEHTINEN. Thank you so much, Ranking Member Johnson.

And now I would like to turn to Chairman Weber, who is the chairman of the Subcommittee on Energy.

Mr. WEBER. Thank you, Madam Chair.

Good afternoon, and welcome to today's joint subcommittee hearing examining energy opportunities in the Eastern Mediterranean. I want to thank my colleagues on the Committee on Foreign Affairs for working with the Science Committee to hold this very important hearing.

Today, we will have an opportunity to receive an update on U.S. diplomacy and regional energy development and will conduct important oversight of the Department of Energy's ongoing cooperative research and development programs with our allies in the region. We will specifically hear about DOE's energy engagement with Israel, the key U.S. ally in the region.

The Department of Energy plays a vital role in ensuring global energy security. By engaging with our allies through energy, environment, and technology cooperation, DOE provides opportunity for international researchers to access the scientists and the research infrastructure at our national labs. It also gives U.S. researchers the chance to work with new partners on innovative research and opens the door for future discoveries and technology breakthroughs. This kind of collaboration provides opportunity for international dialogue and directly supports U.S. diplomatic efforts around the world.

In the Eastern Mediterranean, our strongest ally is Israel. So it should be no surprise that DOE has a long history of cooperation with Israel, or what I call the start-up nation, on energy research and technology development. Starting with a research partnership that was formalized in 1987, the Department has consistently prioritized this strategic partnership.

Energy security is a key priority for Israel, and not just for Israel. It directly contributes to regional stability. By enabling Israeli development of their natural resources, including the sizable Tamar, Dalit, and Leviathan offshore natural gas deposits, the United States can promote economic growth and help establish trade relationships between Israel and its neighbors, which will mean stability in the Middle East. Noble Energy, a U.S. company based in Houston, Texas, helped discover these gas fields. And today, the ongoing research partnership between DOE and Israeli scientists will provide technical expertise and the technologies to help successfully develop and export this resource. With regional partnerships to develop pipeline infrastructure, Israel's natural gas resources could even fuel Europe, serving as an alternative to Russian natural gas and providing energy security even to more U.S. allies.

Now, look, DOE is engaging with Israel on renewable energy, cybersecurity, desalination—I can do this, I can do this, Madam Chair, I know, I know—and energy storage technology—my “tang is getting tongled”—cybersecurity, and efforts to protect our critical infrastructure. Maintaining this dialogue in cooperation with our key ally should remain a U.S. priority.

In the past year, we have even seen DOE take a leading role in negotiating U.S. international agreements. In the case of the Iran nuclear deal and the Paris climate agreement, my colleagues and

I have raised very serious concerns. So I am pleased to discuss DOE engagement, where we see clear benefits from the U.S. and our allies and the potential for real breakthroughs in energy technology.

I want to thank Assistant Secretary Elkind and Special Envoy Hochstein—am I saying that right? Good enough? Okay—for testifying to the committees today. Your testimony will provide a valuable update to Congress on the impact of energy on regional stability and how your respective departments can best engage to support our allies and advance U.S. goals.

By supporting cooperative research and development with our allies, the Department of Energy can contribute to U.S. diplomacy, the security of those allies, and promote groundbreaking energy research, all the while helping to ensure a more stable region in the world. I look forward to you two gentlemen laying out the framework to do just that.

I yield back.

Ms. ROS-LEHTINEN. Thank you so much, Mr. Weber.

And now I am pleased to yield to my Florida colleague, Ranking Member Grayson, for his statement.

Alan?

Mr. GRAYSON. Thank you.

I actually don't have anything to add to my colleagues and what they have said already, but there is something I want to emphasize, and that is the importance of this development to peace in the Middle East. The opportunity for peace is based upon a very fragile concept called personal safety and security. There is no peace unless people feel that they are not in danger. And that is a requisite on all sides—on both sides, and on all sides.

Israel has felt for decades now that there is a noose around its neck regarding its energy supplies. And these are fragile. In the modern world, energy supplies are corporatized and centralized from the well to the pump and everywhere in between. And the result of that is that there is a vulnerability intrinsic to the energy supply system that is not necessarily the case with regard to the supply of food or the supply of shelter or other basic necessities.

It is, actually, similar to the bottleneck that we see with the Internet. Last night, I saw the movie "Snowden." In the movie "Snowden," they illustrate this point by pointing out that the entire Internet service in Syria was shut down inadvertently by a cyber attack—inadvertently.

And the same thing can be true with energy supplies. Energy supplies are centralized in a manner that makes them uniquely vulnerable. And as long as Israel, as long as other countries in the region feel that they are vulnerable in that regard, it is difficult for people to even grasp the concept of peace.

We lived through similar circumstances decades ago in the United States. I can well remember how the shutdown of oil supplies and oil imports to the United States led to my parents getting up at 5 o'clock in the morning, along with many, many other Americans, in order to get their gas in the morning and waiting online for hours in order to make that happen. I can also remember how the quadrupling of oil prices, worldwide oil prices, led to the deepest postwar recession that we had until the year 2008. In the same

way, countries like Israel, other countries in the region feel vulnerable to similar attacks on their economy, on their safety, on their way of life. And as long as that is true, then it's unreasonable to expect anything resembling peace.

So what we have here, through the discovery of natural gas supplies that are fortuitously spread around the Eastern Mediterranean in areas that Israel can possibly exploit, Egypt already is exploiting, Lebanon might be able to exploit, Cyprus is already exploiting, that creates a common interest in peace and security and a sense of safety that is absolutely necessary if we are going to see a peaceful Middle East at any point in time.

I yield back.

Ms. ROS-LEHTINEN. Thank you very much, Ranking Member Grayson.

I would be glad to recognize any members for opening statements they would like to make for a minute.

Mr. Bilirakis is recognized.

Mr. BILIRAKIS. Thank you so much, Madam Chair. And thank you for allowing me to sit in on this very important subcommittee. Thanks for holding it as well.

I also want to thank Chairman Weber and Ranking Member Deutch and Ranking Member Grayson and members of the subcommittee, again, for inviting me to participate in the joint subcommittee hearing concerning the increasingly important energy priorities in the Middle East and the Eastern Mediterranean regions.

When I co-founded the Congressional Hellenic-Israel Alliance Caucus, along with my friend Representative Deutch, one of our primary goals was to promote the growing partnership between Israel, Greece, and Cyprus—a partnership which could yield important economic and national security benefits for the United States and the region.

Energy diplomacy has been at the core of that partnership. Noble Energy's 2010 discovery provided a great surge in optimism that natural gas cooperation would provide energy security, economic growth, and global stability in a notoriously unstable region. Exclusive economic zones were established quickly and with minimal friction. Energy cooperation resulted in security cooperation, greater Israeli tourism to Greece and Cyprus, and projects like the Euro-Asia Interconnector.

If this cooperation continues and expands to include other regional actors, natural gas could bring the region together the way coal and steel brought Europe together after World War II. The energy potential of this region furthers the U.S. interests by making allies and strategic partners energy independent, by helping Greece and Cyprus out of their economic crisis, by stabilizing Egypt and Jordan, and by incentivizing Turkey to avoid destabilizing behavior in the region. That is why we need to focus today on how the U.S. is both furthering cooperation in the region and working to overcome obstacles.

Turkey's ability and willingness to play a positive role in a stable Eastern Mediterranean must be determined. Without a decisive and tangible move toward ending its occupation of Cyprus, Turkey—one of the greatest beneficiaries of an Eastern Mediterranean

energy region—remains one of the greatest obstacles to this promising future.

I want to thank the Subcommittee on the Middle East and North Africa and the Subcommittee on Energy for highlighting this important issue for the stability and security of the Middle East.

And I yield back. Thank you very much.

Ms. ROS-LEHTINEN. Thank you so much, Mr. Bilirakis.

Seeing no other requests for time, I am so pleased to welcome our panelists.

We are delighted to welcome back Mr. Amos Hochstein, who serves as Special Envoy and Coordinator for International Energy Affairs for the Bureau of Energy Resources at the Department of State. Prior to this role, Mr. Hochstein served as Deputy Assistant Secretary for Energy Diplomacy and even a former staffer of the House Foreign Affairs Committee.

You survived that; you can go to a lot of places. So welcome back, Amos.

Next, we would like to welcome to our subcommittee for the first time, but hopefully not the last time, the Honorable Jonathan Elkind. Mr. Elkind is the Assistant Secretary for International Affairs with the Department of Energy. Prior to that role, Mr. Elkind served as the Principal Deputy Assistant Secretary. And prior to joining the State Department, he was a senior fellow at the Brookings Institution.

Welcome, Assistant Secretary Elkind.

As I said, your remarks will be made a part of the record. Please feel free to summarize.

And we will begin with you, Mr. Hochstein.

**STATEMENT OF MR. AMOS J. HOCHSTEIN, SPECIAL ENVOY
AND COORDINATOR FOR INTERNATIONAL ENERGY AFFAIRS,
BUREAU OF ENERGY RESOURCES, U.S. DEPARTMENT OF
STATE**

Mr. HOCHSTEIN. Thank you, Madam Chair. It is good to be back where it all started for me 20 years ago. So I appreciate that.

Madam Chair, Ranking Members, Chairman, I appreciate the opportunity to be here today to discuss energy developments and opportunities in the Eastern Mediterranean.

But let me start here at home to frame it. The United States has transformed into the world's energy superpower. That is true in oil, gas, wind and solar, efficiency, and R&D.

We have increased oil production from 5½ million barrels a day to nearly 9 million barrels a day and transitioned from being a significant and increasing importer of natural gas to an important exporter. By the end of the decade, the United States may match Qatar in export volumes of LNG.

We have seen investments in U.S. renewables rise to \$58 billion in 2015 alone and increased solar generation more than twentyfold in the last 8 years. Any way you use the word "energy," the United States is the leader, and the world is looking to us for leadership.

This is a time of turbulence for global energy markets, due in part to the transformation taking place in the United States. As you know, oil costs less than half what it did 2 years ago, and

prices for gas in Europe and Asia are at historic lows. Energy is also again playing an increasing role in geopolitics.

But today we are here to discuss the Eastern Mediterranean. Discoveries offshore Cyprus, Israel, Egypt, and potentially Lebanon have already redefined regional relationships and, I believe, will continue to be a catalyst for increased economic and political cooperation through interconnection and integration.

For example, many credit regional energy development for the deepening of the relationship between Israel and Cyprus and Greece. The successful exploration, production, and export of natural gas resources in the Eastern Med will require exactly the political cooperation and economic integration that the United States has long supported in the region. This remains a top foreign policy priority for the United States, which is why I have spent a significant amount of my time devoted to these opportunities and why engagement by Vice President Biden and Secretary Kerry on these issues has been so robust.

Let me start by describing the current landscape in the Eastern Med. In January 2009, Noble Energy discovered the Tamar gas field offshore Israel, containing approximately 7 TCF of gas. The next year, they discovered the Leviathan field, with approximately 18 TCF of gas. The Israel discovery spurred exploration in nearby Cyprus, where Noble discovered Aphrodite in 2011, with an estimated $4\frac{1}{2}$ to 5 TCF of gas. That increased interest in the region, coupled with positive developments in Egypt's investment climate, led to additional exploration in Egypt, yielding Italian firm Eni's Zohr field discovery, mentioned earlier, with approximately 30 TCF, making it the largest discovery to date in the Mediterranean.

Eni's discovery of the Zohr field, which lies just south of Cyprus' EEZ, sparked renewed interest in exploration offshore Cyprus, which had been waning after the Aphrodite find because a number of exploration wells did not produce significant discoveries. Cyprus just concluded an extraordinarily successful third bid round, with bids from companies including ExxonMobil, Qatargas, and others. This cycle of exploration and development in the region will continue as long as discoveries continue to be made, expanding potentially to places like Lebanon and Greece.

I believe the Eastern Med remains an underexplored and underdeveloped area, and I fully expect that significant discoveries will continue to be made there. However, the market is still looking for validation that historical political differences will not get in the way of investment and development.

One of the early lessons learned in the development of Eastern Med resources is the critical importance of regulatory certainty, a business climate that is conducive to investment, contract sanctity, and close cooperation between the government and the private sector. The lack of regulatory clarity and stability cost Israel years in development of its largest offshore resource. But despite early challenges, I am now optimistic and confident in the long-term stability of energy development in the region.

Let me be clear: Energy will not solve political differences in the region, but it can and, in fact, already has provided incentives to accelerate political accommodation and encourage compromise.

The future I see for the region includes new and old pipelines connecting Israel's offshore resources to Jordan, Egypt, Turkey, and the Palestinian Authority. It includes Cypriot gas exports to Turkey and/or Egypt, allowing Egypt to satisfy its own power needs and export via existing but now idle LNG terminals. New resources will allow Turkey to diversify its heavy dependence on a small number of suppliers and use its extensive pipeline network to reach Europe as well.

The success of all these plans, however, hinges on cooperation. Countries will save billions if they share infrastructure and market access. If they don't share these resources, most of the gas will have to stay in the ground. The importance of these developments is not isolated to the Eastern Mediterranean but it is part of a broader energy security puzzle, connecting dots from Jerusalem to Nicosia, Athens to Baku, from Baghdad and Irbil to Sophia and Belgrade and Kiev.

The Eastern Mediterranean can play a role in freeing Central and Southeast Europe from their overwhelming dependence on Russian gas. Turkey has the potential to transform from a country with a heavy reliance on Russian energy to a critical hub connecting Europe, Asia, and the Middle East. This is an exciting opportunity to enhance prosperity, economic security, stability, and political security.

That is why we have made this a top priority for the United States. I don't believe that this vision of increased national security through energy security is wishful thinking. We are seeing it become a reality today.

I thank you, and I look forward to your questions, Madam Chair. Thank you again for inviting me to testify.

[The prepared statement of Mr. Hochstein follows:]

Amos J Hochstein
Special Envoy for International Energy Affairs (S/CIEA)
Bureau of Energy Resources
September 8, 2016
Committee on Foreign Affairs' Subcommittee
On the Middle East and North Africa and the Committee on Science, Space
and Technology's Subcommittee on Energy

Thank you Chairman Ros-Lehtinen, Ranking Member Deutch, Chairman Weber, Ranking Member Grayson, and members of the Subcommittee; I appreciate the opportunity to be here today to discuss energy developments and opportunities in the Eastern Mediterranean.

But let me start here at home. The United States has transformed into the world's energy superpower. That is true in oil, gas, wind and solar, efficiency, and R&D. We have increased oil production from 5.5 to about 9 million barrels per day and, have transitioned from being a significant and increasing importer of gas to an important exporter. It has been reported that the United States has already shipped 20 cargoes of LNG to destinations around the world including Brazil, Argentina, China, Portugal, and Kuwait. In fact, the first LNG to transit the newly expanded Panama Canal was U.S. gas bound for China, a destination determined by private-sector commercial decisions. By the end of the decade, I believe the United States may match Qatar in export volume of LNG. We have seen investment in U.S. renewables rise to \$58 billion in 2015 and increased solar generation more than 20 fold in the last 8 years. Any way you look at world energy, the United States is a leader and the world is looking to us for leadership.

This is a time of turbulence for global energy markets, due in part to the transformation taking place in the United States. As you know, thanks in part to additional supply from the U.S., oil costs less than half what it did two years ago, and prices for natural gas in Europe and Asia are at historic lows.

Energy is also once again playing an increasing role in geopolitics. But today we are here to discuss the Eastern Mediterranean. Discoveries offshore Cyprus, Israel, Egypt, and potentially Lebanon have already redefined regional relationships and I

believe will continue to be a catalyst for increased economic and political cooperation through interconnection and integration. For example, many credit regional energy development for the deepening of the relationship between Israel and Cyprus. The successful exploration, production, and export of the natural gas resources in the Eastern Mediterranean will require exactly the political cooperation and economic integration that the United States has long supported in the region. This remains a top foreign policy priority for the United States, which is why I have spent a significant amount of my time devoted to these opportunities, and why engagement by Vice President Biden and Secretary Kerry on these issues has been so robust.

Let me start by describing the current energy landscape in the Eastern Mediterranean.

In January 2009, Houston-based Noble Energy discovered the Tamar gas field offshore Israel with original proved reserves of approximately 7 trillion cubic feet (tcf) of gas. Soon after in 2010, Noble discovered the Leviathan field, also offshore Israel, which was the largest discovery in the region at the time with recoverable reserves of approximately 18 tcf of gas.

The initial discovery of gas offshore Israel spurred exploration in nearby Cyprus. Noble Energy then discovered the Aphrodite field in 2011. Aphrodite contains approximately 4.5 to 5 tcf of gas and is just west of the Leviathan field. Increased interest in developing energy resources in the Eastern Mediterranean, coupled with positive developments in Egypt's investment climate, led to additional exploration in Egypt, which yielded the discovery last year by Italian oil firm Eni of the Zohr field, has potential gas in place of 30 tcf, making it the largest discovery to date in the Eastern Mediterranean.

Eni's discovery of the Zohr field, which lies just south of Cyprus' Exclusive Economic Zone (EEZ), sparked renewed interest in exploration offshore Cyprus, which had been waning after the Aphrodite find because a number of exploration wells did not produce significant discoveries. Cyprus just concluded a successful third bid round, with bids from companies including ExxonMobil, Qatar Gas, and others. This cycle of exploration and development in the region will continue as long as discoveries continue to be made, expanding potentially to places like

Lebanon and Greece. I believe that the Eastern Mediterranean remains an underexplored and underdeveloped area, and I fully expect that significant discoveries will continue to be made there. However, the market is still looking for validation that historic political differences will not get in the way of investment and development.

[Put Eastern Med map up on the screen]

One of the early lessons learned in the development of Eastern Mediterranean resources is the critical importance of regulatory certainty, a business climate that is conducive to investment, contract sanctity, and close cooperation between the government and private sector. The lack of regulatory clarity and stability cost Israel years in the development of its largest offshore resource. But, despite early challenges I am now optimistic and confident in the long-term stability of energy development in the region.

In Europe, for example, the impediments to resource exploitation are primarily below ground, whereas the Eastern Mediterranean has challenges far beyond geology. These above ground challenges are more complex, but they also present great opportunities and incentives for cooperation. Clearly energy will not solve the political differences in the region but it can provide incentives to accelerate political accommodation and encourage compromise.

The future that I see for the region includes new and old pipelines connecting Israel's offshore resources to Jordan, Egypt, Turkey, and the Palestinian Authority. It includes Cypriot gas exports to Turkey and/or Egypt, allowing Egypt to satisfy its own power needs and export surpluses to international markets via existing, but now idle, LNG terminals. New resources will allow Turkey to diversify its heavy dependence on a small number of suppliers and use its extensive pipeline network to reach Europe as well. The success of all these plans however hinges on cooperation. Countries will save billions if they share infrastructure and market access. If they don't share those resources, most of the gas will have to stay in the ground.

In addition to hydrocarbons, we are working with countries in the region to expand renewable energy. For example, along with the Government of Israel, we are creating a task force that will accelerate financing of clean energy projects and programs. The task force will bring together representatives from across governments along with the private sector, and state and local authorities to drive investment and speed deployment of clean energy solutions.

The importance of these developments is not isolated to the Eastern Mediterranean, but is part of a broader energy security puzzle connecting dots from Jerusalem to Nicosia; Athens to Baku; from Baghdad and Irbil to Sophia, Athens, Belgrade, and Kiev. The Eastern Mediterranean can play a role in freeing Central and South East Europe from their overwhelming dependence on Russian gas. Turkey has the potential to transform from a country with a heavy reliance on Russian energy to critical hub connecting Europe, Asia, and the Middle East. This is an exciting opportunity to enhance prosperity, economic security, stability, and political security. That is why we have made this a top priority of the United States. I don't believe that this vision of increased national security through energy security is wishful thinking. We are seeing it become a reality.

I thank you and look forward to your questions.

Ms. ROS-LEHTINEN. Thank you very much. Welcome back.
Mr. Elkind?

STATEMENT OF THE HONORABLE JONATHAN ELKIND, ASSISTANT SECRETARY FOR INTERNATIONAL AFFAIRS, U.S. DEPARTMENT OF ENERGY

Mr. ELKIND. Thank you, Madam Chair, Chairman Weber, Ranking Member Deutch, Ranking Member Grayson, distinguished members of both subcommittees. I appreciate the opportunity to appear before you today.

My name is Jonathan Elkind, and, as has been stated, I am the Assistant Secretary for International Affairs at the U.S. Department of Energy. My office advances U.S. objectives in international energy security, national security, and clean energy deployment by applying DOE's knowledge of energy technologies, markets, and policies.

Let me provide some context at the outset in regard to natural gas in particular. This is a time of dramatic change, as just has been noted, in global energy markets, and these changes will be felt in the Eastern Mediterranean as well. Decades of investment, both by the U.S. Government and private industry, have produced a cascade of scientific and technological advances which allowed us to unlock unconventional gas and oil resources.

Pipeline systems have historically dominated natural gas trade around the globe. However, new facilities to liquefy natural gas, chiefly in the United States and Australia, are rapidly changing this reality. In fact, the U.S. Energy Information Administration, or EIA, projects that global LNG trade will exceed pipeline natural gas trade by 2020.

Together with an increasing reliance on shorter-term contracts, natural gas markets are now characterized by greater liquidity and competition, features simply not seen in the past. The implications for the United States and for trading partners and allies, such as Israel, are enormous: Greater availability of clean-burning fuel, more security of supply, greater ability to diversify one's purchasing.

In the Eastern Mediterranean region, one sees significant new upstream prospects and competing proposals to monetize those gas reserves by building pipeline and LNG infrastructure, as my colleague Amos Hochstein has just sketched out.

Bearing in mind Israel's current consumption of around 300 billion cubic feet per year, Israel has sufficient gas supply for 25 years while also allowing for exports. Companies working offshore from Cyprus and Egypt, as has been noted, have also made major gas discoveries.

When it comes to moving this gas to markets, a great deal of attention has focused on regional pipelines, and some of these projects have been called out already. There have also been discussions not only about exports to Cyprus and to Greece but then also to Turkey as well. One must remember, however, that the development of multibillion-dollar natural gas production and transportation systems requires transparent and predictable legal and regulatory structures. The terms, in short, must simultaneously attract investors and advance the interests of the host countries.

Let me now turn briefly from the global and Eastern Med natural gas issues to DOE's work with Israel on energy and science issues. Our collaborations involve frequent Cabinet-level engagement between the Secretary of Energy and Israeli counterparts, as well as engagements among senior officials, researchers, and experts through our annual U.S.-Israel Energy Dialogue.

Here are some highlights of this effort.

One is collaboration on the energy-water nexus. Israel and the United States both face the challenge of providing new water resources and new energy production. So DOE and Israel's Ministry of National Infrastructure, Energy, and Water Resources recently announced the U.S.-Israel Desalination Design Challenge, a competition that encourages leading engineers and researchers in the U.S. and Israel to design integrated energy and desal systems.

DOE and the Israeli Ministry also recently announced a U.S.-Israel postdoctoral exchange program, which will enhance scientist-to-scientist cooperation between DOE-funded research programs and Israeli scientists in energy-related topics of interest.

Comments have already been made by several of the ranking members and chairs about the BIRD, the Binational Industrial Research and Development, Foundation and its energy component in particular. BIRD Energy has approved 32 projects, with a total of \$21.6 million combined from the U.S. and Israeli Governments and matching dollars on a greater-than-one-to-one match from the private sector.

Energy cybersecurity is a top concern for both of our countries and was a featured topic in the October 2015 U.S.-Israel Energy Dialogue and was also a point of great focus when Secretary Moniz visited Israel earlier in the current year and spoke about this topic with the Israeli cyber coordinator, with Energy Minister Steinitz, and with Prime Minister Netanyahu.

To institutionalize our energy research engagements, DOE is now establishing a Virtual Center of Excellence for Joint Research. And I would be happy to provide more information about that in the question-and-answer, if desired.

Again, I appreciate the opportunity to be with you here today. Thank you for the opportunity.

[The prepared statement of Mr. Elkind follows:]

DEPARTMENT OF ENERGY
STATEMENT OF JONATHAN H. ELKIND
ASSISTANT SECRETARY FOR INTERNATIONAL AFFAIRS
BEFORE THE
COMMITTEE ON FOREIGN AFFAIRS, SUBCOMMITTEE ON MIDDLE
EAST AND NORTH AFRICA AND
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,
SUBCOMMITTEE ON ENERGY
U.S. HOUSE OF REPRESENTATIVES
SEPTEMBER 8, 2016

Chairman Ros-Lehtinen, Chairman Weber, Ranking Member Deutch, Ranking Member Grayson, distinguished Members of the Subcommittees - thank you for the opportunity to address you today.

My name is Jonathan Elkind, and I am the Assistant Secretary for International Affairs at the U.S. Department of Energy (DOE). My office applies knowledge of energy technologies, markets, and policies to advance U.S. objectives in international energy security, clean energy deployment, and national security. In this effort, our office works in tandem with the Department of State and other federal agencies to engage international allies and partners.

Our most robust relationship in the eastern Mediterranean region is with Israel and its Ministry of National Infrastructure, Energy, and Water Resources (MIEW), an important friend and ally to the United States. In my remarks today, I will provide context from global and regional energy markets and then focus on our collaborations with Israel in a variety of important energy areas.

Eastern Mediterranean Natural Gas Markets and the Broader Context

This is a time of significant change in global natural gas markets. Abundant natural gas resources and rapid advances in productive capacities, particularly in North America, have created significant regional and global opportunities for U.S. producers. The U.S. is experiencing an energy revolution, as we benefit from technical advances that have allowed us to unlock unconventional oil and gas resources. The U.S. is now the number one producer of natural gas in the world, and U.S. exports of liquefied natural gas (LNG) are contributing to increased competitiveness and liquidity in global natural gas markets. The Energy Information Administration's 2016 International Energy Outlook projects that global LNG trade will exceed pipeline natural gas trade by 2020, with LNG trade

of 16.5 trillion cubic feet (Tcf) projected in 2020 as compared to pipeline natural gas trade of 13.4 Tcf in 2020.

The share of LNG traded through shorter-term contracts, an indicator of a more competitive and liquid gas market, increased from 16% in 2008 to 28% in 2015. Also contributing to shifts in global natural gas market dynamics, oil-linked natural gas prices in Asia fell significantly in 2015 and some LNG importers were able to successfully renegotiate their contracts with sellers—adding more flexibility to the market. This transition away from oil-indexed pricing and longer-term contracts is being driven to a significant extent by the flexibility of destination clauses in U.S. LNG export contracts and their pricing terms being linked to Henry Hub, the U.S. natural gas benchmark.

Significant investment in LNG facilities in Australia and the United States is also re-shaping the traditionally regional nature of gas markets. The International Energy Agency forecasts that between 2015 and 2021, global liquefaction capacity will increase by 45%, mostly from the United States and Australia. By 2020, the United States is projected to account for one-fifth of global liquefaction capacity and will have the third-largest LNG export capacity in the world (after Qatar and Australia). This fundamental shift in the diversity of LNG supply sources along with increased liquidity in global LNG markets will place significant competitive pressures on other new sources of LNG. As a result, over the mid-term, the economics of LNG exports from the Eastern Mediterranean region will be challenged by the emergence of hub-pricing in global LNG trade which will reflect the impact of lower cost supply sources.

The International Energy Agency's 2016 Medium-Term Gas Market Report predicts that lower natural gas prices globally will fuel global natural gas demand – although at lower levels than previously forecast (largely due to the competitiveness of renewables). Market fundamentals analysis presented by the U.S. Energy Information Administration in the 2016 International Energy Outlook indicate an oversupply in the global natural gas market over the medium term which will likely maintain downward pressure on global spot prices for LNG.

While Europe is a particularly attractive market for new LNG supplies due to the flexibility of its gas system and well-developed spot markets, continued flat to soft European demand for natural gas suggests intense competition will develop among producers to retain or gain access to European customers.

In the Eastern Mediterranean region, there are competing proposals to develop pipeline and LNG infrastructure to support regional natural gas demand -- each with a unique set of challenges and each confronted by an increasingly competitive global supply for LNG. At present, the focus appears to be on developing regional gas pipelines.

Historically, Israel has been an importer of natural gas, with a substantial portion of its natural gas needs supplied from Egypt and a small amount from liquefied natural gas, or LNG, imports. Discoveries starting in 1999 of significant natural gas resources offshore have provided the potential to meeting Israel's domestic needs for decades to come while also presenting the possibility, and likely the need, for exports as well. In 2015, Israel consumed 297 billion cubic feet (Bcf) of natural gas; nearly all met by domestic production. According to the U.S. Energy Information Administration, Israel in 2016 has 7 Tcf of proved reserves and 33 Tcf of estimated reserves.

As Israel considers plans to become an energy exporter, multiple export agreements have been proposed with various countries. Noble Energy and its partners are working on arrangements to export Israeli gas to Jordan and Egypt for domestic consumption, and to world markets via LNG facilities in Egypt. Other countries that have proposed agreements with Israel include Turkey, Greece, and Cyprus.

Noble Energy signed a natural gas sales agreement with two Jordanian companies to provide supplies from the Tamar field in early 2014, and has letters of intent with at least three Egyptian firms for transport of natural gas via subsea pipeline to existing LNG facilities for export, as well as Egyptian domestic power generation. In August 2015 Italy's Eni discovered the Zohr gas field off Egypt's Mediterranean coast, which is estimated to hold 70 Tcf of technically recoverable natural gas resources. The discovery may make it more challenging for Israel to sell natural gas to Egypt and to use Egyptian LNG facilities.

The Israeli government is also considering the idea of transporting Israeli and Cypriot gas through a new subsea pipeline that would run to mainland Greece, which would be a very long and expensive route, and presumably therefore challenging to construct given current market conditions. A consortium led by Nobel Energy has discovered natural gas in the Aphrodite field offshore of Cyprus estimated to hold 5 trillion cubic feet of potential reserves. Israeli and Turkish officials have also indicated the time may be right to explore exporting gas to Turkey via pipeline.

To realize the potential presented by Israel's natural gas resources, commercial drivers and institutional frameworks must give investors confidence to make the long-term, multi-billion dollar commitments. These decisions by investors must be taken in context of a global competition for capital and global opportunities for natural gas resource development, so the importance of creating attractive legal and regulatory structures cannot be overstated.

U.S.-Israel Energy Dialogue

The centerpiece of our cooperation with Israel is the annual U.S.-Israel Energy Dialogue, a comprehensive inter-agency forum that includes policy and technical discussions at the level of senior officials, program managers, and researchers. Most recently, the 2015 Dialogue focused on the areas of oil and gas development, oil and gas research, the so-called energy-water nexus, energy sector cybersecurity, post-doctoral research exchanges, clean energy development, and other topics.

In any country, the energy sector is one of the foundational underpinnings of economic well-being and national security. Israel and the United States face very different energy challenges, but we also face some common opportunities. The Energy Dialogue provides a forum in which we share analysis and interpretations of energy sector trends, exchange ideas, learn about each other's research and policy priorities, and engage in collaborative problem-solving. The Dialogue is led by me and a counterpart from the Israeli energy ministry – typically the Director General. The Dialogue also provides a strong foundation for Cabinet-level engagement between the Department of Energy and Israeli counterparts. For example, in April of this year, Secretary Moniz traveled to Israel for an intensive round of meetings with Prime Minister Netanyahu, Energy Minister Steinitz, and other Israeli officials and researchers.

Let me now highlight a few specific areas of collaboration that have been important elements of our Energy Dialogue:

Oil and Natural Gas

Development and use of oil and natural gas have been an important area of focus in our Energy Dialogue. In 2011, with Israel suffering after repeated disruptions in pipeline gas supplies from Egypt, Israel solicited our assistance in trying to consider options to improve its energy security. We engaged experts from both DOE headquarters and Sandia National Lab to conduct a hazard assessment and risk analysis for a proposed floating LNG regasification terminal. Our team

conducted site visits to Israel and completed a comprehensive analysis focusing on the hazards and risks associated with the proposed floating regasification project. The regas terminal became operational in January 2013.

In March 2014, we sponsored a U.S.-Israel Offshore Oil and Gas Exploration, Development, and Production Workshop, which included experts in offshore resource development licensing from the U.S. Department of the Interior's Bureau of Ocean Energy Management. Together with inter-agency partners, we held additional workshops in Israel in September 2015, focused on detailed examination of methodologies for estimating the size of offshore reserves, and classifying those reserves, as well as workshops on CNG vehicles. Our cooperation in the area of oil and gas development continued during the October 2015 Energy Dialogue, with a breakout session dedicated to U.S. experiences in LNG development and exports, offshore leasing and evaluation, and environmental programs.

Energy-Water Nexus

One of the most promising topics under the Energy Dialogue is the so-called energy-water nexus. As Members of the Committees will know, production of water requires significant amounts of energy for extraction, purification, distribution, and treatment. Energy production likewise requires significant quantities of water, whether for thermal cooling at power plants, manufacturing processes for solar panels, drilling fluids for hydrocarbon production, or aspects of other energy production.

Israel and certain areas of the United States face an imperative to manage more effectively scarce water resources to meet the needs of our growing economies, and this imperative is core to ensuring our energy security as well. Israel has developed world-leading expertise on water management. Several of our national laboratories have been conducting research in this area as well. The expertise gained by our Israeli colleagues can have real benefit for certain areas of the United States.

At the October 2015 Energy Dialogue, Secretary Moniz and Minister Steinitz agreed to launch the U.S.-Israel Desalination Design Challenge, which was later formally announced during Secretary Moniz' visit to Israel this past April. The Design Challenge is a joint competition led by DOE and MIEW that encourages

leading engineers and researchers in the U.S. and Israel to design novel integrated energy and desalination systems. A bilateral panel will select leading designs, which will then be eligible for U.S. and Israeli funding.

Post-Doctoral Exchange Program

Israel is an important leader in scientific research, including in clean energy technologies, and this provides the basis for another important area of energy collaborations that we are focusing on through our Energy Dialogue. At the October 2015 Energy Dialogue, Secretary Moniz and Minister Steinitz agreed to enhance collaborative research – especially on clean energy topics. Earlier this year, our two agencies announced the U.S.-Israel Post-Doctoral Exchange Program, which will enhance scientist-to-scientist cooperation between DOE-funded research programs and Israeli scientists in energy-related topics of mutual interest. As a starting point, we are coordinating exchanges involving DOE Energy Frontier Research Centers (EFRCs), U.S. national laboratories, and Israeli universities and research centers. A call for research proposals has been published with the plan to start exchanges later this year.

BIRD Energy

The Binational Industrial Research & Development (BIRD) Foundation provides awards to Israeli and American companies partnering on research and development projects, with the goal of expanding cooperation between U.S. and Israeli private high tech industries. To date, \$295 million in grants have been awarded to over 800 partnerships since BIRD's inception in 1977, and those partnerships have generated over \$10 billion in product sales.

BIRD Energy, a subsidiary project focused exclusively on clean energy, has supported companies working to bring to market technology in areas such as photovoltaic design and manufacturing, biofuels production from non-food feedstocks, wind measurement, hydrogen fuel cells, magnesium batteries, industrial energy efficiency, and building energy efficiency.

BIRD Energy began in 2009 as a result of the Energy Independence and Security Act of 2007. BIRD Energy has approved 32 projects with a total investment of \$21.6 million combined from U.S. and Israeli governments, including the six selected projects announced in November 2015, which will leverage a private sector cost-share for a total project value of \$11.3 million. DOE and MIEW are

currently reviewing funding proposals under the annual competitive solicitation to be awarded at the end of 2016.

Energy Cybersecurity

Through difficult experience, Israel and the United States have learned that energy sector cybersecurity is a top national security priority for each of us. The strengthening of defenses against cyberattacks on energy companies, infrastructure, and federal agencies is a critical shared goal.

To this end, DOE and MIEW added cybersecurity as a featured topic of the October 2015 U.S.-Israel Energy Dialogue. Building on the exchanges made at the Dialogue, Secretary Moniz's April 2016 trip to Israel included discussions on energy sector cyber defense with Prime Minister Netanyahu, Minister Steinitz, and Israel's cyber coordinator. Through several recent executive level meetings and visits to recent Israeli cyber security events, our agencies are currently working together to identify specific areas of research and cooperation to improve cyber defenses in each of our countries.

U.S.-Israel Energy Center

The U.S.-Israel Strategic Partnership Act of 2014 called for the establishment of a joint energy research center. Our Department is preparing to establish in FY 2017 a virtual center that will facilitate joint research in energy and related areas, subject to appropriations. In the coming weeks and months, we will begin consultations with Israel on the focus of that center, but we expect that the center could resemble similar technology collaborations that involve contributions from both partner countries, as well as a private sector matching requirement from within each country to maximize the center's impact.

The center will build on the extensive engagement that already exists between our two countries through the U.S.-Israel Energy Dialogue, as well as programs such as the BIRD Energy program, the upcoming energy-water desalination challenge, and others. We are confident that a potential new center would help benefit U.S.-Israel energy cooperation.

U.S.-Israel Oil Agreement, Implementing Arrangements

The U.S. Department of State and Israel's Ministry of National Infrastructure, Energy, and Water Resources recently renewed the U.S.-Israel Oil Agreement for a

period of ten years, through April 2025. Under the existing agreement, the United States would make oil available to Israel in case of a major crisis, a responsibility that is taken very seriously. The Department of Energy is responsible for updating the implementing arrangements under the agreement. We are working closely with State and MIEW to ensure that the arrangements reflect current market realities and can facilitate effective support to Israel in the event of a crisis.

Conclusion

The eastern Mediterranean region is a dynamic part of the global energy landscape, and within that region, Israel is an important partner and ally to the United States. The energy sectors of our two countries are vastly different in scale, resource endowment, and a number of other attributes. Nonetheless, our Energy Dialogue has provided an important platform for collaborations on natural gas development, the energy-water nexus, clean energy research and development, energy sector cybersecurity, and other topics. By working together in this arena, we enhance our energy security and provide benefits for both our countries.

Thank you for the opportunity to appear before your committees today. I look forward to responding to your questions.

Ms. ROS-LEHTINEN. Thank you to both gentlemen for excellent testimony.

We will begin our question-and-answer period.

Israel and Cyprus are both relatively new to natural gas production. In Israel, we saw robust debate on the domestic level as well as Supreme Court challenges, regulatory burdens to overcome. Most of these have been cleared, but there are still some disputes.

Cyprus is obviously ideally suited to be a focal point of sorts for the region, with pipelines headed in all directions. Cyprus can simultaneously be connected to Israel, Egypt, Greece, Turkey, but not all of these connections will be established at once.

So what comes first? What is the U.S. priority in that region?

Mr. HOCHSTEIN. Madam Chair, I think you described it correctly. And as the entire region has, as we articulated, both Mr. Elkind and myself, the resources discovered in different countries. If this was just about common sense and you took out all politics and all the geopolitics, we would have a great hub that was humming with pipelines going in different directions and cooperation.

So I think when you ask the question, what comes first, I think you have to look at where the advancement on geopolitics is advancing in line with the technical and the economic advances.

Noble Energy and its Israeli partners already negotiated a deal with Jordan that started in 2012. And it started as quiet discussions and ended up in a pipeline signing agreement that will bring gas from Noble to two private companies at the Dead Sea area in Jordan. That is already in construction now and will be complete. That is a very small amount of gas, but it is the first marker and, by the way, the first infrastructure project that connects the two countries in a 20-year peace.

You now have a chicken and an egg. We have to get some of the disagreements to move away. Israel has a pipeline that connects it to Egypt, goes through the Sinai, as was mentioned by several of the members. It was blown up, I think we are now at 32 times in the last few years. It can be reverse-flowed so it can take gas from Israel to Egypt, but it has a dispute over it that is in international arbitration courts. So, until that is resolved, it cannot be used. As was also mentioned, we can have an offshore pipeline under the sea connecting it to Egypt.

I think what we have to see now with the normalization between Israel and Turkey and if a solution can be reached on the island of Cyprus that will allow the unlocking of the ability to build a pipeline from Israel via Cyprus to Turkey, as well as cooperation with Egypt to allow Israel to use and have access not only to the Egyptian domestic market that is still thirsty for gas but also for their idle LNG terminals that can reach Europe.

So I have the same question; what comes first? We are trying to work on all different fronts to see whatever can come first. What is clear is that the United States needs to continue to play an active role in trying to find what the geopolitical solution is, find the stumbling blocks and remove those, so that the private sector can find the economic solutions to be able to move forward.

Ms. ROS-LEHTINEN. Thank you very much.

And, Mr. Elkind, one thing that we don't hear too much about when discussing the Eastern Mediterranean energy future is the role of the Palestinian Authority.

Could you tell us, have there been any discussions in the administration about the role of the PA in the Eastern Mediterranean energy development and what would that role be? And how do you deal with Israel and the PA while Hamas still controls Gaza?

Mr. ELKIND. Madam Chair, I am happy to start an answer to that, but some elements of what you have just posed as a question to me fit, I would say, perhaps a little bit more naturally in the State Department's lane, so my colleague may wish to add.

The discussions around the development of these resources go to the monetization of the resource. These are, after all, economic undertakings first and foremost. And without benefits to simultaneously, as I said before, to the investors and to the host countries, then the idea of these projects remains theoretical and doesn't progress beyond that.

Now, the very obvious political difficulty that exists between the state of Israel and the Palestinian Authority is one that I think nobody on any side hopes will persist any day longer than absolutely necessary. On the contrary, a peaceful settlement is in everybody's interest.

But the specific terms and the degree to which natural gas resources from Israel's offshore would be provided to the Palestinian Authority is something that is hugely sensitive, as the chair will appreciate. There are from time to time discussions about this, but I wouldn't feel it appropriate for me to go farther than what I have said.

Ms. ROS-LEHTINEN. Well, thank you.

And Mr. Hochstein?

Mr. HOCHSTEIN. There was an agreement that was signed that would allow some of the offshore gas to come into the Palestinian Authority to fuel a potential power plant in Jenin, which would work for all sides.

Additionally, there is right near the original Noble discovery, the smallest one, called Mari-B, there is a field on the Palestinian side of the waters called Gaza Marine that is owned by the Palestinian Authority and was leased out originally to British Gas, which was purchased recently by Shell. There is a strong interest to be able to develop that field. I think we need some advancement on the politics to be able to move forward, but it would be of great advantage both to Israel and to the Palestinian Authority for them to be able to develop that field.

Clearly, there would have to be cooperation, as the gas would have to come onshore in Israel, not in Gaza, and then be able to be fed into the Palestinian Authority territories. As Ranking Member Deutch mentioned earlier, there was some reports of a change toward a gas pipeline to Gaza. I think we are still trying to work on that. This is a longer-term plan. But what is clear is we want to be able to work with the Israelis on identifying a way to get the Gaza power plant back online in a way that both allows for electricity restoration in a reliable manner, as well as allowing for it to be done in a secure manner, from Israel's perspective.

We are also working with them on some renewable energy options, which would allow the Palestinian Authority to spur investment and economic activity. And my team will be out there shortly to work with them on that.

Ms. ROS-LEHTINEN. Thank you. Thank you very much.

And one last question. Mr. Deutch had brought up the U.S.-Israel energy center that was authorized in the U.S.-Israel Strategic Partnership Act, a bill that Mr. Deutch and I worked on which became law in December 2014. It has been nearly 2 years. Why has this not come online yet? And what needs to happen to make it happen?

Mr. ELKIND. Thank you, Madam Chair.

Indeed, this is something that we are working on formulating right now. I will note simply as a statement of fact that, while the bill did authorize the creation of the center, there were no resources associated with that, and so we have had to go through the exercise of identifying those resources. We have now done so.

We think that there is a beneficial function to be played by a virtual center that helps to create stronger ties between researchers in Israel and in the United States. If you permit me, I would note that this would build on literally decades of such ties. My father, who at an earlier stage—well, when he was still alive—at an early stage in his career was at both Brookhaven National Laboratory and then Argonne National Laboratory and, in his cancer research work, had exceptionally close ties with collaborators from Israel.

So this is building on a very long and storied history. We think there is more important work to be done, and we are now working on doing precisely that.

Ms. ROS-LEHTINEN. Sounds good. Thank you so much.

Ranking Member Deutch is recognized.

Mr. DEUTCH. Thank you very much.

Just to follow up on that point, Secretary Elkind, this virtual center that you described, there are now resources to create it. Do you have a sense of when that might actually move forward?

Mr. ELKIND. So we have to work through some of the details with our Israeli counterparts, and we have not done that yet. But there was a prerequisite feature, which was to identify resources, and that has now happened. So I expect that this will be operational in 2017, but that is an estimate, it is not a commitment.

Mr. DEUTCH. Okay. Thank you. Understood.

Mr. Hochstein, I know you recently traveled with the Vice President to Turkey. This is a question perhaps for both of you, but I will start with you.

Many of us have concerns about the direction that Turkey is headed, and I am concerned about human rights and freedom of speech, long-term security. But I want to believe that President Erdogan understands the importance of regional energy cooperation. And so I would ask, to what extent during your visit did you discuss energy issues, including an Israel-Cyprus pipeline?

I also just had a couple of followups. The recent repair of relations between Turkey and Russia has revived talk of the Turk Stream project that would carry Russian gas to Southern Europe while bypassing Ukraine. And if that happens, are you still committed to Turkey as an energy hub, or do other routes—Egypt for

one; potential pipeline from Israel to Cyprus to Greece another—become higher priorities?

Mr. HOCHSTEIN. Thank you, sir. Yes, I did travel with the Vice President, and I thank you, sir, for asking me the question about the energy part of the discussion.

We did touch on the energy issues, as we have in previous meetings in Turkey, in the Vice President's trips there and in meetings in Davos. I think President Erdogan does understand and I think the Energy Minister and Prime Minister have a keen understanding of the advantages that energy security provides for Turkey.

But let me connect the two pieces of your question. Turkey today gets just above 50 percent of its natural gas from Russia. It gets another piece from Iran as well. So the vulnerability in the dependence on a Russian source is an economic vulnerability that Turkey is keen to overcome. As a result, you have seen an effort to diversify its resources, one, through an intention to lease floating LNG terminals to be able to import more from the market, and the second, embarking on discussions around the region to see how it can diversify its sources. The normalization with Israel obviously had a lot to do with security issues, but the energy security piece was clearly a critical role, as was stated by both countries publicly.

But to complete that project, in order to be able to realize the economic benefit of energy security from the normalization, you have to have an agreement in Cyprus, because the pipeline that would go from Israel to Turkey goes through the EEZ of Cyprus. And I truly hope and believe that Turkey understands the critical nature and the strategic nature or the element that has been added in on the Cyprus discussions—that is, energy.

But let me connect that to the second question on Turk Stream. On the same day of the announcement of the normalization with Israel, there was an announcement of discussions between Turkey and Russia and then followed by a meeting in Saint Petersburg on August 9 between the two leaders. And Turk Stream was heavily featured in the press releases coming out from Moscow. Turk Stream, or its predecessor South Stream combined with Nord Stream 2, are the Russian attempt and insistence on continuing to dominate their monopoly in natural gas in a significant portion of Europe. The Turk Stream that we are talking about now originally was four pipelines that would replace Ukraine, the transit through Ukraine, that would have a devastating impact on Ukraine. Turk Stream today is, first of all, a discussion of one pipeline that would essentially swap what Turkey gets from Russia via the Balkans with a different route. So that is a little bit different from the full Turk Stream that we had talked about in the past.

Still, our view is that we don't need geopolitical projects that Russia is financing as it is a national security threat to Europe. So I think that there is a lot of room here.

Mr. DEUTCH. So, just going back to something you said earlier in your answer, are you suggesting that President Erdogan, understanding these regional issues, that the desire to move forward on these energy issues may actually contribute to the likelihood of reunification of Cyprus?

And if that happens, then, given the concerns about Russia, does that become the focus of these energy discussions?

Mr. HOCHSTEIN. Like I said in my testimony, the energy piece is not a replacement for solving geopolitical problems and disputes that have existed for a very long time throughout the region. What they do provide is an incentive, I believe, and potentially a catalyst.

I do believe that all countries in the region—Turkey, Cyprus, Greece, Israel—understand what the benefits would be for energy security, cooperation, and prosperity if a solution could be found in Cyprus. Whether or not one is going to be found, I don't know, and there are others that are going to be smarter than I am and more informed on that. But it is clear to me that throughout the region there is an understanding of the linkage between what the benefits are and would be for all parties. And that is why I think we are at a critical time.

Mr. DEUTCH. And then, finally, Madam Chairwoman, if it is okay, just to circle back, given the Zohr discovery and the recent Cyprus-Egypt deal and the existing infrastructure in Egypt, if a deal in Cyprus—if there isn't reunification this year, does that make the Egyptian option essentially phase one for the Eastern Med?

Mr. HOCHSTEIN. I certainly think that there can be multiple phases here. I think it is not a zero-sum game. There is enough gas already discovered in Israel and Cyprus and Egypt to allow for gas to flow in both directions.

I think the cost is going to feature. So the cost of a pipeline to Turkey via Cyprus through the island is far cheaper than some of the other options, surely than the one that was mentioned before to Europe, which is extraordinarily expensive.

So I think the economics do allow for both options. And I think they compete a little bit differently, because one would be LNG from Egypt to Europe or to the other parts of the international market; to Turkey, it would be pipeline gas, which is priced differently. So it provides even more flexibility, more options for both Cyprus and for Israel.

Mr. DEUTCH. Great.

Thank you to both the witnesses.

Ms. ROS-LEHTINEN. Thank you very much.

Chairman Randy Weber is recognized.

Mr. WEBER. Thank you.

Wow. You know, we have two LNG plants in my district in Texas. I am kind of wondering maybe if Texas ought to just annex Cyprus and take care of this whole issue, because we know how to export LNG.

So many questions.

Ms. ROS-LEHTINEN. Forget it.

Mr. WEBER. Yeah, I know.

Mr. Hochstein, you said—I think it was you—in response to the chairman's question, it is kind of a chicken and an egg thing going on. Well, I would submit, if you can get gas production and you can get somebody producing that gas, then the egg will follow.

Because once one country gets that energy security—and you can tell me, both of you gentlemen, if you think that is a correct assessment—if you can just get your toehold in there, if you can just start

that production and get somebody producing it, don't you think the other countries would see the reliability, the affordability, and would follow suit and would actually get in gear and do something?

Mr. Elkind, you look like you are——

Mr. ELKIND. Well, Chairman Weber, we have seen around the globe a lot of times instances where backbone infrastructure that started—and you can look at Alaska as an example—helps to spur other developments in a very constructive way.

But I go back to the comments about how the global natural gas market is changing, and the story in your district is a huge part of that. We are talking about a 40-percent increase globally in the capacity to liquefy natural gas. And so this is a competitive marketplace. And one of the conclusions that has for the Eastern Med is that it is going to have to be investors who are able to look at a long game.

So would initial success help? Yes, that has already helped, if you look at the case of the early production offshore Israel, which has brought a lot of benefits to the state of Israel. But the market that surrounds the Eastern Med is not simple. It is competitive. It is going to get more so.

Mr. HOCHSTEIN. So I think, to add just the element of the chicken and the egg that I mean, so, of course, you are right. If somebody starts developing the gas—Israel has developed gas, but it is really for the domestic market. It hasn't yet developed Leviathan. The reason they haven't developed Leviathan is because they had all these concerns and they were stuck in court and everything else.

Mr. WEBER. Yeah.

Mr. HOCHSTEIN. They finally get rid of that issue, and we are now ready, but here is the issue: A company like Noble or any other company, in order to be able to approve and to commit to billions of dollars of development of a field the size of Leviathan, need to have some contracts for exports that will allow them to justify the investment ahead of time. And that is when you get to this chicken and the egg.

Mr. WEBER. Well, I think that is what he called predictable regulatory regulations to develop this—in your remarks.

Go ahead.

Mr. HOCHSTEIN. Yeah. So they now have the regulatory system, but they need to be able to find markets to sell to. They need to be able to conclude arrangements with Jordan or Egypt or Turkey or others. Israel doesn't have its own LNG facilities, and, therefore, it has to rely on a neighbor to be able to get the gas to the international markets.

So when you say that doesn't one of them need to start developing, they do, but they also need to be able to conclude arrangements to sell it in order to be able to justify the investment.

Mr. WEBER. I am aware.

Mr. HOCHSTEIN. That is where we are coming in and trying to figure out how do we help that process along, of removing the geopolitical stumbling blocks to be able to have the economics drive it.

Mr. WEBER. Do you think that the unrest—well, it is actually a two-part, I guess, as it pertains to Turkey.

The chairwoman, by the way, puts on an excellent congressional delegation. If you want to go over there and learn a lot, she is the ticket.

Ms. ROS-LEHTINEN. Lots of Halloumi.

Mr. WEBER. And she likes the good cheese over there too.

Ms. ROS-LEHTINEN. That is the cheese, not booze.

Mr. WEBER. Yeah. I wanted to get that on the record.

Do you think that the—I mean, we were over there trying to foster a better relationship between the Cypriot Greeks and the Cypriot Turks, and then all this stuff happened in Turkey. So now you have not just one unrest to deal with, you actually have two.

Elaborate on how important you think the purported coup—how long you think that is going to take to play out. Is it going to have a long-term effect on these negotiations?

Mr. HOCHSTEIN. I really couldn't say the effect, the political effect, of the post-coup environment. Obviously, Turkey went through a devastating time of recovering from, you know, a radical event that they see as their 9/11.

Mr. WEBER. Well, then let me ask you a specific question, if I can. I know that is broad and open-ended. Their Minister of Energy—because I know there was, like, 60,000 people that were kind of arrested and detained and spirited away, if you will—was he or she one of them?

Mr. HOCHSTEIN. No. The Minister of Energy is still there—

Mr. WEBER. Okay.

Mr. HOCHSTEIN [continuing]. And I speak to him regularly.

Mr. WEBER. So, in essence, that line of communication is still in place.

Mr. HOCHSTEIN. Yeah, I have not seen any disruption—since those, you know, 50 days or so ago of the coup, I have not seen any disruption in the energy relationship. And especially in the region—the conversations, regionally, are continuing. I have seen the Minister a couple times since then and spoken to him on the phone almost weekly.

So I think that, while there is a lot of churn going on politically in the country and they are trying to get back to normal, on the energy front there has not been a change in pace.

Mr. WEBER. Okay.

And, Mr. Elkind, did you want to weigh in on that as well?

Mr. ELKIND. Thank you, Mr. Weber.

The only thing that I would add to this that hasn't been covered by Mr. Hochstein is a little bit of the long view.

We have been engaged with Turkey on these energy issues, energy transportation issues, for a long time, back to the 1990s and the first development of the Caspian Sea resources offshore from Azerbaijan.

And I would say it has been my observation from my time inside government in the 1990s, outside governments, working with some of the energy companies myself, that there have been ebbs and flows in Turkish policy. There have been times where our Turkish colleagues really, with a sense of incredible purpose, moved forward on the kind of backbone infrastructure that I was remarking on before. The Baku-Tbilisi-Ceyhan pipeline comes to mind, the South Caucasus gas pipeline.

I am confident that Turkey will continue to play that role of being an important partner in this, in the energy projects. I will leave the politics to others. But, again, I stress that there have been ebbs and flows. There have been times where we wondered, was Turkey still committed to this vision of being a key link from——

Mr. WEBER. A connector, if you will?

Mr. ELKIND. Yes. And we will see. I think that that is still where their intention is, but that is for the Turks to determine and for them to show.

Mr. WEBER. All right. Thank you.

And, Madam Chair, I yield back.

Ms. ROS-LEHTINEN. Thank you, Mr. Weber.

I am so pleased to yield to Coach Perlmutter because he is an outstanding Member of Congress, but his real claim to fame is that he goes out there every morning with the congressional women's bipartisan softball team and coaches us on to victory. So thank you. He is recognized for all the time that he cares to have.

Mr. PERLMUTTER. Well, now that I know your nickname is Lily, you are going to be doing wind sprints when I say, "Lily, hit it."

No, thank you, Madam Chair, and it is a pleasure to participate with your committee. And this is a fascinating conversation, obviously very complicated. And, Mr. Hochstein, when you talk about geopolitics, I don't know whether it is geographic politics or geologic politics, because it is both. And there are a couple big players in the region you haven't talked about much: Iran and Saudi Arabia.

You also mentioned energy security and energy prosperity. And I think we have to break this down into a couple, three phases for me to even absorb anything you guys are talking about: National security; sort of the foreign policy international relationship, friendship, alliances; and then global markets. Because at the price of natural gas today and the price of oil today—which, you know, they sort of run in tandem—there isn't much of incentive to develop expensive fields in dangerous places.

And so the question then is, Israel developing for their own domestic use and their own national security and maybe working some of this, these pipelines and things like that, to develop international friendships that they might not otherwise have.

So I guess my question to both of you is, with Saudi Arabia pumping into a glut and just having an oversupply, and the demand has sort of stayed the same out there, so prices have dropped, how do you see things developing? Has everything come to a screeching halt at these prices? Or what actually is happening out there, in this part of the world, as they are trying to develop this new resource?

Mr. ELKIND. Thank you, Congressman.

Has everything come to a screeching halt? Well, no, but none of the companies that are involved in any of these projects in any of the countries that you have mentioned can afford to try to defy gravity. The market creates a backdrop that is not favorable and friendly to the kind of large, capital-intensive projects that we are talking about.

But the companies we are talking about also understand from the beginning that these are multidecadal projects. And so they take a long view that looks not only at today's price environment but also an expectation of what that may be for 25 to 40 years. And that is where I think that there is a general sense that, although we have this abrupt change that is happening in natural gas markets right now, with new production in the United States, first and foremost, but also in other places around the globe—there is also a skyrocketing demand for a natural gas as a lower-carbon and lower-polluting, in terms of air quality, urban air quality, fuel.

So these companies that we are talking about, by their nature, take the long view. They will look at today's reality with a sense of caution. You will have read, of course, about the reductions in capital budgets that almost every global hydrocarbon company is experiencing right now.

I would say that it is not easy to be new to the hydrocarbon business. And Mr. Hochstein commented before about some of the bumps in the road that have been experienced as Israel tried on various approaches to its interaction as a state, with the investor. But we perceive that there is progress that is being made. We are optimistic that this necessity of creating a predictable pathway into which companies can put enormous quantities of resources, of investment, we think that this is on a much better trajectory now, where we are optimistic because, at base, we hear optimism from the companies.

Mr. PERLMUTTER. Thank you.

I mean, I guess—and my time has expired—but you have this international, you know, cover that sometimes you have alliances, sometimes you are fighting with each other over there, and that is a political risk that any company has to consider. So that is getting straightened out. So kind of to Mr. Weber's question, you know, those kind of things are getting ironed out.

But that price risk, that a Saudi Arabia can drive the prices down in the 1980s and drive everybody out of business, or they do the same thing at 107 bucks a barrel for whatever their goal is, to increase their market share or to keep Iran out of business or to try to shut the Russians down, that price risk is going to be something that both the bankers as well as the oil companies are going to say, whoa, you know, you have the international risk tamed, but that price risk is too much for us to overcome our worry.

That is what I see. But I was also a bankruptcy attorney and did a lot of oil and gas bankruptcy, so that is kind of my mindset on this.

Anyway, thank you very much.

I yield back.

Ms. ROS-LEHTINEN. Thank you, Coach.

Mr. Neugebauer.

Mr. NEUGEBAUER. Thank you, Madam Chairman, for holding this hearing.

You know, we have been talking about the increased capacity in the region and, obviously, the increased capacity that is happening domestically here in the U.S. And when you start talking about that infrastructure, you know, I think I hear two different dialogues going on. One dialogue is the ability for those countries to

export, you know, natural gas, but then the other is the utilization domestically within their own countries.

And I think, Mr. Hochstein, you mentioned that Israel had gone from using, like, 11 percent natural gas to, like, I think, was it 30 percent? Yeah.

So the investment to increase the distribution system within their own country is a different investment than someone coming in and wanting to build export capacity in there. Which one of those are you all most focused on now?

Mr. HOCHSTEIN. Well, first of all, I think it is both. Israel went through a process of very quickly increasing their capacity. And recently—they have reached a certain limit due to their existing infrastructure—but as recently, I think, as last week, Minister Steinitz announced that they were going to do more conversions of three additional coal plants to gas in order to be able to take advantage of gas.

I think this is still an issue for them in their negotiations with private sector, because the private sector would like to have the guarantee of exports beyond—even if there is an increase in the domestic market, they still want the certainty of having the optionality of—if they are going to be investing, again, in the \$6 billion to \$10 billion to \$12 billion in developing this field, that they have access to the broader market. So there is a cap there.

In Egypt, we are deeply engaged with the Egyptians on trying to work with them on getting a better handle on the power sector. Because they are such a historic gas producer, they had most—all their power comes from gas, and they ended up with plateauing their production, but their demand increased significantly.

So they had power shortages in the summer during Ramadan over the last several years. This past summer is probably the best summer they have had, and partly due to a lot of engagement by bringing in some American companies to do emergency power—with GE, and Siemens was there as well—but also thinking through what is the investment strategy domestically.

Egypt is interesting because, as a result of actually changing the investment climate, meaning being willing to increase the price that they are going to be buying the gas, they ended up with, immediately upon doing that, significant new investments, in the billions of dollars. The Zohr field discovery was done as a result of that, as was BP's onshore discoveries. They also increased their ability to transform from an exporter to an importer and bought first one, then another, LNG floating terminals to be able to import gas, and are looking to—with us and how we can work with the Ministry of Electricity and Power—to rationalize the inefficiency in the power sector so that they can get more with less. But they have had a real struggle in that capacity.

So, even with the discovery of Zohr, 30 TCF, which is the largest in the area, that still, even if it comes online, won't be enough to cover the domestic market, which means there is still an ability to take Israeli gas or Cypriot gas, deliver it to the LNG terminals in Egypt, and use that as an export vehicle from Egypt to other markets.

Mr. NEUGEBAUER. What is—

Mr. ELKIND. If I might just jump in for a second—

Mr. NEUGEBAUER. Absolutely.

Mr. ELKIND [continuing]. I mean, to your question about domestic consumption versus export, part of the calculus for all of the potential domestic consumers has to be whether there is reliable supply available. And I think about discussions that one heard in the United States up until even the early 1990s, where a standard reaction was, well, why would you use natural gas in power plants? Today, the answer is simple: Because it is very affordable. It is a clean, cheap, inexpensive, and plentiful fuel.

Now, we have worked with the Israelis on natural gas utilization issues that are of interest to them, such as natural gas vehicles, which can help to alleviate the transportation fuels challenges. They also, as Israel has, have some particular challenges in this space, where security concerns which would not be front of mind, necessarily, for a natural-gas-powered bus in a city in the United States is absolutely front of mind to our colleagues in Israel. And so we have worked through some of those issues with some of the very deep expertise in the DOE lab system. But then, also, combination systems. They intend to have a much greater share of renewables in their total fuel mix. And the pairing of variable renewables resources and quick-ramping natural gas generation capacity creates some very interesting opportunities for Israel as well.

Mr. NEUGEBAUER. The power plants in Israel, are they public or private plants?

Mr. HOCHSTEIN. There has been a liberalization of the market. So, traditionally, the utility company, the IEC, the Israel Electricity Company, is government-owned. Recently, they have opened up the market in stages to allow for private investment to have their own generation. It is still, though, overwhelmingly dominant by the IEC, it has sort of a controlling board, the PUA, which controls the policy and the price setting. So the overwhelming negotiator with Noble and its Israeli partners, and Delek, was the PUA, because whatever is established there will essentially set the stage for the private developers.

The private developers are now trying to take advantage of gas, but they are also trying to take advantage of renewable energy and other things. But it is in the early stages of the privatization and liberalization.

Mr. NEUGEBAUER. Well, that will certainly provide additional capital, if they will, you know, open up those opportunities.

Thank you. I yield back.

Ms. ROS-LEHTINEN. Thank you so much.

Dr. Yoho?

Mr. YOHIO. Thank you, Madam Chair.

I find this fascinating. You know, I was really excited when they found those gas supplies in the Mediterranean. And then my concerns kind of go along with my colleagues Mr. Weber and Mr. Perlmutter. With the geopolitical landscape, this is a game changer, obviously. You know, you have this tremendous supply of natural gas that is there. And, you know, down the road, they might find petroleum, you know, oil there.

And when you look at the Russian market and what happened with the Ukraine as they were looking to go into the EU and Russia put the screws on them and tightened down and said, well, we

are going to hold up your gas, and they threatened them, how is this going to affect the Russian market? When you see the price of the natural gas and the hit they have taken economically—and I know we have talked a little bit about that—but how do you see Russia coming into this? And what kind of influence are they going to have on the Baltic states there and those other ones and teaming up with Iran and putting more pressure on that area not to develop this?

Mr. HOCHSTEIN. I think they are following it very closely. I think they are very concerned about the change in the market because of the history of the cold war, the pipelines that go through Ukraine and primarily the Ukraine route delivers gas to a significant amount of countries that have the Russian gas as 100 percent of their supplies. And, in some cases, it is less than 100 percent but the other sources are Russian gas that is coming through a different venue, so—

Mr. YOHO. Right.

Mr. HOCHSTEIN [continuing]. It adds up.

The concern there is that they want to keep this leverage, this political leverage. It is not just about selling gas to Bulgaria or to Serbia or Croatia or Hungary, et cetera. It is about keeping the political leverage that is very strong.

And every 4 to 5 years, we have seen the utilization of that leverage—meaning, in 2005, they shut off the gas to Ukraine; in 2006, the chairman of the Senate Foreign Relations Committee created my position as a result; in 2009, they shut off the gas first to Ukraine, then to the rest of Europe that gets its gas through Ukraine; in 2014, they shut off the gas in June to Ukraine yet again.

But we have adapted. And the European Union passed certain legislation that makes it more difficult for them. So, in June 2014, unlike in the past, we were able to reverse-flow gas from Poland, from Hungary, and from Slovakia back into Ukraine.

But what we need, the problem to solve this, it will only be solved if there is new infrastructure at critical nodes in Eastern and Central Europe that will create a capability to import gas. Right now, there is none. All the LNG capability is in Western Europe or, for instance, in Spain and Portugal, but France doesn't allow any natural gas to flow into France from Spain and Portugal, so it is essentially stranded.

So we have worked with Greece and Bulgaria about creating the IGB, the Interconnector Greece-Bulgaria, to see if we can help accelerate and develop an LNG terminal in the waters in Alexandroupoulos in Greece to be able to feed into that, to ensure that the gas pipeline from Azerbaijan through Turkey into Greece could also go into Bulgaria, to do the same in Croatia and Krk island.

The Eastern Mediterranean, if it is developed, if we are successful in what we are trying to do and the Eastern Mediterranean develops, it won't only be American gas or Australian gas or whatever. It will also be a very close, from a transportation cost perspective, for Egyptian LNG to reach in or for Turkey to carry that gas because it already has the interconnecting infrastructure. So you don't have to pay for any new infrastructure.

So this can really not only create new geopolitical relationships in the region—and I mean both geological and geographic—but it will also create an ability for Europe to use that gas to begin to free itself from the dependency on Russian gas and political——

Mr. YOHO. And that is what I want because that leads into, I think, the more serious thing, because as Russia gets squeezed more, we know they are going to react in some way, more than likely.

What would you recommend on a U.S. foreign policy, something we can do to help—I don't want to say stabilize that area—but secure that area with our ally like Israel? You know, I mean, more bases, more military equipment, or just a presence in that area without overstepping our boundary, but just to let them know we are here to help protect our allies.

Mr. HOCHSTEIN. Well, two things. One, I think they already would like us to continue the role that we are playing diplomatically in creating the connections so that they can have an export market into the global market and especially into Europe. That is something that they have asked for continued support, and we will continue to do that.

The second, though—and this is not only the administration, but Congress as well—is to continue to stand steadfast against the Russian projects. The way they will undermine these kinds of developments is by building projects where they will dump a lot of money—that a normal economic project wouldn't allow—to build new infrastructure that connects Russia to Europe, that solidifies the monopoly status for the next generation or two, and would lock out Israeli gas, American gas, others——

Dr. YOHO. Sure.

Mr. HOCHSTEIN [continuing]. And force them into costlier markets further out.

So we need to continue this work beyond this administration and to work with our allies in Western and Eastern Europe to be able to block those kinds of political projects that the Russians are promoting in Eastern and Central Europe.

Mr. YOHO. All right. I appreciate it. I am out of time. Thank you.

Ms. ROS-LEHTINEN. Thank you so much, Dr. Yoho.

And I would like to recognize for our last question-and-answer period Mr. Bilirakis.

But I want to point out that we have—we are so honored to have the Cypriot Ambassador here with us.

So thank you, sir. Sorry that I did not call you out first.

Mr. Bilirakis?

Mr. BILIRAKIS. Thank you, Madam Chair. I appreciate it so much.

A question for Mr. Hochstein: The U.S. administration in a number of previous instances has upheld the right of the Republic of Cyprus to exercise its sovereign rights in its exclusive economic zone and continental shelf.

And I have asked this question when I was a member of the Foreign Affairs Committee a few years ago, and I received confirmation at that time from the State Department. Could you reconfirm the above position and inform us, in what practical ways can the administration support the effective exercise of that right?

Mr. HOCHSTEIN. I don't know what has been said in the past, so I will just speak to what is our policy today. And I think we have stated it clearly, and I will try to be as clear as I can.

Mr. BILIRAKIS. Fair enough.

Mr. HOCHSTEIN. We strongly support the Republic of Cyprus' rights to develop natural resources in its offshore. I think I have said that publicly, both when I was in Cyprus and in travels around the region. We have continuously, when there has been any obstacle to them, we have worked to clear that and to make sure that everybody understands the U.S. position.

We support American companies and international companies in working in all the blocks that have been tendered thus far. We supported the third energy—the third bid round that was announced just a few weeks ago so successfully. But—not “but”—and we also believe that a political solution on the island will enhance the modernization of those discoveries.

So I can tell you that I, personally, am a frequent and public cheerleader for discoveries in the offshore in Cyprus. I speak weekly with Minister Lakkotrypīs and other ministers in Cyprus on seeing how we can be in a position to support Cyprus. I hope that that answers you as clearly as one can answer that.

Mr. BILIRAKIS. Thank you so much. I appreciate it.

Next question, again for you, Mr. Hochstein: If a settlement cannot be reached to unify Cyprus, is the option of shipping Cypriot and Israeli gas to Egypt and perhaps utilizing the LNG terminals for export elsewhere the most likely phase one in the Eastern Mediterranean, in your opinion?

Mr. HOCHSTEIN. Absent other developments that could happen between now and then, I think that is the most likely of scenarios for phase one.

But, as we just discussed, Cyprus just had a new bid round. ExxonMobil is one of the companies, together with Qatargas, that has bid. We have to see if new discoveries will be made.

Based on what we know today, with the current volumes that have been confirmed, the 4½ to 5 TCF that Noble has discovered, I would say that is the most likely option. How exactly we do that, there are a number of different options, but that is probably the most likely.

If a settlement is reached, then I think it becomes a phase one of two phases or a concurrent.

Mr. BILIRAKIS. Thank you.

All right. Last question. With the recent coup attempt—and I know Representative Weber touched on this, but I would like to touch this question again—with the recent coup attempt in Turkey, how has this changed the dynamics of the region and the ongoing Cyprus reunification negotiations?

Mr. HOCHSTEIN. Again, as I have said before, I think I will leave the questions about the political implications to others.

On the energy front, I have not seen a change. I think we continue to work together with Turkey on energy in an uninterrupted way. And I hope that the developments in the region on energy will continue to contribute as a motivator and accelerator to provide an incentive for the different parties, including Turkey, to reach a just and lasting agreement in Cyprus.

Mr. BILIRAKIS. Mr. Elkind, do you want to touch on that?

Mr. ELKIND. Congressman, thank you, but I don't really have anything to add, other than what I have said previously about kind of the long view of our engagements with Turkey on energy issues.

Mr. BILIRAKIS. All right. Thank you.

I yield back. Appreciate it.

Ms. ROS-LEHTINEN. Thank you so much, Mr. Bilirakis.

And we have 4 minutes to get to a series of votes. So we thank our witnesses. Thank you to all the members, and thank you to the audience as well.

And, with that, the subcommittee is adjourned.

[Whereupon, at 3:58 p.m., the subcommittees were adjourned.]

A P P E N D I X

MATERIAL SUBMITTED FOR THE RECORD

JOINT SUBCOMMITTEE HEARING NOTICE
COMMITTEE ON FOREIGN AFFAIRS
COMMITTEE ON SCIENCE, SPACE AND TECHNOLOGY
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, DC 20515-6128

Subcommittee on the Middle East and North Africa
Ileana Ros-Lehtinen (R-FL), Chairman

Subcommittee on Energy
Randy Weber (R-TX), Chairman

September 1, 2016

TO: MEMBERS OF THE COMMITTEE ON FOREIGN AFFAIRS

You are respectfully requested to attend an OPEN hearing of the Committee on Foreign Affairs and the Committee on Science, Space and Technology, to be held jointly by the Subcommittee on the Middle East and North Africa and the Subcommittee on Energy in Room 2172 of the Rayburn House Office Building (and available live on the Committee website at <http://www.ForeignAffairs.house.gov>):

DATE: Thursday, September 8, 2016

TIME: 2:00 p.m.

SUBJECT: Eastern Mediterranean Energy: Challenges and Opportunities for U.S. Regional Priorities

WITNESSES: Mr. Amos J. Hochstein
Special Envoy and Coordinator for International Energy Affairs
Bureau of Energy Resources
U.S. Department of State

The Honorable Jonathan Elkind
Assistant Secretary for International Affairs
U.S. Department of Energy

By Direction of the Chairman

The Committee on Foreign Affairs seeks to make its facilities accessible to persons with disabilities. If you are in need of special accommodations, please call 202/225-5021 at least four business days in advance of the event, whenever practicable. Questions with regard to special accommodations in general (including availability of Committee materials in alternative formats and assistive listening devices) may be directed to the Committee.

COMMITTEE ON FOREIGN AFFAIRS

MINUTES OF SUBCOMMITTEE ON the Middle East and North Africa and House Committee on Science, Space, & Technology Subcommittee on Energy HEARINGDay Thursday Date September 8, 2016 Room 2172Starting Time 2:20 p.m. Ending Time 3:58 p.m.Recesses (to) (to) (to) (to) (to) (to)

Presiding Member(s)

Chairman Ros- Lehtinen

Check all of the following that apply:

Open Session ☒Electronically Recorded (taped) ☒Executive (closed) Session ☐Stenographic Record ☒Televised ☒

TITLE OF HEARING:

Eastern Mediterranean Energy: Challenges and Opportunities for U.S. Regional Priorities

SUBCOMMITTEE MEMBERS PRESENT:

*MENA Chairman Ros-Lehtinen, Reps. Yoho, DeSantis, Zeldin, Weber
MENA Ranking Member Dentch, Reps. Grayson, Connolly, Meng
Energy Chairman Weber, Reps. Rahabachar, Brooks, Constock, Knight
Energy Ranking Member Grayson, Reps. Perlmuter, Swalwell, Veasey*

NON-SUBCOMMITTEE MEMBERS PRESENT: (Mark with an * if they are not members of full committee.)

*House Science, Space, & Technology Committee Chairman Lamar Smith; House Science, Space, & Technology Committee Ranking Member Eddie Bernice Johnson; Rep. Gus Bilirakis*HEARING WITNESSES: Same as meeting notice attached? Yes ☒ No ☐

(If "no", please list below and include title, agency, department, or organization.)

STATEMENTS FOR THE RECORD: (List any statements submitted for the record.)

TIME SCHEDULED TO RECONVENE _____

or

TIME ADJOURNED 3:58 p.m.*Antonella Pavalos*
Subcommittee Staff Associate