THE GEOPOLITICAL POTENTIAL OF THE U.S. ENERGY BOOM

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THE GEOPOLITICAL POTENTIAL OF THE U.S. ENERGY BOOM

WEDNESDAY, MARCH 26, 2014

HOUSE OF REPRESENTATIVES,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC.

The committee met, pursuant to notice, at 10:08 a.m., in room 2172 Rayburn House Office Building, Hon. Edward Royce (chairman of the committee) presiding.

Chairman ROYCE. We're going to call the hearing to order here and ask for all the members to take their seats. This is the Geopolitical Potential of the U.S. Energy Boom.

Simply put, increasing U.S. energy production would boost our national security. It would also boost our economic security. Reducing our reliance on energy imports from the OPEC Cartel would make the United States less vulnerable to political and security-related disruptions that we face from time to time with respect to our energy supply. Increasing our energy exports would advance our geopolitical interests including by undermining the coercive leverage through energy that the President of Russia and others have used.

Indeed, Russia's annexation of the Crimean Peninsula was made easier by its energy grip over Ukraine. Russia's state-controlled gas company, Gazprom, threatened to cut off supplies to Ukraine earlier this month. This is something that Russia has done in Eastern Europe in 2006 and in 2009. They turned off the valves to Ukraine. Gazprom is now threatening to double the price Ukraine pays for natural gas. Now, remember these aren't market forces at work there. This is a monopoly that the Russian Government has created, and this is the dependency that we see in Eastern Europe. Now, this could obviously cripple Ukraine's already weak economy which we're trying to help.

America's newly developing energy supplies could make a difference zapping President Putin's strength while bolstering Ukraine and many other European countries. Over the past 3 years just seven of the applications to export natural gas have been approved by the Department of Energy, while 23 are still pending. This is government at a glacial pace. But while the United States recently became the world's largest producer of natural gas, Russia is still the biggest exporter of gas. That is because while Putin is freely selling oil and gas around the world, we impose major impediments to exporting our energy. How much of this is Russia's economy? Well, 70 percent of their exports, 52 percent of what goes

to pay for the budget in Russia of the military and the government is from their natural gas and oil exports. So, this is a lost opportunity.

I'm going to quote the chairman of the Joint Chiefs of Staff, General Martin Dempsey. I think he's got this right when he said earlier this month before our colleagues in the Appropriations Committee. "An energy independent and net exporter of energy as a nation has the potential to change the security environment around the world." He's not quite grammatical but we agree with his premise. "Notably in Europe and in the Middle East. And so, as we look at our strategies for the future, I think we've got to pay more and particular attention to energy as an instrument of national power."

Recent innovations in energy exploration mean that U.S. production of natural gas is projected to rise 44 percent by 2040. This increased energy production has boosted manufacturing creating thousands of American jobs. It has the potential of creating thousands more, but instead of exporting natural gas companies are forced to flare the glut created by this bureaucracy. President Obama could move quickly to remove the obstacles placed on American energy exports.

Since the President has chosen not to use his authority to permit natural gas exports, Congress can do the job for him by passing legislation to increase the number of countries that would receive accelerated approval of natural gas exports. The Domestic Prosperity and Global Freedom Act in the Energy and Commerce Committee would extend expedited approval of natural gas exports to all 159 World Trade Organization countries.

The President should also stop blocking the long-delayed Keystone XL Pipeline which would create an estimated 20,000 jobs, direct jobs, and enhance our energy security and partnership with Canada, one of our close allies, also one of our most reliable allies. This is an opportunity not to be missed, an opportunity to reduce our vulnerability to political decisions and events in unfriendly and unstable countries. Yet, Secretary Kerry is conducting yet another review further delaying Keystone.

We should end our self-imposed sanctions on energy exports. America leads the world with its dynamic and innovative energy sector. Let's allow it to benefit the U.S. economy and our security interests worldwide.

I will now turn to the ranking member for his statement, Mr. Eliot Engel of New York.

Mr. ENGEL. Thank you very much, Mr. Chairman, for holding this very timely hearing. This is a very important hearing.

Events in Ukraine over the past few weeks have brought discussions about the future of American energy, and specifically whether or not the United States should export natural gas into the headlines and onto the opinion pages. The Washington Post had such an article this morning.

Over the past decade, Russia has used its gas resources as a weapon to settle political disputes and Ukraine has often been on the receiving end of these attacks. Just days into the current crisis, Gazprom announced that the prices it charged Ukraine would go

up 37 percent the following month, and in 2009 Russia completely cut off Ukraine's gas flows leaving millions of people in the cold.

The significant increase in U.S. natural gas production in recent years has generated new interest in U.S. exports. To date, the Department of Energy has approved seven applications to export U.S. liquified natural gas to countries in Europe, Asia, and South America, and that's on top of other planned exports to countries with which we have a free trade agreement. So, just to be clear, American companies have been approved to export natural gas.

When Secretary Kerry recently testified before the committee he noted that approved LNG projects would eventually produce 8.5 billion cubic feet of gas per day. That number is even higher now with this week's approval of the Jordan Cove plant in Oregon. Let's not forget it takes lots of time and money to construct these complex multi-billion dollar facilities.

The first LNG export facility at Sabine Pass, Louisiana is expected to go on line next year. Exports from that plant could go to a number of countries, including Ukraine, Romania, Hungary, or other Eastern European countries provided they have the necessary import infrastructure.

However, it's not clear what impact U.S. exports would have on Europe's energy relationship with Russia. U.S. gas production has already ended most gas imports into our country, expanding the supply available for other countries, so Russia will continue to be a major European energy supplier due to its large reserves and proximity to its customers. By contrast, U.S. natural gas must be chilled into a liquid and shipped across the Atlantic, which obviously could be very costly.

A Rice University study found that higher U.S. gas prices plus higher export costs could make shipments to both Europe and Asia unprofitable. In other words, the impact of American gas on European markets may be limited. As we weigh the pros and cons of increased energy exports, we must also carefully consider the impact on working people, small businesses here at home, and environmental aspects, including those in my district in New York.

A 2012 study by the U.S. Department of Energy concluded that gas prices would rise by up to a third if the U.S. exported 12 billion cubic feet per day, yet the total volume of all export applications currently pending at the DOE is 36 billion cubic feet per day, three times as much. If that volume of gas were exported then domestic gas prices could go much higher, and that would almost surely have a very negative impact on all of our constituents.

On a related issue, I'd be interested to hear from the panel on what would happen to domestic gasoline prices if the 40-year-old ban on crude oil exports were lifted. As we examine the future of American energy, we also need to consider the environmental impacts of extracting shale gas and oil. This process requires the injection of chemicals and other substances to unlock gas or oil deposits. I believe that companies should be required to disclose what they pump into the ground just as they must tell us what they put in our food.

Using more natural gas in the United States to produce electricity could displace dirtier coal, thus lowering greenhouse gas emissions and the negative impact on our climate. We could also

bolster U.S. national security by using natural gas as a transportation fuel, which helps reduce our reliance on oil.

In fact, Representative Ros-Lehtinen and I introduced bipartisan legislation last year, the Open Fuel Standard Act, that requires half of all new vehicles to run on non-petroleum fuels such as natural gas or electricity. This bill would give consumers greater flexibility to choose more affordable fuel sources.

So, I'm very interested in the prospect of us exporting energy, but I think we have to weigh the pros and cons and come up with a solution. It opens up great possibilities for us, and that's why I am very interested in hearing from the panel, and what the panel has to say. So, again, thank you, Mr. Chairman, for holding this important hearing, and I look forward to the testimony.

Chairman ROYCE. Thank you, Mr. Engel.

We are going to go 2 minutes with Mr. Steve Chabot of Ohio, and then 2 minutes to Mr. Brad Sherman of California.

Mr. CHABOT. Thank you very much. And, first, I'd like to thank Chairman Royce for calling this timely hearing today. I want to thank the panel of distinguished witnesses for taking the time to join us. We're all looking forward to hearing your testimony this morning.

The potential benefits afforded us by the recent U.S. energy boom are really astounding. We are presented with an opportunity to significantly strengthen our national security, to improve our economy here at home, and increase the global reliance on U.S. resources into the foreseeable future. And this is particularly timely when we find ourselves in a situation where we see the Russians, particularly Putin, acting up as he is now.

While energy independence may not be realistic, energy interdependence is, and it should absolutely be pursued. The bottom line is the U.S. must seriously consider the geopolitical merits of exporting greater quantities of U.S. natural gas and oil, and we should be considering policies very seriously that are preventing us from doing more of that right now. If we did so, it might well undermine Russia's influence over some of our European allies that are so dependent on Russia for both their fuel, whether it be gas or whether it be oil.

And, as I said before, when you consider what is happening with respect to Crimea, Ukraine, potentially many other countries in the region, we absolutely have to consider this. So, I want to thank the chairman again for calling this very timely hearing this morning. I yield back.

Chairman ROYCE. Mr. Sherman.

Mr. SHERMAN. Mr. Chairman, thank you for having these hearings. Our Subcommittee on Terrorism and Trade has had several hearings on this already, and we're having additional hearings tomorrow. The hearings tomorrow will focus just on oil as opposed to gas because oil and gas are extremely different on this issue.

Petroleum is by far the cheapest fuel to transport across water. Natural gas is by far the most expensive fuel to transport across water. The United States is not in our lifetime going to be a net exporter of oil, or even a net exporter of energy, but we can be a net exporter of natural gas, and we can consider the export of oil from Alaska and import of oil onto our East Coast. This will have

very little effect on anything, except it will reduce transportation costs, and it will raise the question of whether we can stop the process and keep the Alaskan oil in a time of world emergency, or disruption of the markets, whether we'll have both the legal and physical infrastructure to make that change.

The question then is whether we export natural gas. Keep in mind that in Germany they're paying triple, in Japan they're paying quadruple for natural gas than what we are in the United States. If we export, our natural gas prices will go up. That will be here in the United States for natural gas, very substantially. That will be good for the natural gas industry, including jobs in the natural gas production and transportation industries, but it means higher prices for consumers, it means higher prices for manufacturers, it may take away a huge advantage for manufacturers that cost us far more jobs than we will pick up in the energy sector.

From the environmental standpoint, most environmentalists will oppose anything that produces or moves any carbon fuel. On the other hand, to the extent that the world burns more natural gas, that may be a boom for the environment compared to the chief alternative, which is coal, which produces twice as much carbon and greenhouse gases, and even far more than that in the terms of soot and pollution as compared with burning natural gas. And you can argue that even fracking is not as bad for our environment as is the burning of coal. I yield back.

Chairman ROYCE. Thank you, Mr. Sherman. We're going to have a diverse group of energy specialists this morning. Let me start with Admiral Dennis Blair. During his 34-year Navy career, he served in the Atlantic and Pacific fleets, and commanded the Kitty Hawk Battle Group. He was Commander-in-Chief of the U.S. Pacific Command. He was also the Director of National Intelligence from 2009 to 2010. He is currently a member of the Energy Security Leadership Council, and Commissioner on Geopolitics at Securing America's Future Energy.

Mr. Harold Hamm is the chairman of the Domestic Energy Producers Alliance. Mr. Hamm is also chief executive officer and chairman of the board of Continental Resources, Incorporated. He previously served as president/chief executive officer and as a director of Continental Gas from 1967 until 2004.

From 2008 through 2013, Ms. Elizabeth Rosenberg served as a Senior Advisor at the U.S. Department of Energy. She is currently a Senior Fellow and Director of the Energy Environment and Security Program at the Center for New American Security.

Before joining the Council on Foreign Relations, Dr. Michael Levi was a non-resident science fellow, and a science and technology fellow in foreign policy studies at the Brookings Institute.

Now, without objection the witnesses' full prepared statements will be made part of the record. The members here of the committee are going to have 5 calendar days to submit any statements or any questions they might have of the witnesses, and any extraneous material for the record.

And we'll ask Admiral Blair to go first. Please summarize your remarks and then we'll go to questions. Admiral Blair.

STATEMENT OF ADMIRAL DENNIS C. BLAIR, USN, RETIRED, MEMBER, ENERGY SECURITY LEADERSHIP COUNCIL, SECURING AMERICA'S FUTURE ENERGY

Admiral BLAIR. I think, I agree this is a very timely and important hearing. Energy has been a huge factor in national security matters during my experience in it. We are now in an era in which we have new possibilities due to increased domestic production. And I urge the committee to think hard, think long about how we can take advantage of this to bring advantages to our national security.

I'm co-chairman of a Commission on Energy and Geopolitics. It's a bipartisan group of high-ranking former U.S. military, diplomatic, and national security officials. It's a project of the nonpartisan, nonprofit organization, Securing America's Future Energy, and we just published a report called "Oil Security 2025: U.S. National Security Policy in an Era of Domestic Oil Abundance." And we make a series of recommendations to take advantage of the booming U.S. oil production to enhance American national security.

Our increased production has already supported our national security objectives. The additional 3.5 million barrels per day that we now produce in this country compared to what we produced in 2005 has compensated for the virtually curtailed oil production in Libya, and the slower increase in Iraq's exports than was expected.

We've been able to maintain sanctions against Iran, including sanctions against its oil exports. Back in 2005, we were not able to pursue this policy because the market was too tight.

So, increased American oil production has already been very positive, but our study concluded that it will not be the cure all that some pundits have prescribed or prophecized. As long as we fuel 93 percent of our transportation sector with petroleum, the security and resilience of the global oil market will be a vital American national security concern. If supplies are interrupted prices go up, and no matter how much we produce at home or import from North America, our economy will suffer, and may suffer badly.

The Middle East will continue to be a region of vital interest. With an overall tight global oil market driven by increasing world demand, the Middle East will remain the swing producer. It will be the only region able to increase production quickly, and economically to compensate in the medium term for supply disruptions, whether natural or manmade. And at the same time, OPEC will manipulate the production for its own purposes, to keep prices high to support its own foreign policy objectives, so the United States will continue to be vitally concerned about this region, but we must do so in a smart way.

Our study makes recommendations in four areas. First, we recommend a series of global policy recommendations to make the world oil market more secure, more resilient to supply interruptions. As one of the largest consumers and producers of oil, the United States can encourage better coordinated international action to toughen oil production and transport systems, to take swift and effective action to deal with shortages.

For long-term improvement, we should share our mechanical fracturing technology to increase total oil supplies. We should help

build more resilient and stable political conditions in producing countries.

In the Middle East, we recommend insuring the security of oil producing friendly countries, but with a diplomacy-centered approach. The military support component should be reconfigured in a flexible deployed posture with a demonstrated capability to bring major forces forward when needed, is what is required.

The Middle East will continue to be a volatile and violent place primarily because of domestic tensions within the countries there. And over the long term, we need to support peaceful evolutionary reform to develop more stable and eventually more democratic societies and governments there.

China will account for almost half of the increased energy demand over the 20 years, and the United States needs to involve China in plans to deal with supply interruptions and price spikes. We should help China with tight oil development and include it in the International Maritime Security operations needed to protect oil shipping. Of course, all these actions depend on the Chinese exercising restraint in the aggressive actions that it is taking now around its maritime borders.

And, finally, and most importantly, the United States must diversify the energy resources for its own transportation sector. We need to shift a significant portion of our car, truck, and airplane fuels away from petroleum primarily to natural gas and electricity. This means government-supported research and development, and other government policies that while not picking commercial winners and losers, remove the barriers to this shift away from oil for transportation.

Developing a strong forward-looking energy policy is one of the most important things we can do for this country's national security, and I urge this committee to take a strong role in forging one. Thank you.

[The prepared statement of Admiral Blair follows:]

Submitted Testimony of Admiral Dennis C. Blair, Co-Chair, Commission on Energy and Geopolitics
U.S. House of Representatives Committee on Foreign Affairs
Hearing: "The Geopolitical Potential of the U.S. Energy Boom"
March 26, 2014

Introduction

Chairman Royce, Ranking Member Engel, and Members of the Committee, thank you for inviting me to participate in this very important hearing.

I currently serve as Co-Chair of the Commission on Energy and Geopolitics, a bipartisan group of former high-ranking U.S. military, diplomatic, and national security officials that have come together to explore the national security and foreign policy implications of the country's continued dependence on oil and evolving domestic energy outlook. The Commission is a project of Securing America's Future Energy (SAFE), a non-partisan, non-profit organization committed to improving U.S. economic and national security by reducing the country's dependence on oil. Our inaugural report, "Oil Security 2025: U.S. National Security Policy in an Era of Domestic Oil Abundance," explores the potential for rapidly increasing U.S. oil production to impact American foreign policy and national security in the coming decade and presents a series of recommendations designed to safeguard and advance U.S. interests.

As recently as five years ago, conventional wisdom among most energy and national security experts was that the United States was exhausting its domestic oil supplies while requiring ever larger quantities of fuel for transportation. These trends were locking the country into an increasingly import-dependent oil future that would have negative effects on U.S. national security and geopolitical standing and leave the economy dangerously exposed to physical supply interruptions and their accompanying oil price spikes. Serious concerns about this outlook dominated energy policy discussions, and—at least in part—led military and diplomatic policymakers to begin planning for a future in which the United States would continue to be heavily engaged in regional politics in major oil-producing regions, protecting critical energy infrastructure and guaranteeing the free flow of global oil supplies.

Today, the U.S. oil outlook has been dramatically altered by rapid developments in domestic energy markets that have shattered conventional wisdom and upended numerous long-held beliefs. Specifically, high oil prices and improvements in drilling technology have helped unlock massive light, tight oil (LTO) resources in North Dakota, Texas, and elsewhere. As a result, U.S. crude oil production that had dropped to 5 million barrels per day (mbd) in 2008 averaged 7.5 mbd in 2013 and is expected to reach 8.4 mbd in 2014. Though estimates vary widely, the Department of Energy recently forecast continued U.S. production growth for more than a decade. Alongside this rapid rise in domestic oil production, various economic, demographic, and policy factors have contributed to a stabilization in the long-term outlook for U.S. oil demand, with 2040 demand projected at 18.7 mbd compared to today's 18.9 mbd.

These changes will have profound consequences for the United States. While many dynamics are still evolving, a great deal of attention has already been given to the economic ramifications of domestic energy abundance, which are already proving beneficial. The national security, foreign policy, and geopolitical impacts of U.S. oil abundance are more complicated and less understood.

A wide range of market observers, policymakers, and other commentators have suggested that today's shifts in energy market dynamics, extrapolated to the future, will result in major changes in global

economics and regional security dynamics—particularly in the Middle East and North Africa (MENA)—with attendant benefits for the United States. For example, as reliance on foreign oil supplies decreases, it is often suggested that the United States could disengage militarily from volatile oil-producing regions, clearing the way for a larger security role and increased burden-sharing by energy-hungry emerging economies, especially China and India. Although there may one day be some truth to such assertions, very little of this analysis is based on a rigorous framework for understanding energy market dynamics, and much of it ignores the potential for wide ranging uncertainty in current forecasts.

Nonetheless, shifts in U.S. energy supply are likely to have unexpected consequences for global energy suppliers, consumers, and even prices. While navigating such changes, the United States will need to balance a combination of sometimes competing interests—diplomatic, military, and economic. To best serve the national interest, U.S. policymakers will have to consider the potential of the various impacts and implications of U.S. oil abundance to initiate major changes in the global political and security environment.

In our inaugural report, released in January 2014, the Commission on Energy and Geopolitics presents a scenario-based analysis through 2025 to help explore the possible impacts of rising U.S. oil production on a host of countries and regions across the globe—specifically, the Middle East and North Africa, Sub-Saharan Africa, Russia, and China. By considering different outlooks for global oil demand and supply, the scenarios provide a framework for assessing the range of potential geopolitical impacts of U.S. oil abundance and what these impacts in turn could mean for national security and foreign policy.

A brief summary of our regional assessments is as follows:

Middle East and North Africa
The Middle East will remain crucial to the global oil supply system as both the largest oil producing region and the global market's swing producer. Despite falling slightly as a result of the boom, U.S. crude imports from the region still account for about one-quarter of our total imports. Further, the region typically provides one-quarter to one-third of global oil supply. We also must be prepared for violence and instability in the region—which can impact production centers, pipelines, and, most ominously, the three crucial maritime chokepoints in the region—to continue in the years ahead.

To make up for the reduction in U.S. demand, the destination for the region's oil exports is shifting toward non-OECD Asian countries. China has emerged as a major buyer in recent years. We expect this shift to continue in the years ahead.

Saudi Arabia remains effectively the only country in the world that can replace lost supplies for any meaningful period of time, and its ability and willingness to act as a swing producer will continue to be critical in determining prices and the degree of market stability. In Iran, oil production growth will remain limited through 2025, even if sanctions are removed relatively quickly. Significant production growth in Iraq will likely be tempered by continued political instability and sectarian violence. Finally, widespread political and economic stability concerns will continue to hamper output in North Africa.

Additionally, many countries in the Middle East have become dependent on high oil prices to meet increased spending demands stemming from the Arab Spring. If global prices for oil were to fall, budget shortages in oil-producing counties in the region could increase the chance of unrest.

Sub-Saharan Africa

Sub-Saharan Africa's oil trade with the United States is declining due to rising U.S. oil production and is unlikely to meaningfully rebound, forcing the region's producers to seek new markets and creating an opportunity for China to increase its ties in the region. Shipments are already re-orienting to Asia and Europe. The region's growing oil trade with China will deepen bilateral economic ties and could have long-term geopolitical implications, particularly if there is a receding U.S. presence in the region.

Many governments rely heavily on oil revenue, exposing them to price volatility and increasing their urgency to find new markets to replace lost trade with the United States. The region's reliance on oil as a source of export and government revenue will persist and extend beyond established oil producers like Angola and Nigeria. Domestic unrest, prompted by economic challenges and/or grievances about corruption, oil revenue sharing, or environmental degradation, would affect the stability of political systems and regimes, the investment climate, and oil output and production growth.

Russia

As its adversaries have learned again recently, geopolitics and energy go hand-in-hand for Russia. Russia's budget is highly reliant on oil revenues, and its economy is dangerously vulnerable to decreases in oil prices. Oil and gas revenues accounted for more than 50 percent of total federal budget revenue in 2012. A sharp change in oil prices in either direction could significantly affect Russia's foreign policy decisions. Sustained high oil prices, which supply Russia with ample revenues to weather short-term economic or market fallout, have helped to make actions like Russia's recent incursion into Ukraine more manageable for the government in Moscow.

Going forward, expanding or even maintaining oil production is expected to be difficult for Russia given depleted oil fields and the high cost of recovering untapped reserves. Private sector expertise could help unlock these resources more effectively, yet international oil companies have been increasingly reluctant to operate in the Russian market, due largely to political and business environment risks and uncertainty. Exacerbating the need for increased production is the fact that, without it, rising domestic oil demand will lead to lower export levels and reduced revenues.

Europe's demand for Russian oil—and to a lesser extent natural gas—is declining, prompting Russia to look to other regions—particularly Asia—for export growth. The shifting of oil and natural gas exports east is likely to create new geopolitical dynamics between major players.

China

China's rapid growth over the past two decades has seen it become a major world economy, and its oil demand has kept pace. Over the past five years, China has accounted for 75 percent of global demand growth and in 2013 surpassed the United States as the world's largest net oil importer. If current economic trends continue, Chinese oil demand will account for more than 40 percent of global demand growth through 2025.

China's exploding energy needs are making it far more reliant on imports. As a result, Beijing has deepened ties in the Middle East and Sub-Saharan Africa—notably, as U.S. imports from these regions decrease—and could be prompted to become more assertive as a global power as it looks for new markets to satisfy its thirst for oil. China's desire to diversify the sources of its imports and also decrease its reliance on unstable regions like the Middle East is also prompting it to increase ties with countries

such as Russia, Kazakhstan, Venezuela, Brazil, and Angola. Furthermore, China's increasing vulnerability to supply disruptions could cause the nation to grow more assertive as a global power overall.

China has actively pushed—with some success—to increase domestic oil production and the country is currently the world's number four oil producer. Still, possibilities to increase domestic production remain challenging due both to offshore boundary disputes and the high costs and logistical challenges of accessing shale resources. Conventional oil production at mature domestic fields has largely peaked.

Commission Policy Recommendations

New U.S. oil production entering the global marketplace will create opportunities for gains in both economic and national security. Additional supplies from the United States will make the global oil market more stable and robust. The United States can regain greater flexibility in dealing with foreign policy challenges in major oil-producing countries and regions. The combination of rapidly declining import levels and greater reliance on North American partners will also lead to increased physical security of America's overall oil supplies.

Yet, despite these positive developments, the American economy will still be highly vulnerable to developments in the global oil market and the United States will continue to have vital national security interests in oil-producing countries. There are four fundamental reasons for this conclusion:

1. The United States will remain a major consumer of oil in the coming decades, even if total volumes begin slowly declining by 2025. In the Department of Energy's most recent forecasts, petroleum fuels remain America's largest source of primary energy in 2025, and still account for 92 percent of the country's transportation fuel. This dependence will leave the country economically—and therefore strategically—exposed to volatility in the global oil market, resulting in severe negative economic costs when prices fluctuate.

2. The balance between global supply and demand is likely to remain relatively tight. Across the four scenarios considered by the Commission, OPEC spare capacity in 2025 ranges from as low as 2 mbd to as high as 4.5 mbd. Even in the cases where oil prices are relatively low and spare capacity is relatively high, Saudi Arabia remains the world's swing producer, and the level of flexibility is never so substantial that disruptive geopolitical events in key oil-producing regions would not severely stress the supply system, creating ripple effects across the global economy, including the American economy.

3. OPEC and other anti-competitive actors will continue to manipulate the global oil market for their own benefit at the expense of major oil consumers. The presence of anti-competitive forces in the global oil market will endure as a serious policy challenge that leads to structurally higher oil prices over the long term. OPEC countries today control nearly three-fourths of global conventional oil supplies, a massive resource endowment of more than 1.2 trillion barrels. OPEC's members manipulate global supply levels to keep markets tight and prices elevated.

4. Major oil-producing countries, particularly in the Middle East and North Africa, are likely to remain extremely unsettled. Throughout the Middle East and North Africa, the political consequences of the Arab Awakening are still only beginning to come into focus. All told, Libya, Iran, Iraq, and Saudi Arabia accounted for more than 20 percent of global liquid fuel production capacity at year-end 2013.

Beyond oil security, the United States has other important interests in the Middle East and North Africa: the American commitment to the security of Israel as well as other traditionally friendly states in the Gulf region, the danger posed to the United States from al Qaeda and its affiliates located in ungoverned territories in the region, and the American commitment to countering the proliferation of weapons of mass destruction.

The Commission's recommendations are designed to meet these challenges and better position the United States for the future. They are organized into four sections of policy focus: Global, Middle East, China, and Domestic. Two core goals are consistent throughout:

> **1. Increase the stability and flexibility of the global oil market.** As both a major oil producer and consumer, the United States can and should take a series of steps in foreign and military policy to substantially reduce the likelihood and impact of crippling international oil supply interruptions and associated price spikes. Our foreign policy should prioritize long-term political stability in major oil producers, and the technologies and policies that facilitated the U.S. oil boom should be shared where appropriate. These steps will make the market more robust.
>
> Meanwhile, international tools for responding to disruptions should be strengthened so that the global economy is prepared for the inevitable setbacks that will occur. The United States must improve the strategic focus of diplomatic, military, and intelligence policies toward major oil producers and consumers alike in order to achieve this.
>
> **2. Reduce American oil dependence.** As new technologies and fuels enter the marketplace, the United States must develop a more competitive transportation market. A more diverse transportation sector would fundamentally disconnect the U.S. economy from the global oil market. No single step would be more effective for preserving U.S. national security and economic prosperity in the 21st century, or for maximizing the benefits of domestic oil abundance.

The Commission's recommendations are broken down into four categories.

Global Policy

The importance of oil in the U.S. economy has driven American policymakers to prioritize a stable global oil market for more than four decades. Critical infrastructure and transit route protection have historically been undertaken by the United States with very little assistance from other countries. The development of a more diverse, more robust set of policies and partnerships to prevent and respond to challenges and crises can help increase market stability. The Global Policy recommendations are designed both to reduce the chances of supply interruptions and to increase the international community's ability to absorb them without devastating economic damage.

Global Policy Recommendation 1: Through sustained U.S. diplomatic activity, build an international consensus among oil-consuming nations on the importance of shared responsibility and coordinated action to deal with future oil supply interruptions.

The United States should lead a series of multilateral consultations with other major oil-consuming countries (including countries that are not currently IEA members like China and India) to develop a set of guidelines for improved coordinated responses to oil supply disruptions. These guidelines should

focus on the size of the disruption, the crude varieties impacted, prevailing global economic conditions, the potential for establishing greater reserve capacity, and the effect of the disruption on prices.

Global Policy Recommendation 2: Deepen global cooperation in the protection of key transit routes and anti-piracy efforts, particularly with partners in Asia.

Approximately half of global oil production is transported by ship, and often through one of just a handful of transit routes. Even a temporary blockage of one of these routes could have a substantial impact on global trade flows and prices. Only the United States has shown the convening power, global communications networks, maritime surveillance systems, and experience to initiate sustained maritime security operations. It can do so more efficiently, however, by bringing new partners into joint operations and also using vessels that are better-suited to protection and anti-piracy activities.

Global Policy Recommendation 3: Provide expertise and advice to oil-producing countries to protect their oil production and transportation installations.

Attacks on physical infrastructure are common in many countries, and damage to pipelines or the forced closure of oil production facilities can affect the flow of oil to the global marketplace. The potential for cyber-attacks that disrupt oil production and transportation has also become an increasing security concern for oil companies across the globe due to a growing reliance on networked industrial control systems technology. The United States should continue to provide expertise both to companies and countries to improve the gathering and analysis of threat intelligence and strengthen the physical and cyber defenses of critical oil installations and infrastructure.

Global Policy Recommendation 4: Support peaceful reform in autocratic oil-producing countries to develop more stable, and eventually democratic, governments over time.

The greatest threat to the stability of global oil exploration, production and export is turmoil within oil-producing countries. Governments that are accountable to their people have proven to be more flexible and resilient in adapting to social stresses. Therefore, supporting political and economic reform, respect for human rights, and the development of democratic institutions is not only in accord with American values, but with our interests as well. The more oil-producing countries that exist that are seriously pursuing such strategies, the better for American energy security.

Global Policy Recommendation 5: Continue U.S. technical engagement—especially through hydraulic fracturing technology—to help promote the development of oil and gas resources around the globe.

A U.S. Department of Energy study (June 2013) estimated global shale oil resources to represent approximately 10 percent of all global oil resources. The development of these resources in countries like China and Argentina could over time help to alleviate the market's reliance on OPEC countries and the Middle East in particular.

Global Policy Recommendation 6: Promote reforms and good governance in the energy sectors of oil-producing and oil-consuming countries both on the demand and supply sides.

On the demand side, excessive consumer fuel subsidies in both major oil-producing and oil-consuming countries distort oil consumption globally, helping to drive up prices. The United States should use its diplomatic and economic leverage to encourage the goal of decreasing fuel subsidies globally. On the supply side, host government decisions to alter terms mid-contract, shut down projects, or seize oil fields threaten the consistent flow of oil to the marketplace and discourage investment in exploration

and production activities. The United States should use its influence to improve the content and administration of contract law in oil-producing countries.

Middle East Policy

The rapid growth in domestic supplies and a declining import requirement have created a perception that America is able to disengage from the Middle East. However, despite greater self-sufficiency and minimal American oil imports from the Middle East, the region will remain for the foreseeable future the source of one-quarter to one-third of the world's oil supplies and the global economy's swing producer—the only region with spare production capacity that can be brought online quickly to make up for global supply interruptions.

The United States needs a foundational regional energy security policy that can be accomplished with a reasonable expenditure of resources while ensuring a stable supply of oil to the global marketplace. This is a vital interest not only of the United States, but of its allies and partners as well.

The Middle East will continue to experience significant turbulence through 2025. Now is an especially difficult time to recommend or implement changes in American policies in the Middle East and North Africa, and the Commission favors caution and deliberation in the implementation of new American policies going forward. However, while there is no perfect time to make fundamental change, the combination of increasing American energy production and the redeployment of major combat units from the region creates an opportunity to adopt a set of policies aimed to achieve long-term goals of energy security. Unless these long-term objectives are advanced at the same time we are meeting the crises of the day, America will be no more secure in another ten years than it is now.

Middle East Policy Recommendation 1: Rebuild a diplomacy-centered U.S. approach in the Middle East.

The large military presence in Iraq and Afghanistan, the high-priority intelligence campaign against al Qaeda, and the dominance of military and intelligence officials in countries in the region have gradually supplanted a diplomatic policy framework for U.S. actions in the Middle East. The United States needs to restore the diplomacy-centered approach it has used successfully in the past in other regions and include substantial military and intelligence actions in support of diplomacy.

Middle East Policy Recommendation 2: Continue to support the external defense needs of friends and partners in the region through military assistance and an in extremis coalition intervention capability.

As the United States demonstrated in the first Gulf War, it alone can provide the leadership and expeditionary heavy forces to bring international assistance to support the defense of a major oil-producing country against external invasion. America will continue to play this role, including against attacks by military forces on international shipping lanes.

Middle East Policy Recommendation 3: Fashion a reconfigured forward deployed posture based on flexible deployment of maritime and air forces to the region, and a demonstrated capability to bring major forces forward when needed.

The Commission recommends a lean, forward-based military posture in the region that includes a robust mix of advisory and assistance teams to strengthen the self-defense capabilities of friendly oil-producing countries in addition to a backbone logistics, surveillance, and communications footprint to support a range of potential contingency operations.

Middle East Policy Recommendation 4: Support peaceful evolutionary reform in autocratic Middle East oil-producing countries to develop more stable and, eventually, more democratic societies and governments. Support transitions to more effective, moderate, representative, and accountable regimes in those countries that have deposed dictators.

With the assistance of allies and partners, and through the use of diplomatic, economic, military, and intelligence engagement programs, the United States should assist countries that have rejected dictators to complete over time the difficult transition to effective democratic forms of government. The United States should encourage autocratic regimes in the region to introduce peaceful political and economic reforms that address popular needs and respect human rights.

China Policy

As the world's two largest consumers of oil, China and the United States have a strong interest in ensuring a stable flow of oil to the global marketplace. It should be an objective of U.S. policy to develop common understandings of this interest and to look for specific ways in which both countries can cooperate diplomatically, technically, commercially, and militarily in the area of energy security.

China's economic and security relations with the rest of the world, especially with the United States, combine elements of cooperation and adherence to international norms with elements of competition and policies of unilateral advantage. The recommendations below are all cooperative in nature, intended to benefit both countries and the global oil market more generally. If Chinese policies and actions in the future become more competitive and confrontational, then these recommendations will be neither advisable nor practicable.

China Policy Recommendation 1: Enhance Sino-American cooperation on the development of tight oil.

Extending current efforts to share technical expertise in unconventional gas development to oil resources could help China meet more of its oil needs domestically over the long term. It could also help mitigate Chinese insecurities over oil supply security that may contribute to a more aggressive policy toward, for example, the South China Sea.

China Policy Recommendation 2: Involve China in international consultations on dealing with supply interruptions and price spikes in the global oil market.

China's growing reliance on oil and oil imports should encourage it to take an increasingly active role in international dialogue regarding coordinated action to deal with future oil supply interruptions. China's efforts to construct its strategic petroleum reserves should help the United States and other oil-consuming countries make meaningful progress with China toward developing guidelines for coordinated action to deal both with supply interruptions and price spikes.

China Policy Recommendation 3: Involve China in international maritime security operations to protect oil shipping.

In both official discussions and unofficial Track Two dialogues, Chinese representatives have shown a readiness to discuss China joining additional maritime security operations. Chinese participation in protecting oil shipping is important not so much from the military point of view as from the political. It would be a major step forward in a cooperative framework of the oil-consuming countries to ensure the security of supplies. However, if aggressive Chinese air and maritime territorial policies continue in East Asia, it will not be welcomed into coalitions elsewhere in the world seeking to ensure maritime security.

Domestic Policy

Despite rising vehicle efficiency and rising domestic oil production, the United States remains vulnerable to oil price fluctuations in the short-to-medium term. The two recommendations below will strengthen the U.S. economy's resistance to and resilience in the face of high and volatile prices, with sizeable economic and national security benefits.

Domestic Policy Recommendation 1: Continue to promote the use of alternative transportation fuels, particularly electricity and natural gas, in addition to improved fuel efficiency.

Oil dependence can only truly be addressed by evolving a transportation system that is no longer predominantly beholden to the global oil market and its high and volatile prices. While continued improvements in efficiency remain a critical part of the solution for all transportation modes, so too is the development and adoption of cars, trucks, trains, airplanes, and ships that operate on other fuels, particularly electricity or natural gas. Such shifts will help to meaningfully reduce the oil intensity (quantity of oil consumed per unit of GDP) of the U.S. economy over the long term. Government supported research and development efforts in particular will continue to play a critical role in reducing the cost of advanced automotive components such as batteries for electric vehicles and storage tanks and refueling systems for natural gas vehicles.

Domestic Policy Recommendation 2: Direct the Department of Energy to develop workable guidelines for the use of the Strategic Petroleum Reserve (SPR) and evaluate its proper size based on those criteria. The guidelines should be approved by the National Security Council.

Congress should direct the Secretary of Energy to initiate a process to develop clear guidelines for sizing and use of the SPR. The reserve is currently large enough to enable temporary responses to physical supply disruptions related to acts of war, terrorism, or natural disasters. However, today's reserve is far too small—and probably could never be made large enough—to respond meaningfully to a catastrophic loss of oil resulting from a crisis involving a long-term interruption in the flow of oil to the market.

Congress should also direct the Department of Energy to initiate a process to establish clear criteria for use of the SPR. Once completed, the Government should then initiate a study to determine the appropriate size for the SPR, and offer new recommendations to Congress regarding both the SPR's size and proper use.

The Question of Exports

The unprecedented growth in U.S. production of light-sweet crude oil has stretched storage capacity in some parts of the country to its limits and led to disparities in regional crude benchmarks. After spending much of the past decade preparing to process increasing quantities of heavy-sour crude grades, many U.S. refiners have now been forced to re-adjust to process lighter grades. While this adjustment has thus far been manageable, some oil analysts expect that U.S. production of light-sweet crude oil will overwhelm our nation's existing capacity to refine these grades as soon as 2015. If this were to occur, the result would be steep price discounts for crude supplies originating in many of the nation's shale plays, a development that could undermine the longevity of the U.S. oil boom.

Although enabling U.S. crude oil exports will likely raise the price of some American crude streams, it should, everything else equal, exert downward pressure on global crude prices as refiners and producers

are able to achieve efficiencies in matching crude streams with optimal refining centers. However, this effect should not be overestimated given a market where daily oil demand and supply is approximately 92 million barrels. U.S. crude oil production must be considered in that context.

Moreover, in the near term at least, the ability of OPEC countries, and particularly Saudi Arabia, to lower production in order to mitigate downward pressure on global oil prices—and thereby offset the effect of increases in production from the United States and other countries—is likely to endure. Perhaps more importantly, adhering to its historical pattern, OPEC members appear to view rising non-OPEC oil production as a signal to forestall investments in new capacity. Thus, beyond the near term, and toward the end of the current decade, a supply crunch could be looming due to underinvestment in Middle East oil production capacity.

Conclusion

Despite a revival in domestic oil production and a decline in imports, American oil dependence continues to constrain U.S. foreign policy and burden a military that stands constantly ready as the protector of the world's vital oil arteries. Today and into the foreseeable future, global oil market dynamics show few signs of a fundamental break from the "new normal" of high and volatile prices as global oil demand continues to grow rapidly in emerging economies and global oil supply—significant bright spots notwithstanding—remains constrained due to geology, economics, or politics, or some combination of all three.

To be sure, the nation has already reaped important economic benefits from our newfound domestic oil abundance, including a stronger balance of trade and substantial job growth. Greater volumes of U.S. supplies flowing into the global oil market have also given a freer hand to our foreign policy at times, most notably with respect to the implementation of binding sanctions on the Iranian oil industry.

Our nation's leaders must be clear-eyed about the dangers we continue to face as a result of America's overwhelming dependence on oil. The reality is that, despite surging U.S. production, the oil market today remains tight, and will continue to be tight in the future. The Department of Energy estimates that OPEC surplus production capacity today stands at just 2.26 mbd, a razor thin margin that could be effectively overwhelmed by an unexpected disruption in any major oil producer. With political instability on the rise in Venezuela, Iraq, and Russia—just to name a few—a debilitating oil price shock remains a very real possibility. With America still dependent on oil for 92 percent of its transportation fuel, U.S. consumers and businesses would pay a heavy price. While taking near-term advantage of increased oil production, we must take the steps now to achieve true energy security in the future.

Chairman ROYCE. Thank you, Admiral Blair. Mr. Hamm.

STATEMENT OF MR. HAROLD HAMM, CHAIRMAN, DOMESTIC ENERGY PRODUCERS ALLIANCE

Mr. HAMM. Good morning, Chairman Royce, Ranking Member Engel. I think the last time I saw the ranking member Engel was on location with a hard hat on in North Dakota in the Bakken oil field up there, and appreciate that. In addition to the DEPA that I represent, also co-chair, the Council for Secure America, where we had several of our friends of Israel that toured the field up there, appreciate that.

Continental Resources is primarily an oil producer, but we've certainly produced our fair share of gas, as well. The American energy independence on the horizon 3 years ago. I've been in a position to see that and actually DEPA put a stake in the ground at that time in October 2011, and that we were going to achieve American energy independence in this country by 2020. Quite a lot of skeptics at that time, but today we don't see near as many.

This technology that's come about is tremendous. You know, we hear a lot about fracking and all that, but really what's gone on is the space-age technology that's brought the horizontal well-bore in existence and the ability to go down three miles, drill over three miles further, and contact so much more rock of this type, rock that we couldn't produce earlier. So, it's a tremendous thing that's happened. It's unlocked a great deal of resources and it's brought about this reality that we have today.

Today I see what's necessary to continue this American oil and gas renaissance to achieve energy security for our country and also the world. This includes utilizing American crude oil as a diplomatic tool to reduce the unfair advantage in the neighborhoods of rogue nations. And although LNG exports can't happen quickly, and someone mentioned it couldn't be done overnight, virtually we could help with oil exports that could have an immediate impact to the world.

You know, during OPEC that was mentioned here, reactionary Federal laws were passed in the 1970s. The Natural Gas Boiler Act was one of those. It took a long time to get rid of that, and brought on a lot of the problems that we have today. The global energy industry has changed during all that time. Elected officials have repealed or let expire nearly all of those post-embargo regulations except those banning exports, those crude oil exports. And we've had almost a virtual ban of LNG. We're seeing a few permits come through, now it's up to seven, but there's been like 25 that's been out there waiting in the wings.

I think the debate really, whether we're going to see lower prices to consumers or not, the real debate is about the principles of free trade in the world. And if America is going to be an energy leader, we're certainly going to have to act like one and be able to export what's produced here.

Will prices of natural gas go up if we're exporting? That is a good question, but I think the real answer to that is that we're going to see a lot of stability in prices as we go forward. We're not going to see the ups and down swings that we've had with natural gas in the past. $2.50 is not good for anybody, it's not good for supply,

and $8 or $10 is not good for the consumers, but we'll see a much broader market as we go forward.

Someone mentioned jobs, heard about 10 million jobs in this industry today. If we're allowed to go forward with exports, I'm sure we're going to add about another 1 million jobs. We're also going to add about 1 million or more barrels of production per day in this country for sure, in addition to what we would as we go forward.

You talk about jobs. Somebody said well, you know, the refineries, you know, if we only refined here the product and ship it out that the large jobs are there. But with the refineries, it takes about as much to run a refinery if you run at 75 percent capacity or 100 percent capacity. The jobs are created downstream, that's where the jobs are.

So, I'll summarize and stop there. You know, you have my testimony, and I'll be ready to answer questions. Thank you.

[The prepared statement of Mr. Hamm follows:]

Statement by Harold Hamm

Chairman and Chief Executive Officer

Continental Resources, Inc.

House Committee on Foreign Affairs Hearing

"The Geopolitical Potential of the U.S. Energy Boom"

March 26, 2014

Chairman Royce, Ranking Member Engel and Members of the Committee, my name is Harold Hamm. I serve as Chairman and Chief Executive Officer of Continental Resources, an Oklahoma City-based independent oil and gas exploration and production company. It's an honor to address you today on the critical subject of crude oil and natural gas exports. As Chairman of the Domestic Energy Producers Alliance and as CEO of the company that co-developed the first field ever drilled exclusively with horizontal drilling, and the company that is the largest leaseholder and most active driller in the Bakken Play, I was in the unique position to be one of the first to see American energy independence on the horizon three years ago. And as technology continues to advance and new supplies of natural gas and premium crude oil are discovered, today I see first-hand what's necessary to continue this American oil and gas renaissance and ultimately achieve energy security for our country. I appreciate you inviting me to share my experience and insight with you here today.

In October 2011, DEPA put a stake in the ground and predicted American energy independence by 2020.[1] America's independent oil and gas producers have unlocked the technology and resources that make this a reality. As a result, we can today mark the recent 40th anniversary of the OPEC oil embargo by ending the era of energy scarcity in America and, along with it, ending the last of shortsighted regulations passed during that period.

The federal laws passed in the 1970s artificially controlled the supply, demand, and price of U.S. energy and brought about unintended consequences. For example, one law even banned the use of natural gas as a boiler fuel and mandated U.S. power plants switch to a less environmentally friendly alternative, coal.[2] Today America is still struggling to rectify the aftermath of this rash regulation.

In the years since the enactment of these laws, our elected officials have recognized our global energy industry has changed dramatically. Thankfully, in response to these changes, legislators have repealed or let expire nearly all post-embargo regulations save two: the Energy Policy and Conservation Act of 1975 and the Export Administration Act of 1979, which together essentially ban crude oil exports.

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[1] Stephen Moore, "How North Dakota Became Saudi Arabia," Wall Street Journal (October 1, 2011)

[2] Powerplant and Industrial Fuel Use Act of 1978 (Repealed in 1987)
http://www.eia.gov/oil_gas/natural_gas/analysis_publications/ngmajorleg/repeal.html

As the world has changed and other similar, post-embargo legislation has been phased out, the question has to be asked, "Why does the United States, a nation historically very supportive of free trade, continue to impose export barriers for domestic crude oil and natural gas?" Free world commerce in energy is vital to the U.S. for many reasons. First, when the government attempts to manipulate the market, unintended consequences and distortions occur. Second, exports will allow America's unconventional oil and natural gas activity to reach its full potential and create millions of jobs at home. Third, by building out oil and gas infrastructure and export capabilities at home, America will never again be held hostage by the energy policy of rogue nations and neither will our European friends and allies around the world.

We have known forever that when you place unnecessary obstacles like import and export restrictions in any chain of products, it causes a knot in that chain. And the resulting inefficiencies cause ripples that result in higher prices for consumers throughout our society and across the entire world. But America has a history of righting earlier wrongs. In the 1980s and early 1990s, natural gas controls were overturned, and the final chapter is about to become a reality. Let's not hold back now. Today, the U.S. has only one LNG export facility, located in Alaska. Seven additional export facilities in the continental U.S. have recently been approved for non-Free Trade Agreement (FTA) exports, with the first slated for completion by the end of 2015. Twenty-four proposed facilities and other potential sites are awaiting permit approval for LNG export to non-FTA countries.

Making America a world leader in LNG exports is a worthy goal, but the truth of the matter is these new export terminals will not be up and running for some time. If we want to have an overnight impact on today's global events, we can immediately begin exporting crude oil, which does not have the same infrastructure constraints. With the 1970s-era rules still in place, however, producers must prove hardship in order to receive a license from the Commerce Department to export crude beyond North America. Why should any industry be singled out and required to prove hardship in order to participate in free markets? Domestic refiners certainly don't have to.

The popular belief is that we're not exporting petroleum. Nothing could be further from the truth. Major oil companies, which are domestic refiners, are exporting petroleum products like gasoline and diesel with no limitations. In fact, recent EIA data shows the U.S. is exporting more than 4 million barrels of petroleum products per day.[3] Why shouldn't independent producers be allowed to do the same? Are we to be their milk cows? That would be like telling American farmers they can't export wheat, yet allowing Pillsbury to export all the flour they want.

[3] Total exports of petroleum and other liquids reached 4.4 million bpd in December 2013, according to recent EIA data. http://www.eia.gov/dnav/pet/pet_move_exp_dc_nus-z00_mbblpd_m.htm

So you can see, it isn't a question of whether we should allow petroleum exports – we already are. The real question is why should one link in the chain benefit arbitrarily from distortions caused by laws restricting free commerce?

When you consider the potential for job creation, it really puts these distortions into perspective. Refining doesn't create jobs. Once a refinery is built, it takes the same number of employees to run it at 75% of capacity as it does at 100%. Jobs can only be added through the supply side, or upstream industry. And unlike most dividend-paying refining companies, many independent oil and gas producers reinvest 100% of their earnings into new American projects and jobs.

At a time when unemployment sits at nearly 7% and, more importantly, U.S. labor force participation has fallen to just 63%,[4] unconventional upstream oil and natural gas activity has added jobs for millions of Americans – both directly and indirectly through energy service and equipment companies. It has also served as a job multiplier for our nation's growing chemical and manufacturing industries. To this point, a recent IHS[5] report issued in September 2013 on unconventional oil and gas found that:

- Employment attributed to unconventional oil and gas and petrochemical activity currently supports more than 2.1 million jobs. IHS projects it to grow to 3.3 million jobs by 2020 and 3.9 million jobs by 2025.
- In 2012, the unconventional oil and gas and petrochemical industries contributed nearly $284 billion to GDP. IHS projects this to grow to $468 billion in 2020 and $533 billion by 2025.
- Unconventional energy increased U.S. household disposable income by $1,200 in 2012. IHS projects the contribution to increase to $2,000 per household in 2015 and $3,500 per household in 2025.
- Unconventional energy activity and employment contributed more than $74 billion in government revenues in 2012 and is projected to increase to $138 billion per year in 2025.

It's worth noting, however, that the oil and natural gas business is very capital intensive, and these figures just mentioned are predicated upon maintaining current tax provisions. Without current law regarding intangible drilling costs (IDCs) and percentage depletion,[6] producers

[4] Bureau of Labor Statistics. http://data.bls.gov/timeseries/LNS11300000. As of February 2014.

[5] IHS "U.S. Unconventional Oil and Gas Revolution to Increase Disposable Income by More than $2,700 per Household and Boost U.S. Trade Position by More than $164 billion in 2020, New IHS Study Says," September 4, 2013. http://press.ihs.com/press-release/economics/us-unconventional-oil-and-gas-revolution-increase-disposable-income-more-270. Accessed September 24, 2013.

[6] IDCs represent typical and ordinary business expenses within the oil and gas industry. This provision is not a tax subsidy or loophole. IDCs permit a portion of the costs of drilling a well to be deducted fully in the year those costs are incurred, rather than being capitalized over several years. Percentage depletion is akin to typical depletion

would not be able to generate the capital necessary for the continued growth in domestic drilling and production activity.

Beyond its economic benefits, supporting domestic oil and natural gas production is vital for our national security. Indeed, the growth in domestic energy production over the past several years has contributed to a significant drop in U.S. reliance on imported oil.[7] But national security and oil exports are not mutually exclusive; in fact, they go hand-in-hand. The authorization of oil exports promotes investment in additional energy resource and infrastructure development at home, enabling our nation to better control its own energy future. In the age of America's oil and natural gas renaissance, true energy security is no longer measured by the quantity of spare oil and gas immediately on hand; rather, it is defined by the infrastructure available to produce these commodities in a time of national or international emergency.

Energy independence doesn't mean being isolationist. As we've seen in Cuba, Venezuela and North Korea, closed societies don't work. Energy independence means energy security. It means a chance for America to step back into a global leadership role by creating a world of balanced interdependency as opposed to dysfunctional interdependency. And it means no one can choke off supply, turn on the tap, or otherwise distort the market.

This is particularly relevant today, as Russia has occupied recent headlines with its aggressive actions in the Crimean Peninsula. The U.S., and in particular, E.U. nations have weighed punitive measures against the fear of potential repercussions, including the choking off of valuable Russian energy supplies to Europe. Some commentators have said that U.S. LNG exports to Europe may be used to counter this. Indeed, Russia's "energy weapon" is primarily one of gas, not oil. However, while opening LNG exports is a noble goal and one that we as a country are actively working towards, the fact is the infrastructure to undertake large-scale overnight LNG exports does not currently exist.

While Russian gas displacement with U.S. LNG may not yet be achievable, crude oil exports *are* possible immediately and may be used as a diplomatic tool to weaken the influence of our geopolitical adversaries. Unlike natural gas exports, crude oil exports are easier to accomplish because the commodity is already in a liquid state, meaning complex liquefaction facilities and cryogenic LNG tankers and terminals are not required. U.S. oil exports would serve to dampen global price volatility and reduce the leverage wielded by global players like Russia and OPEC nations that do not always share our best interests. Indeed, exports would allow America to gain back the foreign policy ground that's been lost since the Reagan presidency.

Rather than employ near-term punitive measures, the solution is to continue promoting the development of our domestic oil and gas industry while lifting the ban on crude oil exports.

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taken by other industries, except that the depletion is available throughout the economic life of a well because of the depleting nature of oil and gas..

[7] Bureau of Economic Analysis, "U.S. Trade in Goods (IDS-0182)." Accessed July 12, 2013.

This would, in turn, weaken the long-term influence of our global adversaries and smooth global energy price volatility. In doing so, we would diminish the ability of all nations to roil markets in pursuit of self-serving ambitions.

In conclusion, world energy markets have drastically changed since America was shaken by the twin oil price shocks following the OPEC oil embargo and Iranian Revolution in the 1970s. But due to the hard work and ingenuity of men and women in this country, our nation has recovered from those dark times. Now we need to focus our efforts on doing away with the reactionary crude export ban that was enacted during that era, a ban that was largely symbolic in the first place, as we had no oil to export. Americans and consumers worldwide will all benefit from lower prices at the pump and lower home heating and cooling bills when oil and gas distribution channels become more efficient and competitive. Finally, by immediately lifting crude export restrictions, America can provide greater world energy security today, ensuring we aren't held hostage by energy weapons and neither are our friends.

Chairman ROYCE. Thank you, Mr. Hamm. Ms. Rosenberg.

STATEMENT OF MS. ELIZABETH ROSENBERG, SENIOR FELLOW AND DIRECTOR, ENERGY, ENVIRONMENT AND SECURITY PROGRAM, CENTER FOR A NEW AMERICAN SECURITY

Ms. ROSENBERG. Chairman Royce, Ranking Member Engel, and distinguished members of the committee, thank you for the opportunity to testify today on the Geopolitical Potential of the U.S. Energy Boom. In my remarks, I'll discuss several themes that are explored in much greater detail in my written testimony, which I have submitted for the record.

Remarkable recent increases in U.S. energy production have substantial economic and geopolitical benefits. Aside from strengthening our economy, which is instrumental to our nation's security, the domestic energy boom means that a larger portion of global oil and natural gas supply comes from reliable sources.

The broad innovation and economic gains associated with the energy boom reduce U.S. indebtedness, including to countries sometimes hostile to U.S. interests, and allow the United States new capacity and flexibility to advance foreign policy interests.

To fully realize the geopolitical potential of the U.S. energy boom, however, national leaders must revise paradigms and policies that restrict energy exports. We would not be wise to hoard energy at home, and disengage from strategic relationships with major global energy producers. That approach will not make us safer.

We would have more scope to promote stable global markets, U.S. prosperity, and our foreign policy interests with greater energy production and a more nimble and permissive export regime for liquified natural gas or LNG, and crude oil.

For this reason, national leaders should accelerate the permitting of LNG export facilities and allow the export of crude. U.S. crude exports are subject to near total restriction currently. Lifting these restrictions would ease supply bottlenecks and market dislocations, and signal drillers to continue production growth. This would generate more revenue and expand the share of global crude from a stable producer, crude exports would raise some oil prices in some parts of the United States to come in line with global benchmark pricing; however, it's unlikely that this would increase retail gasoline prices for consumers, and they might even drop marginally.

If the United States maintains current crude export restrictions it will prevent U.S. oil production expansion. This means foregoing an opportunity to shrink OPEC's market share and its cartel pricing power. Foregoing crude exports would also mean reduced U.S. policy leverage over Iran. If international nuclear talks with Iran fail, U.S. policy leaders may want to implement tough new sanctions to remove all Iran's oil exports from the market.

Congressional proposals to this effect are credible if sufficient affordable alternative oil supplies are available so that the international community will participate in sanctions. The United States should help insure that these alternatives are available by encouraging its crude production and exports instead of relying on OPEC to do so.

Future planned U.S. LNG exports represent an economic and strategic benefit for the United States. They would bring greater

supplier diversity, more competitive pricing arrangements, and less politicized contract terms for allies and partners abroad. The United States is a stable producer and would ship LNG along trade routes that involve few maritime choke points and hot spots. U.S. LNG would represent an important economic plank of the U.S. rebalance to Asia, and would meaningfully contribute to the energy security of America's alliance partners in Northeast Asia.

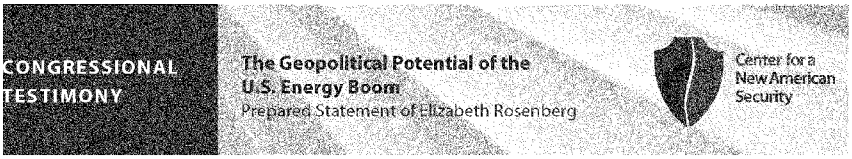
Additionally, LNG exports will directly and indirectly help to diversify European gas markets away from their 30 percent reliance on Russia. This, other technical assistance, and diplomatic engagement to help Europe access its indigenous shale gas and reform regional markets will have meaningful impact in eroding Russian pricing power, and coercion on Europe.

Refraining from selling LNG or crude abroad in order to support domestic manufacturing or refining industries, or to halt energy production growth would undermine U.S. foreign relations and the scope of our leadership abroad. It would also cause the United States to lose out economically to other countries that promote greater production and export.

As the United States thinks about the energy and foreign policy agenda that can best promote prosperity and our national interest, it must prioritize responsible production of energy and its unencumbered export.

Thank you for the opportunity to testify. I look forward to answering your questions.

[The prepared statement of Ms. Rosenberg follows:]



March 26, 2014

Testimony before the House Committee on Foreign Affairs
The Geopolitical Potential of the U.S. Energy Boom

Prepared Statement of Elizabeth Rosenberg
Senior Fellow and Director of the Energy, Environment and Security Program
Center for a New American Security

Chairman Royce, Ranking Member Engel, and distinguished members of the Committee, thank you for the opportunity to testify today on the geopolitical potential of the U.S. energy boom.

Remarkable recent increases in U.S. oil and gas production have had substantial positive economic effects. They are changing the way Americans use and trade energy and the way we think about the strategic value of energy resources. For decades this nation considered energy a scarce resource and framed investment in energy infrastructure and energy policy around the expectation of dependence on imported energy. But the application of sophisticated, unconventional energy extraction technologies over the last several years has ushered in an era of relative energy abundance and turned the tide on energy import dependence. The United States is the top global natural gas producer and will be the largest oil producer, surpassing Saudi Arabia, by next year, according to the International Energy Agency (IEA).

Prolific U.S. oil and gas resources have important geopolitical significance. They also have striking benefits for U.S. industrial manufacturing competitiveness and the trade deficit, which reached its lowest level in four years last year. Expanding U.S. energy supplies means that a larger portion of global oil supply comes from reliable sources. This supports well-supplied international markets and can erode the cartel pricing ability of some global energy producers. The broad innovation and economic gains associated with the energy boom reduce U.S. indebtedness, including to countries sometimes hostile to U.S. interests, and allow the United States new capacity and flexibility to advance foreign policy interests.

To fully realize the geopolitical potential of the U.S. energy boom, however, national leaders must revise paradigms and policy that restrict energy exports. A new national energy policy should encourage production and embrace a more nimble and permissive regime for liquefied natural gas (LNG) and crude exports to enhance energy and national security.

Global Energy Trade is in the U.S. Interest

Shunning energy exports with the assumption that only domestic energy supplies can make us safer and more prosperous fundamentally misunderstands how energy markets work. With abundant new domestic energy supplies, it is no surprise that we hear enthusiastic calls in the United States for "energy independence" or self-sufficiency. It would be easy to assume that we should try to replace oil imports from some unstable, dangerous and hostile overseas producers with only stable, abundant, domestic energy supplies. Particularly because natural gas and crude oil are relatively cheap in some U.S. regions due to infrastructure bottlenecks and export restrictions, they seem particularly attractive compared to supplies purchased from abroad. The reality is more complex. The interconnectedness of global energy

markets and the economic and geopolitical benefits of active international trade in energy means that the United States should support unencumbered energy exports.

The United States will continue to require oil supplies from overseas for the foreseeable future. Irrespective of the amount of domestic oil production, it will remain impossible to render the U.S. economy (and American consumers) immune from global oil market disruptions or shocks. The price of oil is set in the global market and all oil consumers are subject to the same price movements, even if those are spurred by events far beyond their borders. The United States will become the largest crude producer next year, and will be self-sufficient in natural gas by 2017, according to the U.S. Energy Information Administration (EIA). But it would be counterproductive to hoard energy at home and withdraw from trade and strategic relationships with energy players abroad. Even while we reap economic benefits from exporting value-added refined petroleum products, as well as natural gas liquids, we miss out on additional economic and valuable geopolitical opportunities by restricting crude and moving very slowly to permit natural gas exports.

Increasing international trade in energy, including U.S. exports, is compatible with enhancing energy security. In the case of oil, U.S. policymakers should promote energy security and insulate the U.S. economy from oil market price spikes by focusing primarily on *using* less, rather than focusing primarily on *importing* less, oil. Strong policy to increase energy efficiency and alternatives, including natural gas, can help achieve this goal. Using less oil in the transport sector is a particular challenge as petroleum products account for 97 percent of fuels. Vehicle fuel economy standards are an important step in the right direction. They have delivered significant energy savings, doubling since the 1970s, and are set to increase by more than 50 percent by 2040, according to the EIA.

Another important energy security strategy is maintaining sufficient strategic oil and refined product stocks in the United States to help soften the impact of market shocks. This should be paired with strong international coordinating mechanisms to manage global strategic stock releases during times of supply disruption.

New Energy Statecraft

The United States should develop and use new tools of energy statecraft to serve foreign and security policy interests drawing on its tremendous experience in exploiting new energy technology and resources. They can be used separately or in tandem with trade or visa restrictions, targeted financial measures or development assistance. But together, they form a suite of economic measures that can create diplomatic leverage and, ideally, deter aggressive confrontation. In a period of budget austerity, policymakers cannot afford to overlook creative economic options or collaboration with international allies to advance national security priorities. Additionally, economic statecraft may help to avoid relying on the military for safeguarding oil trade.

The tools of energy statecraft are energy policy, trade and technical assistance measures that can punish adversaries and support allies. In large part, their utility relies on well-supplied markets and, in some cases, on an ability to export energy. Tough sanctions that brought Iran to the negotiating table are an

example of energy statecraft. They were made possible to a large extent by prolific, new domestic oil supplies on the market. Another energy statecraft tool, LNG export, is made feasible because of the flood of natural gas in the United States. LNG export will generate political goodwill abroad and revenue at home. Energy statecraft tools also include diplomacy and foreign assistance to promote energy development and market reform abroad. They are deployed, for example, by U.S. government programs to help foreign governments develop shale resources.

Another energy statecraft tool is sales or swaps of oil from the Strategic Petroleum Reserve (SPR). With more domestic oil production and decreasing oil imports, the United States will rely less on the SPR to replace disrupted supply. Therefore, it has increasing flexibility to use this stockpile to influence the market for other, possibly geopolitical, reasons. However the constitution, location and criteria for use of the SPR should be reassessed to ensure that this stockpile maintains its strategic value. It should include more medium or heavy grades of crude, to balance the increasing share of light crudes produced domestically. The location of stockpiles should also be diversified away from the Gulf Coast. If more refined product is held on the East Coast, it would more quickly and easily serve major market centers during a supply disruption.

Crude Exports

Permitting the export of U.S. crude, currently subject to near-total restriction, would strengthen the U.S. economy and convey geopolitical benefits. By trading its crude overseas the United States would expand the portion of reliable U.S. energy supplies in the market. Specifically, lifting crude export restrictions would ease U.S. supply bottlenecks and market dislocations, and signal drillers to continue production growth. This would raise some crude prices in the United States to come in-line with global benchmark pricing. However it is unlikely that this would broadly increase retail gasoline prices for consumers. They could even drop marginally, between three to seven cents per gallon, according to experts at Resources for the Future.

Current refinery capacity, even with planned upgrades, looks unlikely to be able to accommodate the large volumes of light crude in the midcontinent as they continue to expand this year and beyond. Permitted exports to Canada or swaps with Mexico will eventually be maxed out. Without the crude export relief valve, oil companies will pull back on what will be increasingly uneconomic production. Industry estimates of when this point will arrive vary, though they place this point in the near future. Analysts at IHS and Barclays believe it will occur in 2015, for example.

Restricting crude exports while permitting and encouraging the export of other energy exports is arbitrary and does not insulate consumers from price spikes. Refined products and natural gas liquids, as well as energy technology and services, are much more easily exported than crude. They generate important revenue and competitiveness advantages for the U.S. economy. However, elevating the export of these over the export of crude lacks a strategic basis. It may also have negative geopolitical consequences for the United States. For example, foregoing crude exports means foregoing an opportunity to expand the global oil market share of a stable producer. Significantly, such an enlarged market share could enhance oil market stability and erode the cartel pricing control of OPEC.

Foregoing crude exports may also reduce policy leverage over Iran. If international nuclear talks with Iran fail, U.S. policy leaders may want to implement tough new oil sanctions on Iran. Congressional proposals to this effect seek the removal of Iran's remaining roughly 1 million barrels per day of oil exports from the market to starve the regime. However, this threat is only credible if sufficient, affordable alternative oil supplies are available so that the international community will participate in sanctions. The United States would help to ensure that these alternatives are available by encouraging its crude production and exports. This will mean that the United States more robustly supplies international markets, rather than relying on other countries, mostly OPEC members, to do so.

U.S. LNG Exports

For the recipients of future planned U.S. LNG exports, these new supplies represent an economic and strategic benefit. The United States is a stable producer and would ship LNG, in most cases, along trade routes that involve few maritime choke points or hot spots. In markets abroad, U.S. LNG will bring greater supplier diversity, more competitive pricing arrangements and less politicized contract terms. For the United States, selling LNG will slightly increase domestic natural gas prices, though they will still be lower than those in Asia and Europe. Also, the United States will retain a competitive environment for gas-intensive manufacturing. According to NERA Economic Consulting, "there is no support for the concern that LNG exports…will obstruct a chemicals or manufacturing renaissance in the United States."

Despite the likely gas price increase associated with LNG exports, the effect LNG exports will have on domestic revenue and in strengthening U.S. strategic and economic ties with key allies and partners make them well worthwhile. Refraining from selling LNG abroad in order to support domestic gas-intensive manufacturing industries or halt gas production would undermine foreign relations and the scope of U.S. leadership abroad. It would also cause the United States to lose out economically to Canada and other countries that proceed to sell LNG overseas.

For Northeast and East Asia, where a substantial portion of planned U.S. LNG exports are likely to flow, LNG trade would constitute an important economic plank of the U.S. rebalance to Asia. According to expert analysis from the Institute of Energy Economics, Japan, the amount of U.S. LNG currently under contract with Japanese buyers at the six U.S. LNG export projects with Department of Energy (DOE) permits could equal almost 18 percent of Japanese LNG imports last year.

U.S. LNG cargoes may flow to Europe as well, diversifying the regional gas supply base and diminishing Europe's dependence on Russian gas imports and political influence. The mere potential for U.S. supplies to move to Europe creates the market expectation that Europe can diminish its 30 percent reliance on Russian gas. In the face of anticipated European gas supply diversity, as well as increased pricing transparency, Russia has already conceded to cheaper contract terms with European purchasers. In the recent past, LNG cargoes that would have landed in the U.S. market, were it not saturated with gas, instead landed in Europe. This additional LNG supply diversified suppliers, increased price competition and helped force Gazprom to cut some European gas prices.

The DOE should hasten the diversification of European gas and more competitive pricing in that market by accelerating consideration of the 25 LNG permit applications in the queue. It should also give special "national interest" consideration to LNG export projects that could supply Europe, a possibility that Energy Secretary Ernest Moniz recently acknowledged. The LNG export market will probably only support the construction of a few of the proposed U.S. LNG projects. But with all options on the table, market participants would maximize U.S. gas production and the potential benefits to global gas consumers, including those in Europe.

Even if U.S. LNG does not ultimately flow directly to Europe, it will displace LNG cargoes from Africa, the Middle East or Australia that would have moved elsewhere, likely to Asia. Europe can purchase those displaced cargoes, a step that will help diversify European gas supply and chip away at Russia's European gas pricing power. It may also erode Russia's gas pricing power in Asia, because that market too will have more suppliers, including the United States, vying for market share.

Promoting European Energy Security

In the case of Ukraine's need for gas and its vulnerability to politicized Russian supply arrangements, the prospect of U.S. LNG exports offers no immediate relief. The first U.S. LNG export facility will not ship cargoes abroad until late next year, and those cargoes will likely flow primarily to Asia where gas prices are highest. Even if U.S. LNG cargoes could go to Europe now, Ukraine has no LNG receiving terminal and Turkey will not allow LNG tankers to transit the Bosphorus in order to access Ukraine's coast. However signaling that the U.S. plans to permit and export more LNG in the future would provide a marginal immediate benefit to Europe in the form of a signal of European gas diversity to come. This would be an indication to Russia that it will have to concede to more competitive pricing to maintain market share.

Aside from permitting the export of LNG, there are other strategies the United States can employ to help Europe develop and diversify its energy supplies, whittle down Russian gas price control, and create more transatlantic energy leverage. The U.S. government can help Europe access its indigenous shale gas resources by working with the U.S. private sector to support technology transfer. Also, U.S. officials can provide technical assistance and engage diplomatically with counterparts to help European countries develop the necessary legal, regulatory and tax structures for companies to produce shale gas. In fact, such U.S. government technical assistance and diplomatic engagement with Asian countries could help them meet gas demand locally and eventually free up global LNG for the European market.

U.S. officials can also support European energy diversity with diplomatic engagement to encourage market and gas pricing reform. Additionally, they can work with lending institutions and counterpart governments to help facilitate public or development bank financing for pipeline projects or expensive LNG import projects that some European countries struggle to lock in. Encouraging energy efficiency and alternative fuels, and urging the removal of oil or gas energy subsidies that distort market forces, are other useful efforts U.S. officials can promote in Central and Eastern Europe. They are already assisting with some of this critical work, but they should make a larger, sustained commitment to these efforts. This

work will not offer a quick fix for Ukraine or Europe, but with additional and sustained U.S. efforts this could begin to cause a very meaningful, permanent economic impact over time.

In the immediate future, further sanctions against Russia present an opportunity to show opposition to Russia's provocative and aggressive actions in Crimea. Sanctions also serve as a serious warning to international investors in Russia—particularly in lucrative economic sectors, such as energy—about the risks and possible punishment of economic engagement with an aggressor. However, as policymakers consider additional sanctions, and possible Russian countermeasures, they must be aware of the broader ramifications of broadly targeting the Russian energy sector or state energy companies. Russia is the third largest global oil producer and the second largest gas producer. In 2012, 79 percent of its oil exports and 76 percent of its gas exports went to neighbors in Europe, according to the EIA. Sanctioning Russian energy companies would have significant global oil market impacts that would be felt in economies still recovering from the financial crisis. It would also require the participation of our allies in Europe, who would most immediately suffer economic pain, making this option an extraordinarily hard sell and perhaps too painful to enforce.

Conclusion

The rapid expansion in U.S. unconventional energy production offers both foreign policy benefits and economic growth and competitiveness benefits. It raises concerns about exporting jobs or economic benefits, should the United States embrace a more permissive energy export policy. It also raises concerns about the environmental and community effects of the energy boom and further growth in unconventional energy globally. A careful consideration of all of these issues is appropriate and necessary for American leaders to balance competing interest and to implement smart energy exports policy to realize the potential economic, security and geopolitical benefits of the U.S. energy boom.

Chairman ROYCE. Thank you. Dr. Levi.

STATEMENT OF MICHAEL LEVI, PH.D., DAVID M. RUBENSTEIN SENIOR FELLOW AND DIRECTOR, PROGRAM ON ENERGY SECURITY AND CLIMATE CHANGE, COUNCIL ON FOREIGN RELATIONS

Mr. LEVI. Chairman Royce, Ranking Member Engel, members of the committee, thank you for inviting me to speak with you here today. I'm a Senior Fellow for Energy and Environment at the Council on Foreign Relations, and Director of CFR's program on Energy Security and Climate Change.

Rising U.S. oil and gas production is delivering important economic security and climate benefits even as it poses real environmental challenges. I want to begin by discussing these in the context of energy exports in Russia before touching on some broader issues.

The United States should allow both oil and gas exports. The basic geopolitical calculation is not fundamentally about Russia. The United States has long promoted open markets as the best guarantor of energy security. In the last 2 years, it has effectively challenged Chinese restrictions on raw materials exports at the World Trade Organization. If the United States were to block exports or restrict them only to friends or NATO allies, that would undermine its ability to challenge other countries' restrictions, and to uphold a global open trading system. Turning our back on our longstanding strategy would be unwise.

Exports are, however, not without costs. While both oil and gas exports would on balance be mildly beneficial to the U.S. economy, and while oil exports would probably nudge gasoline prices down, natural gas exports would raise the domestic natural gas prices slightly, increasing home heating and electricity bills. At a minimum, Congress should mitigate harm to the most vulnerable by insuring that the Low-Income Home Energy Assistance program is properly funded.

Energy exports would also promote greater domestic energy development, and along with it local environmental risks. That makes it all the more important for state authorities to develop strict environmental rules and for the Federal Government to impose minimum national standards, including for disclosure, where practical.

I haven't said anything yet about Russia. Let me focus first on natural gas. U.S. natural gas exports would, indeed, hurt Russia. U.S. exports would prompt Russia to lower its natural gas prices, reducing Russian revenues and harming the state. The ultimate impact, though, would be limited by the fact that relatively high-cost delivered U.S. gas exports can push prices down too far, and because Russian revenues are dominated by oil, not gas sales.

U.S. natural gas exports would do far less to reduce European dependence on Russian natural gas. U.S. exports will flow mainly to Asia because that is the most profitable destination. Russia can largely maintain its market share in Europe by under pricing U.S. exports. In addition, in a future crisis Europe's ability to shift from Russian to U.S. supplies will be limited by scarce terminal and pipeline capacity.

Expediting or eliminating the Department of Energy review process wouldn't fundamentally change any of this analysis. Commercially attractive projects have mostly been able to get DOE approval. It is the commercial fundamentals and the time to build facilities that is the main restraint on U.S. exports.

I haven't mentioned oil exports in the Russian context yet. That's because oil exports are a fairly weak tool against Russia. Europe can already buy oil from elsewhere if Russian supplies are cut off. It doesn't need U.S. exports to do that. Our own oil exports might also eventually reduce world oil prices by a few dollars marginally hurting Russia, but not dealing it a large blow.

I'd like to close with two broader observations about the geopolitical potential of the energy boom. The first is that the greatest security dividends will come from increased production, not from increased exports per se. How different would our conversations about how to confront Russia today be if we were a natural gas importer, which is what essentially every expert predicted 10 years ago?

On the oil front, the greatest geopolitical dividend is a reduced risk of higher oil prices, and all the security complications that entails. It's impossible to pin down the precise impact of the U.S. boom on oil prices, but the odds of higher prices have been reduced.

The second broad observation is that we create real risks by overstating the benefits of the boom. The oil boom will not make us energy independent in any meaningful way, and it's essential that we continue to pursue efforts to cut our own oil consumption in order to reduce our vulnerability to disruptions in the world.

It's also essential that we carefully weigh the environmental risks of oil and gas production in deciding what areas to open to development. In fact, I would submit that putting our industry on as firm and sustainable a regulatory foundation as possible is essential to fully exploiting the long-term geopolitical opportunities presented by the boom.

Members of the committee, thank you again for inviting me to be here today. I look forward to answering any questions you have.

[The prepared statement of Mr. Levi follows:]

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March 26, 2014

The Geopolitical Potential of the U.S. Energy Boom

Prepared statement by
Michael A. Levi
David M. Rubenstein Senior Fellow for Energy and the Environment
Council on Foreign Relations

Before the
Committee on Foreign Affairs
United States House of Representatives
2nd Session, *113*th Congress

Booming production of U.S. oil and gas is delivering economic, security, and climate change benefits. The geopolitical dimension – notably the prospect of energy exports – has attracted particular attention in recent weeks as the United States has sought new leverage against Russia. The United States should allow energy exports but be modest about what they can accomplish. In particular, while the prospect of U.S. energy exports could usefully reduce Russian energy export revenues, U.S. exports will not displace Russia from its dominant position in the European market; claiming otherwise reduces U.S. credibility. It is also important for policymakers to anticipate and mitigate downsides from the energy boom and from energy exports.

Production Forecasts

Debate continues over how much tight oil and shale gas the United States can ultimately produce. Skeptics point to the fact that individual wells initially produce large amounts of oil and gas before production falls off rapidly. But modeling of U.S. output under a wide range of assumptions confirms that, so long as oil prices do not plunge, U.S. oil and gas production should remain well above the levels seen in the previous decade. There is considerably less certainty about precisely how high U.S. oil and gas output will rise, with uncertainty in geology, technology, demand, and regulation remaining, but the upside potential is high. I note this to emphasize that my warnings about overstating the geopolitical benefits of the energy boom do *not* stem from pessimism about future production. Rather, they are grounded in concerns about the connections that people have claimed between rising oil and gas production and consequences overseas.

Natural Gas Exports

Geopolitical Consequences

Many observers have argued that allowing natural gas exports could be a large weapon against Russia. These claims contain a kernel of truth but have consistently been overstated. Europeans' ability to quickly shift from Russian to U.S. natural gas in a future crisis would be severely limited by infrastructure constraints even if the United States expanded its LNG export infrastructure: unless European companies build a large number of LNG terminals and pipelines and then idle them – something that profit-seeking companies rarely do on purpose – there will be limited capacity to absord a sudden influx of U.S. LNG in a crisis. Moreover, the United States is unlikely to seriously erode Russia's share of the European market: Russian gas is substantially cheaper than delivered U.S. LNG, so Russia can maintain its market share by underpricing the U.S. supplies. (Private U.S. producers will not sell gas at a loss to hurt Russia.) This does, however, point to the one major way in which U.S. LNG can hurt Russia: by forcing Russian selleres to cut their prices, it would put pressure on Russian revenues, undermining the Russian state.

The strongest argument for allowing exports has nothing to do with weakening any particular country. Instead, is that *blocking* exports would undermine U.S. efforts to promote the open global trading system that generally benefits the United States. In particular, the United States has effectively opposed Chinese restrictions on raw materials exports at the World Trade Organization (WTO). Imposing major restrictions on U.S. natural gas exports would undermine U.S. leverage against similar practices by China and others.

Beyond Europe, U.S. LNG exports can also yield geopolitical dividends in Asia, helping break down the rigid and politicized natural gas trading system that prevails there. This will only happen if the bulk of U.S. LNG exports come with no restrictions on their ultimate destinations, as has been the trend thus far.

Economic and Environmental Issues

Much of the debate over LNG exports, of course, has centered around economic and environmental impacts. My estimates indicate that the long-run economic benefits of allowing exports exceed the costs by as much as several billion dollars annually but not more – a small number in a sixteen trillion dollar economy. Because natural gas exports would boost demand for U.S. gas, they would raise the price of natural gas sold in the United States. Most robust estimates of that impact range from zero to a little more than a dollar for thousand cubic feet of gas. (The average U.S. residential consumer buys about seventy thousand cubic feet of natural gas a year.) This price increase would induce greater drilling for gas while deterring some energy-intensive manufacturing. Analysts typically reject predictions of substantially larger export-driven price increases because higher priced U.S. gas would not be attractive in foreign markets.

While recognizing the benefts, it is essential to keep the economic costs in mind. Chief among these is the burden on lower-income consumers, who might pay roughly fifty dollars more a year for electricity and fuel, a non-trivial increase. The prospect of exports makes it all the more important to maintain the Low Income Home Energy Assistance Program (LIHEAP), which shields vulnerable consumers from higher natural gas prices. There have also been concerns that energy-intensive manufacturers would be significantly damaged

by exports. This would be true for a limited number – particularly in fertilizers – but for others, the impact is either slight of highly variable among regions. For example, some steelmakers would suffer marginally from higher natural gas prices; other might worry about competition for engineering and project management services; and still others would benefit from increased steel demand originating in the natural gas industry.

Exports would also increase local environmental risks as a result of more drilling. The prospect of expanded exports makes it all the more important that the United States put in place strong regulations to ensure that drilling – whether for domestic consumption or export – is done safely. Much of the necessary framework should be put in place by state and local governments, but some minimum federal standards (including for chemicals disclosure and air emissions) would be wise, helping protect the boom from a backlash.

Policy Levers

What tools do the administration and Congress have if they wish to increase U.S. LNG exports? Recent attention has focused on the possibility of accelerating (or eliminating) the Department of Energy (DOE) approval process for LNG exports to countries with which the United States does not have a special free trade agreement ("non-FTA countries"). Critics of the current process point out that only seven applications have been approved and that another twenty-five are pending. No serious analysts, however, believe that most of the projects waiting in the queue would be built *even if they were approved*. Most of these projects have not been able to find buyers or financiers, and those that have found customers generally plan to ship their gas to Asia. The main barrier to U.S. exports to Europe is not the DOE process – it is the lack of commercial demand for relatively high-cost U.S. gas. At the same time, were the United States to remove the DOE approval process, it would lose an important bargaining chip in trade talks with Japan and Europe.

If the United States wishes to speed up export approvals, it should focus on the Federal Energy Regulatory Commission (FERC) approval process, which is more complex and slower than DOE's. Accelerating the FERC process while maintaining its integrity would require a modest increase in the FERC budget.

The United States should also be careful to avoid export policies that would backfire. There has been widespread discussion about providing blanket approval for exports to NATO allies. This would be unwise: since some European countries are not NATO members, no European countries – which are rightly required to allow the free flow of natural gas within Europe – would be able to receive LNG whose ultimate destination was restricted to NATO. There have also been calls to provide blanket approval for exports to Europe, Japan, and perhaps India. This would also be dangerous: it would, in practice, be tantamount to an "anyone but China" export policy, which would undermine decades of efforts to persuade China to rely on markets rather than policital alliances to ensure the security of its energy supplies.

Oil Exports

Allowing oil exports would be less geopolitically consequential than allowing natural gas exports and would likely have less impact on Russia. As in the case of LNG exports, the most powerful reason to allow oil exports is that *blocking* them would undermine the United States's ability to promote open markets more broadly. Beyond that, allowing oil exports would do little to change the basic structure of oil markets, which are already far more flexible than gas markets. In particular, Russia has little ability to cut off European oil

supplies today, since Europe could turn to other supplies on the international market to make up shortfalls. There is no fundamental geopolitical problem with oil markets that allowing U.S. oil exports would fix.

Allowing oil exports would likely deliver positive but limited economic benefits to the United States. Exports would help oil producers while hurting refiners; they would probably reduce the price of gasoline very slightly as well. (There are no robust estimates of these impacts available yet.) There have been claims that allowing exports could turbocharge U.S. oil production by raising the price received by U.S. drillers by as much as ten dollars a barrel or more. These claims are typically grounded in the observation that U.S. drillers currently sell their oil at a steep discount to international prices, and that allowing exports would erase much of that discount. But even without allowing exports, U.S. and international prices will converge considerably, as U.S. refiners and pipeline operators make investments designed to exploit abundant U.S. light oil. The extra boost provided by exports would thus be much smaller than many expect.

The main international consequence of allowing oil exports (including for Russia) would be to slightly reduce the world price of oil (as a result of slightly higher U.S. production), damaging oil exporters while helping importers. It is difficult, however, to envision a scenario in which allowing U.S. oil exports reduces world oil prices by more than a few dollars a barrel, and it is easy to envision scenarios in which the impact is considerably smaller. The geopolitical consequences of allowing exports would similarly be limited.

Other Geopolitical Benefits and Risks from the Oil and Gas Boom

Imagine for a moment that the shale gas boom had not happened. The United States would today be a major importer of liquefied natural gas (LNG). The U.S. government would be approaching the Russia-Ukraine crisis differently Any interruption of Russian natural gas flows to Europe would send Europeans scrambling for supplies on the international market, driving up costs for everyone, including U.S. consumers. With that potential in mind, policymakers might be more hesitant to confront Russia, distorting U.S. foreign policy. This greater insulation from events abroad is likely to be the largest geopolitical dividend of the gas boom.

The main geopolitical consequences from the U.S. oil boom will also result from dynamics unrelated to exports. Rising U.S. oil production will restrain oil price increases. How much so is highly uncertain, and depends on oil production decisions by Saudi Arabia and, to a lesser extent, other major oil producers; the long-run impact of higher U.S. oil production could be as little as a few dollars a barrel (perhaps the most likely case) and as much as twenty dollars a barrel or more. At a minimum, rising U.S. oil production reduces the risk of substantially higher oil prices. Lower oil prices are good for U.S. economic growth, reduce U.S. exposure to oil market disruptions overseas and thus increase U.S. freedom of action in the world, harm oil exporters (some but not all of which are hostile or unfriendly to the United States), and help oil importers.

Changing trade patterns resulting from lower U.S. oil imports will also alter countries' approaches to each other. In principle, countries should not care much about where they buy their oil from, since oil is traded on a flexible global market. In practice, leaders do care, which means that shifting trade patterns resulting from the U.S. oil boom will have real consequences for international relations. For example, with Middle Eastern producers sending less of their oil to the United States and more to China, they are likely to become more concerned about maintaining good relations with Beijing, however economically unjustified that may be.

At least as important are the geopolitical risks that can arise from U.S. miscalculations. U.S. vulnerability to oil market disruptions depends less on how much oil it *imports* and much more on how much oil it *consumes*. If U.S. policymakers incorrectly come to believe that the country will be far more "energy independent" as a result of rising oil production, and neglect efforts to promote energy efficiency and alternative fuels, the U.S. economy would become more vulnerable to volatile oil prices and U.S. national security would suffer. Similarly, if U.S. policymakers come to believe that the country no longer needs to assure the stable flow of oil from the Middle East – again an incorrect conclusion – the resulting shifts in military posture could leave oil markets more turbulent and the United States less secure.

There have also been claims that the United States will be more free to impose sanctions on oil producing countries as a result of its own boom. These claims overread the lesson of Iran sanctions, which were indeed enabled by the U.S. oil boom but exploited an unusual set of circumstances that is unlikely to be repeated. If U.S. policymakers become overly confident in the potential of sanctions, or excessively cavalier in wielding them, the United States could again end up less secure as a result.

Other Energy Sources and Goals

It is also essential that the U.S. oil and gas boom not blind policymakers to opportunities in other energy sources and in efficiency. The United States has seen record declines in oil consumption in the last nine years, driven by a mix of high oil prices, technological progress, and a weak economy. With a mix of stronger fuel economy standards and financial support for innovation in alternative fuels (particularly electricity and natural gas), the country could reduce its oil consumption further, reaping additional economic, security, and environmental benefits. In the long run, it is lower oil consumption and diversification away from oil that can ultimately bring the United States (as well as Europe) closest to genuine energy independence.

It would also be unwise to make U.S. energy policy without incorporating serious efforts on climate change. This is particularly true as the United States competes for geopolitical advantage. Countries at high risk from climate change are judging the United States based in part on how effectively it reduces its own emissions. For example, states in Southeast Asia are vulnerable to extreme weather, and are also at the center of intense competition between the United States and China for allegiance. Improving U.S. performance on climate change would be an asset in that fight. Critics of the oil and gas boom have been wrong to claim that it is incompatible with a serious climate strategy, but they are right to insist that the United States do more to reduce its emissions. Rising gas production and falling costs for renewables provide an opportunity to cut U.S. emissions, but government action – ideally a price on carbon, but if not, then regulatory steps to encourage shifting from coal to gas and other low-carbon fuels – will be essential.

Conclusion

The U.S. oil and gas boom provides the United States an important opportunity to strengthen its economy and its national security. This opportunity will be undermined, though, if policymakers overestimate what the boom can do; if they neglect to confront the economic and environmental downsides associated with oil and gas exports; and if they fail to pursue opportunities on other energy fronts while they exploit the oil and gas boom. A "most of the above" strategy that seizes opportunities on multiple fronts while being realistic about what can be accomplished is the best route to taking advantage of the new U.S. energy opportunity.

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Chairman ROYCE. Thank you, Dr. Levi.

My focus has been fundamentally on a particular set of circumstances in Eastern Europe in which Russia does have a monopoly, monopoly with some countries, near monopoly with others. Poland, two-thirds of their gas is from Russia today.

What gets our attention, I think, on the committee was, I don't know how many of the members here saw the story, but a few years, actually last year, Russia was involved in its machinations in Ukraine. They were able to turn off the valve, or threaten to turn off the valve. And what the Poles did, and what the Hungarians did was to sell 2 billion cubic yards of gas, run it through their pipelines back into Ukraine in order to keep Ukraine on life support. And watching what Russia has done repeatedly in terms of turning off the valves, you know, going to this larger explanation that Ms. Rosenberg and others explained in terms of the competitive effect, or what happens when you do have a monopoly. And that's what Russia has been able to do with Gazprom, by having a state-run company, and basically nationalizing this and controlling it, they've been able to do the same thing that OPEC does in tandem with Russia in terms of trying to set the oil price. They have been able to set the price, and they've been able to do one thing further, which is actually turn off the valves in winter when somebody doesn't do their bidding, which has created enormous consternation inside Ukraine, for example.

We would not be here today, we would not have had a government fall in Kiev had it not been for the ability of Russia to help create a crisis there. So, geopolitically, as we're looking at Eastern Europe, my interest has been what could we do in order to try to engineer a circumstance where enough gas gets approval. It'll take a while, you know, obviously for the facilities to be built, although there are facilities in Spain, for example, that would feed into the pipeline, but the futures market operates instantaneously. The market responds quickly. The ruble, currencies fall quickly when they hear about a national plan, and your ability to control a monopoly is dissolved when there is an alternative. So, this is the question for me, is how much of an advantage is it for us in terms of our strategic interests and those of our allies?

I note, by the way, that the Speaker of the House has a letter from the Head of State of the Czech Republic, Slovakia, Hungary, Poland, all asking for just such an initiative. For the same reason that Ukraine has this dependency, they have this dependency. So, their request is can you develop a strategy where you can export into that market? That's what I'm interested in today, and I would just ask Ms. Rosenberg, or Mr. Levi, or anyone else. I know there's a little bit of difference of opinion on this but, Ms. Rosenberg, what would be your take on that?

Ms. ROSENBERG. So, the point of the role of U.S. LNG is helping to diversify European gas assets, gas supplies and its ability to help Europe get out from under some of the influence of Russia, LNG has a role to play, but as has been noted already, the impact won't be immediate, and it won't be the silver bullet here. So, it's true that sending a strong signal from the United States——

Chairman ROYCE. Well, let me ask you this. Lithuania's sole supply of natural gas comes from Russia. Clearly, this is one of the

reasons you see the Lithuanians toying with the idea of an LNG facility. Now, pricing may not depend upon this, maybe the monopoly doesn't drive price, but in Lithuania's case it pays the highest price for gas in all of Europe. So, it sounds like there's perhaps a more direct connection to that monopoly than we'd like to assume. The Lithuanians certainly believe it, so that's why I raise these points.

Ms. ROSENBERG. Right. I would note that Lithuania will be in the position to benefit from LNG, additional LNG supplies available to its market, which will help diversify its gas supply. That being the goal for reducing the pricing influence of Russia.

Chairman ROYCE. Mr. Levi.

Mr. LEVI. The answer to your question is going to depend on the particular country. And we need to look at how each has integrated or not integrated into the European energy space.

Let me just focus on a few pieces of this. Ukraine is different from these other countries. In the case of Ukraine, Russia is not threatening to raise prices from typical levels to much higher ones, they're threatening to raise prices from severely depressed levels, subsidized levels to the kind of price that a country like the United States might offer. So, we are hard-pressed to combat that. If we want to help make Ukraine more resilient there, we need to provide assistance that helps them transition from their heavy industry, which is completely unprofitable unless they get subsidized Russian gas to a more sustainable foundation. Our aid packages are typically focused on getting through the current crisis.

Chairman ROYCE. All right, but—I take your point, although they're talking about doubling the price of gas, but I take your point.

The reality, though, is if you're in manufacturing, I used to be in business, and you're going to have interrupted supply, and you find out that in the winters your supplier, Russia, is going to turn off the valve, that doesn't leave for a lot of rationale for investment for overseas in rebooting your economy. Mr. Hamm.

Mr. HAMM. Thanks, Chairman. You know, it's not about Russian revenues, it's about heat, and that was your point. And when you have the ability to turn off that heat, you know, we can relate that pretty well with the winter we've had here this past winter. So, you have to have alternatives. And if the alternatives are there immediately, you have an impact, so providing the alternatives to the LNG transport and other things, you know, that could be that you'd have storage there, and a few things like that, that could alleviate those situations where they couldn't turn the heat on.

Chairman ROYCE. Thank you, Mr. Hamm. Mr. Engel.

Mr. ENGEL. Thank you, Mr. Chairman.

I, too, have the concerns that the chairman has. I am intrigued by the possibility of exporting gas and oil to counter Russia, to give Putin less of a monopoly, or less of a start. And I think that by and large we would have to be crazy not to consider it. I think it needs to be looked at and considered, and I'm all for that from a geopolitical point of view. I'm not saying we should rush to it, but we should do it. And we should do it, I think look at this as soon as possible.

But the bottom line when I look at my constituents, and the rest of us look at our constituents, people back home want to know the bottom line, will prices of natural gas go up? What will the impact be on gasoline prices? The average person is more concerned about their own pocketbook, and that's a concern of mine.

The whole fracking issue. Mr. Hamm, I'm very glad I went to North Dakota, saw you there, and was frankly impressed by and large. I still have questions, but impressed with what I see.

The average person in my district hears about fracking and they go crazy because they think it's going to ultimately contaminate their drinking water. They hear all kinds of horror stories. So, I think those of us, we have to weigh the overriding concerns and geopolitical concerns which are very important, but we also have to care, obviously, about what our constituents feel about the danger, potential danger of fracking, or whether the prices of natural gas will go up, prices of gasoline will go up. So, I'm going to give, let me start with you, Mr. Hamm, the opportunity to talk a little bit about what I've said.

Mr. HAMM. Thank you, Chairman Engel. You know, you saw firsthand, you know, the psyche that goes into the fracking process up there, and that's good. You know, there's a lot of concern out there and a lot of situations. I think before you debate all the benefits of price and all that, just take into consideration what's really happened already with the tight oil that's been on, particularly the Bakken. We've seen average prices reduced by about 20 percent on diesel because of the content of that quality premium crude up there. Also brought down the price of gasoline. We've seen it lower this year than before, so it's very helpful as we see the broaden market. And it will also help this broadened market of gas, natural gas is helping.

I mean, I used to talk about natural gas in terms of 55 Bcf per day, now we're approaching 75. We're able to take care of that market and do it very well because of the increased supply we have approaching 200 years supply that many of us think is there. So, overall, I think the price is going to be much more stable, and can take care of these LNG exports.

Mr. ENGEL. Because there is, and I mentioned it, a 2012 Energy Department study that said natural gas prices could rise by up to a third under a high export scenario of 12 billion cubic feet per day, and the total volume of all export applications before DOE is 36 billion cubic feet per day, or three times higher than DOE's high scenario. So, I worry about the effect of domestic prices if all the gas in the contracts are exports.

Dr. Levi, let me ask you, you testified that the impact of U.S. energy exports on U.S. relationships around the world is being overstated. You mentioned that the infrastructure constraints in Europe, for example, and higher LNG prices would make it unlikely that U.S. gas would displace Russian gas. Could you talk more about these market dynamics?

Mr. LEVI. Absolutely. The reality is that in the European market, Russian gas is less expensive than delivered U.S. gas. Certainly, the domestic gas price here is much lower, but once you liquify it, transport and regassify it, you end up with a fairly high price.

Now, there are some consumers who will pay for diversity, and will pay to spread their bets a bit, and that's why I would not say that U.S. gas will displace no Russian gas. But for the most part, these companies want to be competitive on a day-to-day basis in the global economy, and are going to go to the lowest price.

And the other thing to keep in mind is crisis dynamics. We all saw over the last several months during this record cold snap in the United States how infrastructure constraints in this country made it difficult to bring our abundant natural gas to parts of the country where it was in extraordinarily high demand driving natural gas and electricity prices up. Infrastructure constraints are real, and companies don't over-bill massively just to respond to unusual events. It's no different in Europe. And that would undermine Europe's ability to absorb very large amounts of gas from a different source during a crisis.

Mr. ENGEL. Thank you. Thank you, Mr. Chairman.

Admiral BLAIR. Mr. Chairman, could I just add one point to the discussion? I get a little impatient about discussions of the day-to-day price when you realize that by having a low day-to-day price with a very vulnerable, rickety program, you are subject to crises which we will then have to spend billions, and tens of billions, and hundreds of billions of dollars on to fix with military force or higher, or other forms of national power. I've seen it in the Middle East where the price of oil was not what we were paying at the pump, it was the price of what we were paying plus the lives, the treasure of the country that we were sending over to that part of the world in order to keep stability and restore order there.

So, the idea that we just have to keep the lowest possible price on a day-to-day basis and not think about some consequences that could happen if we don't take prudent action to be more resilient and more independent, is I think really shortsighted. And we have to balance these long-term needs, which we have paid in the past, which we will pay in the future unless we take prudent action now in terms of diversity and resilience.

Mr. ENGEL. Well, Admiral, I agree with you, but we have to balance it because the average consumer out there, the average constituent that all of us has cares a lot about what happens in the Ukraine, as I do. But the bottom line for them is how much are they paying out of their pocketbook, and that is certainly a factor that those of us that make policy have to consider because the people back home are concerned about fracking, are concerned about the price of natural gas, and are concerned about the price of gasoline.

So, while I believe that we need to look at our policy because I don't like what Putin's done, I want to have a counter balance to Putin. Our constituents, the first thing that's important to them is the bottom line in terms of what they pay. And every one of us that needs to be responsive to our constituents really have to take that into strong account.

Admiral BLAIR. Yes. With respect, Mr. Engel, I think we're undervaluing the American people a little bit here. I think they understand that to make life better for their children, not to have to send military forces out to handle situations which could have been handled had we taken prudent domestic action earlier is a smart

investment. And with good leadership, I think they will understand that, and that they will support wise policy in that area.

Mr. ENGEL. Well, I hope so, but please understand that everything is a balance, and those of us who run for office have to weigh that balance.

Mr. LEVI. Congressman, if I can briefly add. The main investments in resilience in the current context need to be made by our friends and allies in Europe to build extra capacity so that they can be resilient in the face of a crisis. Their under-investment leads to our having to come in and bail them out.

Chairman ROYCE. We're going to go to Mr. Duncan of South Carolina.

Mr. DUNCAN. Thank you, Mr. Chairman.

As I noted through my amendment that was accepted in the Ukraine legislation we marked up in this committee yesterday, I strongly support U.S. promotion of natural gas exports and advances in energy extraction and exploration technologies.

I further believe that it's urgent that the administration strive to expedite approval of LNG export terminals. The approval of the Jordan Cove project in Oregon on Monday is a good sign, but we've got more work to do.

I think blanket approval would have an equally important psychological impact on the geopolitical environment especially surrounding the Ukraine.

I point the committee to a Thursday, March 20th, Wall Street Journal opinion called, "A Gas Export Strategy," and I'll provide a copy for the record, Mr. Chairman. But the Russian economy and Mr. Putin's political cronies are highly dependent on petrodollars. And I think it's important that we send the right signal not only to Russia, but really to a lot of folks around the globe.

I also want to point in that article it mentions that European nations are currently dependent on Russia for 70 percent to 100 percent of their natural gas, and that Deputy Chief of Missions for the Czech Republic told at a House hearing this year that his country has found that even the decline in U.S. gas imports in recent years has freed up more gas for Europe, lowered prices, and thus weakened the Russian negotiating position during contract renewal talks. I think that's imperative, that we think about if it's weakened their negotiating position, if it's weakened their income, and their income stream to Putin's presidency.

So, I can't really talk about the energy and geopolitical arena without talking about the benefits of the U.S. energy boom with respect to why we need the Keystone Pipeline, Keystone XL. I recently met with some Members of the Canadian Parliament, and it's crystal clear to me that the President's polarization and unexplainable delay on the transport of Canadian crude oil to the U.S. refineries through Keystone has hurt the geopolitical relationship with one of our most important and biggest trading partners, and that's Canada.

I also want to mention for the sake of the discussion here today that former Joint Chief Chairman Martin Dempsey said in a House hearing just last week:

> "An energy independent U.S. and a net exporter of energy as a nation has the potential to change the security environment

around the world, notably in Europe and in the Middle East. And so, as we look at our strategies for the future, I think we've got to pay more attention, and particular attention to energy as an instrument of national power."

I think that sums up my position. If we want to change the geopolitical environment, the United States being energy independent, and lessen our dependence on anything coming from the Middle East changes the geopolitical environment with regard to support for terrorism and other things that may come out from the Middle East. So, I think that is a tremendous summary of where we are.

So, I'd like to shift gears, Admiral Blair, and focus in this hemisphere to the south, and that's with Venezuela, because I think it's imperative that as we talk about energy and political dynamics, that we think about that tremendous exporter to the U.S. that Venezuela is. So, they have the largest proven reserves of oil in the world, estimated in 2013 at 297 billion barrels. In 2011, Venezuela was the fourth largest foreign supplier of crude oil and products to the U.S. With the protests and violence that have resulted in the deaths of more than a dozen Venezuelans at the hand of President Maduro's regime, should the U.S. use its economic leverage and halt our imports, or limit our imports of Venezuelan oil? And as that revenue doesn't impact the people in Venezuelan as much as it would impact the regime that's down there with President Maduro.

So, if you could speak to two things. If you could speak to Chairman Dempsey's remarks that I mentioned earlier about American energy independence and its being an exporter, and its impact on geopolitical dynamics. And then if you could speak to Venezuela, I certainly would appreciate it. So, Admiral.

Admiral BLAIR. Sir, I certainly share General Dempsey's contention that if the United States uses its new-found oil abundance smartly it would be a real game changer.

I guess my feelings have solidified by watching the Middle East. We did not send troops into the Middle East to take possession of oil fields and to take over the oil, but we sent them there in large numbers because of the oil-based importance of that region to the world economy and, therefore, to the U.S. economy. And the stability and security of that region was important to us from a national security point of view.

Had we not been so dependent on the Middle East in that sense, we would have treated the troubles there the way we treated them in other parts of the world that are going through turmoil, where there's suffering going on, where there may be a combination of interests and opportunities, but this huge investment, the military force there at the bottom was caused by the oil importance of that region. So, I agree completely that energy security for this country, more flexibility in terms of our energy picture would make a huge difference, a decisive difference in the position of the United States in the world, so I think that's completely true.

On Venezuela, unfortunately, as you know better than I, the oil market is pretty well an international global market. And exactly where it comes from, and exactly where it goes to is really not—really does not make that much difference. We are not very dependent on Middle East oil, for example, but we are dependent on

oil, and that's what makes the difference. So, I don't really think that—I haven't found that blocking particular exports from particular countries really makes a big difference in the whole thing.

As you know, Venezuela is doing a pretty good job of running its oil industry into the ground on its own without any help from anybody else. And the dissatisfaction within Venezuela is caused by that in terms of the standard of living, the corruption and so on. It's doing a pretty good job of discrediting Maduro's administration as it had the Chavez administration before he died. And they're going to have a hard time holding on to power. So, I think that we've got a lot of important internal forces in Venezuela that are working for us, and if we could do a few things to help those along, I think that would be just fine. But I think the Venezuelan people are going to take care of this corrupt, and autocratic, and misguided government that they've had to endure for a while themselves.

Mr. DUNCAN. Well, I appreciate that. I'm out of time, Mr. Chairman. I will remind the committee there is no national security without energy security. With that, I yield back.

Chairman ROYCE. We go to Mr. Brad Sherman of California.

Mr. SHERMAN. Thank you.

I misspoke a little earlier, our subcommittee hearings on the export of oil are next week, not tomorrow.

I don't think we should be fantasizing about the United States being a net exporter of oil. That's just not going to happen. Yes, it would dramatically change the world, so would the invention of coal fusion, but that's not around the corner either.

And the wars that we have fought in the Middle East have been about oil used chiefly for vehicles, not natural gas which competes with coal, which while dirty is at least abundant. And I don't think a country has fought a war just to meet its carbon targets, as much as every country would like to brag to the world that it's creating less greenhouse gases.

What is the—and I don't know who to address question to so, Dr. Levi, you'll answer it unless somebody knows more. What does it cost per Mcf to liquify natural gas, move it 1,000 miles over water, and regassify it? And does the price go up much if you're moving it 10,000 miles instead of 1,000 miles? Is there a major cost to the ocean transport, or is the key cost liquification and regassification? Ms. Rosenberg.

Ms. ROSENBERG. Sure. Perhaps $6 to $8 for the liquefaction, the transportation, the regassification. Of course, as you mentioned, the price depends somewhat on how far you're transporting it. And Europe being——

Mr. SHERMAN. So, you could make quite a profit if it wasn't for the Federal Government and buying gas for $3.35 per Mcf and spending $6 to $8 to transport it and selling it in Japan where it sells for 16 bucks.

Ms. ROSENBERG. That's the reason why many——

Mr. SHERMAN. That's why we're here.

Ms. ROSENBERG. Yes, and why there's an expectation that, in fact, much U.S. LNG will be exported primarily to that market, the East Asian——

Mr. SHERMAN. Okay. So, we have a circumstance where American manufacturers are paying less than a quarter of what Japanese manufacturers are paying. And if we allowed this export, we would still have an advantage because American manufacturers wouldn't have to pay for liquification, et cetera. But instead of having a four times advantage, we'd have a say two times advantage.

Has anybody done a study as to how many manufacturing jobs we would lose if we lost that tremendous advantage to our manufacturers for the price of natural gas? Dr. Levi?

Mr. LEVI. It's difficult to pin down. I did some basic calculations a year or two ago that suggest that the impact on U.S. manufacturing would be roughly neutral, and on overall jobs would be beneficial. The reason it's neutral for overall manufacturing is because exports affect manufacturing in two ways. First, they raise the price of natural gas, but they also spur our demand for manufactured products, particularly steel and cement that are heavily used in the natural gas industry. About 30 percent of the cost of a well is——

Mr. SHERMAN. So, the non-energy industry would lose jobs, but the energy industry would pick up jobs, and some of those jobs would be classified as manufacturing jobs because the energy industry isn't just the people who lay the pipeline, it's the people who make the steel for the pipeline.

Now, I'd point out that one way to possibly deal with this would be to impose some tax on our exports of natural gas. I would point out that the U.S. Constitution has a provision designed to prevent that, and I don't know if—I'm going to ask others unless the panel has any loopholes in there? Any proposals to talks of the export of natural gas that would get through the Constitutional provision?

I can ask Constitutional experts, Dr. Levi, unless you have an answer?

Mr. LEVI. I share your policy inclination, but the provision is being upheld in the face of a variety of attempted loopholes over the last decades.

Mr. SHERMAN. My old bros in the tax law industry have always found a loophole to prevent a tax, and I'm sure that that same energy can be used to impose one.

In 2012, the Department of Energy found that domestic natural gas prices would rise by about a third. Do you tend to agree with that outcome? And what does that do for my dream of having a natural gas-powered vehicle fleet in the United States instead of petroleum, which would be a game changer in geopolitics? Mr. Hamm.

Mr. HAMM. Yes. Well, I think that number is quite high. You look at what happened this winter, we had a tremendous draw, the increased demand was way high, but we didn't see natural gas prices go up a third. We saw it increase moderately, so I don't believe those numbers. Nobody in the industry believes those numbers.

I'd like to comment, too, on the fantasy of exports from the——

Mr. SHERMAN. I'm sorry, I've got limited time, and commenting on my fantasies is something that will have to be reserved for others.

Mr. HAMM. We're exporting currently 4 million barrels a day.

Chairman ROYCE. Mr. Perry of Pennsylvania.

Mr. PERRY. Thanks, Mr. Chairman. Mr. Hamm, if you want to comment on the export, please go ahead.

Mr. HAMM. I appreciate that. A lot of people don't understand the extent of the exports that we're doing today. We are exporting. We are exporting refined products to the tune of 4 million barrels a day according to current IEA numbers. So, if anybody doesn't think we're exporting, read the numbers, 4 million barrels. And we're exporting the very things that are important to the consumers, diesel, gasoline, propane. That's what we're exporting today, 4 million barrels a day, so that's going on.

One other example I'd like to point out, the Hawaiian example. That's been—the product that they use there is being delivered by South Korea; yet, due to the ban we can't send them oil from America. We can't send oil to supply that demand, so it's being supplied by foreign oil. So that's just another fairly good example.

Mr. PERRY. Thank you. Dr. Levi, regarding disclosure and fracking, because you mentioned it a couple of times in your testimony, just exactly from your opinion what is it that the folks that are doing hydraulic fracturing aren't disclosing?

Mr. LEVI. There aren't consistent rules to require disclosure of all the contents of fracking fluids. Now, let me be clear, I am not personally worried that injection of fracking fluids is contaminating water. My recommendations are driven by a desire to increase public confidence in the process.

Mr. PERRY. I don't know that there's a lack of public confidence, in my opinion. I mean, I think there's a certain constituency, but I think your words are powerful, so I think it's important that you realize when you say certain things they have an effect. And even though there might not be regulatory efforts to your standard at a Federal level or to your desire, something as simple as an OSHA-required MSDS, Material Safety Data Sheet, requires that everybody disclose every single thing on every job site, including everything that's put into the ground. So, when people say nothing is disclosed, to me that is a gross—you're not decrying the facts as they really are. And if you want to comment, go ahead. I'm not here to impugn you, but I want to make the record clear.

Mr. LEVI. No, and I want to make the record clear, as well. I did not intend to say that there is no disclosure. I think we could do better.

Mr. PERRY. Well, we can always do better at everything, I imagine, but that's important. So, when you talked about—I think you also talked about you would advocate for increased production. So, would you be advocating for more drilling permitting on Federal lands in the United States?

Mr. LEVI. I think you need to look on a case-by-case basis. I think if we're looking at the shale boom right now, the opportunity is primarily on private lands. That's not mainly because of Federal policy, that's because of the geology. So, I don't know that that is the place to focus our energies.

I think we would do better if we wanted to focus energies on making sure that infrastructure can be built. We heard about flaring, for example.

Mr. PERRY. Right.

Mr. LEVI. Gas not being used. That's primarily not because of a lack of exports, it's because people don't have the right regulatory infrastructure in which to build pipelines to bring that gas to domestic markets. So, those are the places I would focus first.

Mr. PERRY. Okay. So, based on that, I mean, I understand the geology. We've got to go where the source is, but it seems to me that wherever it is, whether it's Federal or private lands, our strategy ought to be whatever is economically viable and supports what's good for America. That's what we ought to be doing. And regarding the pipeline then, are you saying you're supportive of the Keystone XL Pipeline, concluding that or starting with construction of that and finishing it?

Mr. LEVI. I think that the benefits of approving the Keystone XL Pipeline would exceed the costs. There are costs, but if I were to provide advice, it would be that we approve the pipeline and start focusing on things that actually matter for Americans.

(Simultaneous speech.)

Mr. PERRY [continuing]. My time, but I'm fascinated that you think the benefits would exceed the costs. But the folks that are willing to invest, obviously, think that the benefits far outweigh the cost from every single measure. But, anyhow, I'm not looking for an answer, I just find that fascinating.

Admiral Blair, just because your organization and you look at it holistically, what would be good for America from a geopolitical perspective in energy? Should we be drilling in ANWR?

Admiral BLAIR. We are not going to either drill or conserve our way out of our current dependency. What we really need to do is get off oil in the transportation sector. That's the single—that's where I'd put my first emphasis.

Mr. PERRY. Okay, so what about a second emphasis? Because we're not going to get off oil by the flip of a switch, so in the meantime what are we doing?

Admiral BLAIR. Right. I think that we should be drilling more under safe and rigid environmental constructions, and from my—and I believe that that should be done in Alaska, as in other places.

Mr. PERRY. Thank you, Mr. Chairman.

Chairman ROYCE. So, we go to Mr. Sires of New Jersey.

Mr. SIRES. Thank you, Mr. Chairman, and thank you for the panel being here today.

You know, this fellow, Putin, I think while we sleep he plots. And I think he's been plotting this for a long time, taking over. And I think he saw what Saudi Arabia means to oil, he figured that by assuming the gas in Russia he could do the same thing. But I want to bring it closer to home, because we have a—I know we're focused on the Ukraine, and what's going on, but I want to bring it closer to home.

We have a situation in Venezuela. You have Maduro who is constantly using the oil, and basically bending other leaders in the Caribbean and in Central and South America, their arms in terms of what they can say and can do. And we have a situation now where the OAS I think is afraid to speak because of all the members who are dependent on Maduro's oil.

What would be wrong for us to become an exporter of fuel to the Western Hemisphere and play a role, and take away some of this

influence of some of these leaders? Can you talk a little bit about that?

Admiral BLAIR. I can address part of that, Congressman Sires. As Mr. Hamm said, we do export distilled products and a lot of that does go to Latin America. But the question is—and as you know, the main recipient of cheap Venezuelan oil is Cuba.

Mr. SIRES. Also, Dominican Republic and some of the other islands, you know, and some of the other——

Admiral BLAIR. Right. But I don't think we want to get into a price war for who can give away the cheapest oil to Latin American countries with Venezuela. That's a losing game in the long run.

I think in the long view, increasingly the Venezuelan people, and certainly a lot of others in Latin America recognize the Venezuelan Government for what it is, and they turn to other forms of government. And I don't mind mentioning that along, but I think we ought to recognize that the long-term trends are in favor of those Latin American countries who realize that stronger democracies, better rights, more open economies are going to win. And that's playing in our favor in the long run.

Mr. SIRES. I also think long term, Venezuela is starting to realize that giving away the oil is not in their best interest, and I think their attitude is changing. So, if there attitude is changing and we—and there's a void there, I mean, North America is going to be flush with oil. You've got Mexico, you have us, you have Canada. I don't know, I just think we could be a bigger player in some of these areas.

And can you talk about the winners and losers of exporting oil, because I know that the National Economic Research Association conducted a study of the impact on the U.S. economy of exporting fuel. Can you talk a little bit about the winners and losers?

Ms. ROSENBERG. Congressman, can I make a point on your former question on Latin America?

Mr. SIRES. Sure.

Ms. ROSENBERG. I think, actually, that we would do well to learn a lesson from the conversation we're having about Europe and helping Europe to get out from under Russian influence, energy influence. So, when we talk about exporting energy to Europe, we also talk about the impact of exporting energy technology. That's something we can do for Latin American countries, as well, exporting energy technology and know how, technical assistance to help establish or improve some of the legal taxation, regulatory regimes that can help them to better access their own domestic energy resources to improve markets pricing in that region which can help them to also diversify their supply base and rely less on certain supplies that they receive from Venezuela.

Mr. SIRES. I agree with you. I mean, it gets some of these countries away from somebody's, you know—they got them under their thumb. They can't move.

Mr. LEVI. Congressman, on the exports question, producers would benefit, refiners would pay more for their oil supplies. Those are the main constituencies affected. There would be smaller consequences for the overall economy, positive consequences that are relatively small, and small consequences for consumers, slightly lower gasoline prices, but not much lower gasoline prices.

Mr. SIRES. My time is up. Thank you very much, Mr. Chairman.

Chairman ROYCE. Thank you, Mr. Sires. We're now going to go to Mr. Yoho.

Mr. YOHO. Thank you, Mr. Chairman. Appreciate it, and I appreciate all the panel being here.

Admiral Blair, now this is for everybody, and this is kind of a rhetorical question, but the number one charge for the Federal Government is national security, and I think we're all in agreement with that. And as Congressman Duncan said, we can't have national security if we don't have energy security, and that goes with food security and several other things.

You were talking about—do you feel energy independence or security is possible, Admiral Blair, in this country, the United States of America?

Admiral BLAIR. I think energy security is possible, Congressman, not energy independence. And security means that the system that we depend on, a combination of what we make ourselves, and imports is resilient enough and we have enough repair capacity that we can handle most of the interruption that would occur. And I think we can build that if we can get this amount of petroleum down that we use in the transportation sector from 93 percent, which it is right now, down to say 50 percent, 40 percent.

Mr. YOHO. Right.

Admiral BLAIR. Then we have energy security. It's not independence, and I think that's kind of a phony——

Mr. YOHO. Well, I think we get tied up on energy independence versus security, and I think security is the more important issue. And I agree with you 100 percent, and it's imperative, wouldn't you agree, that we are secure in the fact that—I lived through the 1970s oil embargo. Dr. Levi, were you around then?

Mr. LEVI. Depends which one you're asking about.

Mr. YOHO. The one where the ships weren't coming in and I had to wait in line for hours to get 10 gallons of gas that we could buy on odd or even days depending on the last number of our license plate. And I never want to be there again. And I think every policy we do as a Federal Government should be to make America stronger because if we don't do that, who's going to do that? Nobody else is going to look out for America. So everything we do, and I think the energy sector is the number one driver, it supports so many things. I've got a real strong ag background. The price of diesel goes up, the price of every product you buy goes up immediately. And to be secure, we have to have a secure, steady supply, whether it's from our allies like Canada or Mexico. And it's just imperative that we work out that security agreement.

And, Mr. Hamm, in your opinion do you see it possible that the U.S. could be a net exporter of energy?

Mr. HAMM. Yes, we are today. I mean, we get right down to it.

Mr. YOHO. I was glad to see you clarify that because I agree, we can, and I think we should be. Because I think that, again, it makes America stronger.

Our manufacturing sector, if our policies aren't for the betterment of America, these manufacturers with the increased prices are going to go overseas. You know, we're already fighting regulations, rules, mandates, the Affordable Care Act. So many of these

companies are running overseas because they can't afford to do business here, and the assault on coal in this area is just unconscionable that a government would do that. So, again, every policy we do should be to make America stronger.

With the net export do you project the cost and the price in America to go up? And it sounds like across the board it was pretty much no, or not nearly what we're saying, hearing from the experts.

Mr. HAMM. That's correct.

Mr. YOHO. Dr. Levi. Is it Levy or Levi? Levi. We've got a county in our district called Levy County, so excuse me.

Mr. LEVI. I'll have to visit it.

Mr. YOHO. And it's a great county, it's a big agricultural county.

You were saying that strict economic rules would increase the cost to the average consumer, especially the very one most vulnerable. You were talking about the LIHEAP program and how it's important that we keep that in there.

Mr. LEVI. Right.

Mr. YOHO. It's kind of a subsidy that we keep there, but yet with our strict environmental rules does that not increase the cost of the energy?

Mr. LEVI. It does increase the cost of energy. Let me give you some figures to then give you a broader context. The International Energy Agency did a study a couple of years ago where it outlined 22 golden rules for gas to put on sound footing, and estimated that it would cost an extra 7 percent in capital costs for each well to comply with those. When I talked to senior executives from one of the top oil services company and said is that realistic, 7 percent, they said no, it's much lower. So, that's important to keep in mind.

It's also important to keep in mind that if there is a public backlash against development and people say you can't drill no matter how you do it, the prices will go up far more.

Mr. YOHO. But I think we need that balance between national security and cost, as the Admiral brought up. I don't think we need to worry so much about the cost because you can't put the cost against national security. So, I think we—our policies that we move forward, we can't be strong, and we can't export gas if we don't put in the infrastructures today.

Mr. HAMM. Could I comment on that?

Mr. YOHO. Mr. Chairman, I'm about out of time. Can he comment?

Chairman ROYCE. We'll let Mr. Hamm comment, and then we'll go to Gerry Connolly of Virginia.

Mr. HAMM. Right now we have a very strong state system for regulations. We don't need an overlying Federal system. We have a 2,000 foot pipeline right now that's held up, that's federally controlled, federally controlled lands in North Dakota that's held up a pipeline system up there for over 10 months. We have all the rest of it built, so that's what we get up against.

Mr. YOHO. I agree. Thank you for your comment.

Chairman ROYCE. Gerry Connolly of Virginia.

Mr. CONNOLLY. Thank you, Mr. Chairman. And let me just say to my friend, Mr. Yoho, Mr. Levi and I both read about that '73

in history books, and delighted to be with somebody who actually lived through it.

Mr. Hamm, let me just, given your last comment. I mean, basically, another way of interpreting what you just said was the states can handle fracking regulation on their own and we don't need no stinking Federal Government to get in there and regulate for us. The fact of the matter is there is wide variety of regulation in fracking that's anything but uniform. We go from some states that have fairly strict controls, California, to some other states that have wild west controls, I don't know, like maybe Pennsylvania. Your view is that's a system that's working just fine in protecting consumers and communities, and doesn't need any help from the Federal Government whatsoever. Is that right?

Mr. HAMM. That's correct. That system has done a very fine job in Oklahoma. We've got over 100 years, and fracked hundreds of thousands of wells, zero pollution to fresh water. Pennsylvania has been to Oklahoma. They've gone through all of our regs there. They've got a very good system, and it's working fine there.

Mr. CONNOLLY. Okay. Good to have it on the record.

Mr. Levi, you were asked about the Keystone Pipeline. Is there any evidence at all that the Keystone Pipeline will help us in terms of our domestic security? Admiral Blair doesn't like the term energy independence, and I take his point, but for the sake of shorthand in achieving energy independence, my impression is all of that oil has been signed up for five long-term contracts going to Port Arthur, Texas for a reason, not for consumption here, but for export. Correct me if I'm wrong.

Mr. LEVI. I don't think that the Keystone XL Pipeline would substantially increase American national security for the reasons that Admiral Blair talked about in a broader context. We live in a global oil market.

Mr. CONNOLLY. I'm asking a different question.

Mr. LEVI. About exports.

Mr. CONNOLLY. Is there any evidence any of it would go for domestic consumption? And if so, how?

Mr. LEVI. Well, I'm confident that at least some of it would go for domestic consumption. The intention, as I understand it, is that it would be refined in the United States and some of the refined products would be shipped abroad where there's a bigger market, and others of them would be sold domestically.

Mr. CONNOLLY. Have you looked at the long-term contracts signed by the owners of the Keystone Pipeline?

Mr. LEVI. I have not.

Mr. CONNOLLY. Every single one—there are five long-term contracts, which is a little unusual for a pipeline because generally they kind of participate in the spot market. But all five contracts are long-term contracts, and all five are with companies that specialize in export. And the reason you go to Port Arthur as opposed to throughout the Middle West all the way down to Port Arthur presumably, is because you're near the ocean where there are big ships that can carry product. I mean, why would I pipe oil or product to Port Arthur, Texas in order to refine it so that consumers in the middle of Nebraska can benefit from it?

Mr. LEVI. We have sophisticated refineries in Texas, and when you have refineries in place, multi-billion dollar refineries that are tuned to a particular quality and type of oil, you don't take them apart and put them somewhere else.

Mr. CONNOLLY. Uh-huh. Are you aware of the fact that the documents filed by the company that would own the Keystone Pipeline, the Canadian company, actually admit explicitly that if the pipeline were to be built, the price of oil and other related products in the Midwest would probably increase?

Mr. LEVI. Yes, and I think that's a correct judgment. That's part of the goal. It's important to distinguish between oil and refined product. I do not believe they have said that the price of refined products would increase. The price of refined products is set by a global price, not the price of——

Mr. CONNOLLY. Yes, but one of the reasons is because there's a bit of a—or there has been at the time of the filing of those papers, bit of a glut in the Midwest markets, in part because there wasn't this terminal all the way down in Port Arthur, but okay.

Admiral Blair, is—do you think that there's—with respect to—the title of this hearing is Geopolitical Potential. Do we have a geopolitical potential in light of the Russian invasion, and occupation, and annexation of Crimea? Do we have a potential in Western Europe and former Eastern Europe to have our countries, and former Republics of the Soviet Union, to actually provide product, especially natural gas, as a substitute for Russia? And do you think that's a realistic thing to promise any time soon given logistics, and infrastructure, and so forth?

Admiral BLAIR. Representative Connolly, what I've learned about the natural gas business is it's sort of a three-dimensional chess game. And, in fact, we've already improved the energy security of Europe by our domestic natural gas. In that same Port Arthur area, there are a bunch of liquid natural gas facilities built for importing natural gas from Qatar because when those were started building 7, 8 years ago we thought we would need it. Those plants are completely idle now. That gas went to Rotterdam, liquified there, brought the price down from the artificially oil-based price that Gazprom had been charging. And that has, in fact, improved the lives of Western European consumers. It's not a global market like oil, but it does have these global interactions.

I think the—so, I think diversity of liquid natural gas supply is important for Western and Eastern European security from Russia. I think, though, that it's not the only factor, that the interconnection of pipelines and LNG terminals is necessary in order for Europeans to be able to switch from Russian gas to LNG. And this is something that they have to do. And I think they would pay a premium for it. It would be duplicative.

As you remember, since we both sat in oil lines together, there was a——

Mr. CONNOLLY. You're mixing me up with Ted Yoho.

Admiral BLAIR. But as you remember, this Russian gas to Europe controversy has been going on since early 1980s, and Europe has this approach avoidance with Russia. I think Crimean incidents have demonstrated the avoidance side pretty conclusively, and the Europeans need to build themselves a more flexible nat-

ural gas structure which then Qatar, Australia, and American liquified natural gas could feed so that they wouldn't get the lights switched off, so that they wouldn't get the price jacked up. And I think that that ought to be a joint venture that we work on together.

Mr. CONNOLLY. Mr. Chairman, my time is up, but I commend that last thought to you, as you kind of played a potential trip to the region. I think that's really a very important point. In the long run, Europe itself has to look at infrastructure that would allow for alternative supplies.

Chairman ROYCE. To reach that market. And you're right, Mr. Connolly. I think that's one of the things that Lithuania or the Baltic states are looking at in terms of this floating platform which is underway in terms of the building of this.

I better turn to Mr. Tom Marino of Pennsylvania. He's been very patient.

Mr. MARINO. Thank you, Chairman. I apologize, I've been juggling the schedule like everyone has this morning.

Let me get right to the point. As a prosecutor, I'm going to ask direct questions, I would like direct answers. Dr. Levi, what is in fracking that has not been transparent to the public, particularly in the State of Pennsylvania where I come from?

Mr. LEVI. I can't give you a state-by-state take, but in general the public does not always know what is in the fluids being used in the particular fractal.

Mr. MARINO. But in Pennsylvania, and correct me if I'm wrong, that has to be listed, and they have access to that information. Is that——

Mr. LEVI. They have access to that information. I'm not sure exactly when. But you know the Pennsylvania rules better than I do.

Mr. MARINO. Right. And my good friend from California, Pennsylvania, the EPA has stated that Pennsylvania is one of the best states in the Union when it comes to protecting the interest of people as far as their health in fracking, and the process by which it is being monitored, so we just give—offer the country an opportunity to come to Pennsylvania and see how we do it, if that's what you're going to have to do.

I don't want to see the Federal Government—Federal Government, we've seen what the Federal Government has done over the past 4 years. It's put us $18 trillion into debt, so the less Federal Government in my life the better, but we do need to make sure that standards are followed like they are in Pennsylvania.

So, you know, I hear from people that do not like fracking, do not like gas, they'll say to me did you—there's a program that shows where you turn the spigot on and you put a match to it and poof. Well, you know, 45 years ago when I was at my uncle's cabin in Cascade, Pennsylvania, that was kind of neat when he turned the spigot on and snapped the light on and poof, there it was. That's methane. Okay? That happens, nothing new.

As far as energy independence, is there such a thing, and can we achieve it? And anyone who wants to address this, please.

Admiral BLAIR. I would say, Mr. Marino, that back to these oil embargos that we talked about, back in the '60s and '70s Norway and the U.K. were in theory energy independent. They produced

more than they consumed, and they sent it over. When the prices went up because of the OPEC embargo, Norwegians and Brits paid four times as much for gas as they had the year before.

Mr. MARINO. I guess we need to put a meaning on energy independent, don't we?

Admiral BLAIR. Security is the right word.

Mr. MARINO. Security.

Admiral BLAIR. Security is the right word.

Mr. MARINO. I like that.

Admiral BLAIR. And I think that's what we're really looking for. And then security means that don't get jacked around by other countries, or groups of countries in pursuing our own interests. And we can jack around countries that are misbehaving for their purposes.

Mr. MARINO. Great point. As I said, I live in the middle of it. I'm out in the country. I like seeing the bear and the deer grazing on my property. I get my water from a well out of the ground. I have children, and how dare someone who opposes gas drilling say that I would jeopardize my children's health. I know this process. I've been on more rigs, I've done more readings, I've reviewed more studies, I've talked to more scientists.

In fact, in one of the areas in my district in Pennsylvania there is a big deal about it's polluting the water. Well, finally the EPA came and said there is no scientific evidence whatsoever that fracking is polluting the water. And if it does, and attempts to cause harm in the environment I'm going to be the first guy there in line saying it's got to stop and we have to fix this.

Let's talk about the price for a moment. I'm concerned about the price of gas, natural gas going overseas for this reason, and this reason alone. I don't want to see the American people, I don't want to see the people in Pennsylvania have to pay a higher price for their gas that is their gas because they can sell it for a better price overseas. I don't have a problem with it being sold overseas at whatever price they can get, but I think the people in Pennsylvania, and the people in this country deserve a fair price on the natural gas. Care to talk about that?

Mr. HAMM. If you don't mind, I'd like to address that.

Mr. MARINO. Please.

Mr. HAMM. I can assure you that with the Marcellus production being so tremendous, the people of Pennsylvania will never have to pay more for their natural gas due to LNG exports.

Mr. MARINO. That's just what I want to hear.

Mr. HAMM. I have one more comment. You know, the Bakken on ramp on Keystone that's projected for the Keystone XL Pipeline would add 300,000 barrels, none of which is contracted for exports.

Mr. MARINO. Good segue, because I want to finish with saying, let's talk a moment not about if it's going to decrease the price of oil, or the consumption. Let's talk about this administration who talks a good job about creating jobs, but could create 20,000 jobs instantly if they signed—if the President signed to have the Keystone XL Pipeline go into effect, and then an additional several hundred thousand jobs over the next few years. And let's talk about, you know, there was an issue about refining. Yes, I know a little bit about oil refining, too. There are different plants that

refine for different reasons and come up with different byproducts that could be sold in this country cheaper. So, if for nothing else, how about creating jobs? And I see that my time has expired, and I must yield back. Thank you.

Mr. CONNOLLY. Mr. Chairman.

Chairman ROYCE. Yes, over here, Mr. Connolly.

Mr. CONNOLLY. Mr. Chairman, the Washington Post did an extensive analysis of job creation related to the Keystone Pipeline, and they found no such figures as suggested by my friend from Pennsylvania. So, I would ask with unanimous consent that the Washington Post analysis be entered into the record.

Mr. MARINO. If my friend would yield for a moment?

Mr. CONNOLLY. I have to—I'm going to—this is a special request for the chairman.

Chairman ROYCE. Let me yield first to the gentleman.

Mr. MARINO. And I can come up with ten articles which show the jobs that will be created on this. Now, you know, there's a back and forth on this, and we know there's a back and forth on this, but there's no downside to this. There's no downside whatsoever to executing this XL pipeline.

Mr. CONNOLLY. Mr. Chairman.

Chairman ROYCE. I'm going to return, I'm going to award time to the gentleman. I'm going to recognize the gentleman from Virginia.

Mr. CONNOLLY. Yes. Thank you, Mr. Chairman. I would just say to my friend from Pennsylvania, that's not the point. The point is he cited some figures about job creation that are directly disputed by the Washington Post analysis which was fairly thorough. And he's more than welcome to enter something into the record that would dispute it, but I'd like the Washington Post analysis in the record because it's a considerable variance from the assertions made by my friend from Pennsylvania.

Chairman ROYCE. Let me opine on this for one moment, if the gentleman will. Let me respond to the gentleman from Virginia that both of you would be allowed to submit for the record your facts and figures, whether they be from an article in the Washington Post, or whether they be from some studies that have been put together by those who have—support the pipeline.

Mr. CONNOLLY. I thank the chair.

Chairman ROYCE. And I would also just like to thank our witnesses for the efforts they put into their statements. There is considerable information within those statements themselves. Ms. Rosenberg and gentlemen, it's impressive what you've put together laying out your arguments. I think we've had a dynamic discussion here because of our witnesses about the geopolitics of energy.

I do think it's logical. I see the point that one of the things that keeps Russia afloat as a nation is the exports of their gas and oil; 70 percent of their trade is exports. So, clearly, in their calculus, exporting the oil is key to their influence. They're wielding a tremendous amount of influence as a consequence of it.

And, clearly, we do have a situation here where for a number of reasons the administration is blocking exports. I mean, the pipeline would be one example, but another example would be the LNG,

and the question of whether we're going to use that strategically with respect to the situation in Eastern Europe.

Now, I guess for me one of the vexing things about this is that when you have a glut in your market of gas, you end up seeing that gas flared. And if there's an environmental consequence, it's flaring of gas. Certainly, in Africa we worked to address that issue, flaring of gas across Africa back when I used to chair that subcommittee, and that's being addressed. So, we do have a glut, we do have flaring of gas here in the United States. It would seem to me logically if we could export that gas in order to help break the monopoly pricing situation, that would be good.

Energy innovations, you know, this is the hard thing to keep up with, the constant change in this industry of energy innovations. They are making the United States more competitive. We're seeing that. We're also seeing companies from around the world moving to the United States because we have lower cost manufacturing here. Mr. Connolly, this is just one point I would make.

If we see the Keystone Pipeline, a pipeline built not here to where we basically have a hand in the outcome, and where it's proximate to our markets, but instead to Vancouver where it is shipped to our economic competitors overseas in Asia. Right now, our principal competitor there has an energy price that's 30 percent higher than our's. It's one of the reasons why our manufacturing is still competitive despite the labor differential.

So, it does seem logical to me that we would want to make certain at the end of the day that that energy is refined in refineries which are cleaner burning here, cleaning burning than the ones that are in Asia, and in which that product instead of being unleashed in a market with a higher energy price is proximate to, you know, the Southeast United States, and to manufacturing facilities there, because we're going to continue to be in that economic conundrum where we're competing with Asia, principally a country in Asia which right now is disadvantaged. I don't want to see us mishandle a situation and have our economic competitor end up with a lower cost of energy than we have here in the United States as a consequence of us treating Canada in a way that, frankly, our ally is taking very personally at the moment. So, let's create the jobs here. We need to build on our domestic strengths. We need to use them, also, as an asset for national security.

And, again, I thank the witnesses, and I thank the members of this panel. We're adjourned.

[Whereupon, at 11:53 a.m., the committee was adjourned.]

APPENDIX

Material Submitted for the Record

FULL COMMITTEE HEARING NOTICE
COMMITTEE ON FOREIGN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, DC 20515-6128

Edward R. Royce (R-CA), Chairman

March 26, 2014

TO: MEMBERS OF THE COMMITTEE ON FOREIGN AFFAIRS

You are respectfully requested to attend an OPEN hearing of the Committee on Foreign Affairs, to be held in Room 2172 of the Rayburn House Office Building (and available live on the Committee website at http://www.ForeignAffairs.house.gov):

DATE: Wednesday, March 26, 2014

TIME: 10:00 a.m.

SUBJECT: The Geopolitical Potential of the U.S. Energy Boom

WITNESSES: Admiral Dennis C. Blair, USN, Retired
Member
Energy Security Leadership Council
Securing America's Future Energy

Mr. Harold Hamm
Chairman
Domestic Energy Producers Alliance

Ms. Elizabeth Rosenberg
Senior Fellow and Director
Energy, Environment and Security Program
Center for a New American Security

Michael Levi, Ph.D.
David M. Rubenstein Senior Fellow and Director
Program on Energy Security and Climate Change
Council on Foreign Relations

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 FULL COMMITTEE HEARING

Day *Wednesday* Date *03/26/14* Room *2172*

Starting Time *10:08 a.m.* Ending Time *11:53 a.m.*

Recesses *0* (____to____) (____to____) (____to____) (____to____) (____to____) (____to____)

Presiding Member(s)

Edward R. Royce, Chairman

Check all of the following that apply:

Open Session ☑
Executive (closed) Session ☐
Televised ☑

Electronically Recorded (taped) ☑
Stenographic Record ☑

TITLE OF HEARING:

The Geopolitical Potential of the U.S. Energy Boom

COMMITTEE MEMBERS PRESENT:

See Attendance Sheet.

NON-COMMITTEE MEMBERS PRESENT:

None.

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.)*

SFR - Connolly

TIME SCHEDULED TO RECONVENE _____
or
TIME ADJOURNED *11:53 p.m.*

Jean Marter, Director of Committee Operations

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Insert for the Record
Submitted by the Honorable Jeff Duncan

THE WALLSTREET JOURNAL

REVIEW & OUTLOOK

A Gas Export Strategy

Opponents don't understand energy markets or price expectations.

March 19, 2014 7:28 p.m. ET

The latest excuse for not exporting America's domestic energy resources to reduce Vladimir Putin's political influence is that it's too late to save Crimea. The anti-fossil-fuel left always has a reason not to drill, but their argument this time defies economic logic.

The U.S. oil and gas revolution has handed President Obama a powerful policy tool, and one way to wield it would be for the Energy Department to approve immediately the 25 applications for liquefied natural gas (LNG) export terminals. Opponents, including the White House, claim the timing is wrong because the first U.S. LNG export facility isn't due online until next year; others are even further off; Ukraine doesn't have a facility to receive and convert LNG back to gas; and U.S. LNG exports are most likely destined for Asia in any event.

Asked how the U.S. could liberate Europe from Russian gas, White House press secretary and geostrategist Jay Carney opined that exports are a "complicated process and more of a long-term proposition." For people who don't understand markets, supply and demand expectations may be complicated. For anyone else, this is easy.

Opinion Video

Author Rupert Darwall on why many European countries are dependent on Moscow for oil and gas. Photo credit: Getty Images.

The growth of LNG—which can ship internationally—has created a more global natural gas market. That market is forward-looking, and any clear signal that the U.S. intends to boost its exports will contribute to expectations about lower future prices. Even if some U.S. gas flows to Asia, the global supply will increase.

This is especially important to the many European nations that are currently dependent on Russia for 70% to 100% of their gas. Jaroslav Zajicek, deputy chief of mission for the Czech Republic, told a House hearing last year that his country has found that even the decline in U.S. gas *imports* in recent years has freed up more gas for Europe, lowered prices, and thus "weakened" the "Russian negotiating position during contract-renewal talks."

Europe has an extensive pipeline network, which means that U.S. gas making it to any port of entry would reduce overall European dependence on Russia. Spain has an LNG receiving terminal that can add fuel to the European pipeline, while countries like Lithuania (100% dependent on Russian gas) are racing to get a floating LNG import terminal online by the end of the year.

The ambassadors of Hungary, Poland, the Czech Republic and Slovakia recently wrote to House Speaker John Boehner with a plea for more gas, noting that technology allows them to reverse gas flows back to Ukraine. In 2013 alone, Ukraine imported from Poland and Hungary almost two billion cubic meters of gas. With Russia unilaterally raising gas prices on the Ukraine, the more ability Europe has to undermine those price hikes, the more limited the Russian influence.
Another excuse for doing nothing is that even if Energy approves all 25 applications, the projects must still endure federal and local environmental and safety reviews. True enough. Yet this misses that blanket approval would let the market sort which facilities are best positioned for an efficient regulatory review, project financing and contracts. The Energy bureaucracy's current approach—plodding through each application on a first-come-first-serve basis—means that the best projects may be at the end of the queue.

Blanket approval would have an equally important psychological impact. The Russian economy—and Mr. Putin's political cronies—are highly dependent on petro dollars. His gas stranglehold has also given Mr. Putin enormous political leverage over former Soviet satellites. Every dollar of U.S. gas that flows to the world market is one less dollar flowing to Mr. Putin's economy and his energy blackmail racket. Mr. Putin would get the message that even if he can swallow Ukraine, his future leverage will decline.

Martin Dempsey, as dovish a Chairman of the Joint Chiefs as America has had, told a House hearing last week: "An energy independent [U.S.] and net exporter of energy as a nation has the potential to change the security environment around the world—notably in Europe and in the Middle East. And so, as we look at our strategies for the future, I think we've got to pay more and particular attention to energy as an instrument of national power. And because it will very soon in the next few years potentially become one of our more prominent tools."

Mr. Obama has been told all this by his military advisers, American CEOs, foreign leaders and Members of Congress. He knows more gas exports are in the U.S. national interest. The case is so overwhelming that the White House "timing" excuse can only be explained as cover for the President's unwillingness to offend his green money-men who hate fossil fuels. He is letting partisan politics interfere with U.S. economic and strategic interests.

Statement for the Record
Submitted by Mr. Connolly of Virginia

Russia's invasion of Crimea drew near-universal condemnation as a clear breach of international law. In the analysis of how to bolster Ukraine in the aftermath of the crisis, the United States and its allies ought to resist the temptation to suggest that any one solution will buttress Ukraine and punish Russia in one fell swoop. There is no silver bullet that will solve Ukraine's problems. While I agree that Ukraine ought to diversify its energy resources with the support of the United States and its allies, the current situation is complicated and, like all complex issues in the national security and foreign policy realm, will require a multi-faceted solution with short, medium, and long-term aspects.

To date, the U.S. and EU have focused on a multi-pronged approach that includes loan guarantees, sanctions, economic aid, and military maneuvers with European countries such as Poland, Bulgaria, and Romania. With regard to exporting Liquid Natural Gas or LNG directly to Ukraine, there are several obstacles, including the lack of export facilities in the United States. Further, energy companies in the U.S. let the free market guide them, and there is no indication that they would sell to Ukraine for U.S. national security reasons, especially given the financial state of Naftogaz, Ukraine's national oil company. Perhaps the best way to assist Ukraine and pressure Russia, as experts from the Center for Strategic and International Studies have said, is to "[encourage] significant structural reforms in Ukraine that result in a vibrant, transparent, and market-oriented energy sector."[1]

I understand how the situation in Ukraine has reinvigorated energy export advocates. The situation seems like the perfect nexus of two high-profile issues: energy and national security. But I would caution individuals who have a laser focus on this issue at the cost of all others when it comes to Ukraine. For example, support for loan guarantees to Ukraine, which this Committee and the entire House of Representatives supported, has yet to receive a full vote in the Senate. It seems like putting the cart before the horse if we are looking at energy solutions without addressing Ukraine's dire financial straits.

Oftentimes advocates see an opportunity to tie their agenda to a high profile issue, and I don't blame them for it. Yet, there is no easy fix here, as Russia's 2008 war with Georgia has shown us. I fear that focusing on Ukraine solely through the lens of U.S. energy exports risks missing the big picture—namely that Vladimir Putin is undaunted despite the negative ramifications his actions are having on the Russian economy. Just last week, S&P downgraded its outlook on the Russian economy from "stable" to "negative," and the Russian stock index has dropped 10 percent since the start of the year. If Vladimir Putin's goal was to deter Ukraine and other former Soviet nations from turning to the West, then he has failed utterly and miserably. They're looking at this aggression and turning even more to the West. It appears that Putin has some psychological chip on his shoulder, and an aggressive, multilateral approach that targets him and his thugocracy on multiple fronts is the best way forward.

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[1] Please see "Crisis in Ukraine: What role does energy play?" by Edward C. Chow, Sarah O. Ladislaw, Michelle Melton. March 17, 2014.

MATERIAL SUBMITTED FOR THE RECORD BY THE HONORABLE GERALD E. CONNOLLY, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF VIRGINIA

Keystone pipeline jobs claims: a bipartisan fumble

Posted by **Glenn Kessler** at 06:02 AM ET, 12/14/2011

(Alex Wong/GETTY IMAGES)

"The Keystone energy project would create tens of thousands of American jobs."

— House Speaker John Boehner (R-Ohio), Dec. 10, 2011

- Read more at PostPolitics.com
- Senate GOP blocks vote on payroll tax plan
- House GOP challenges Obama on payroll tax
- Fact Checker: Wild Keystone pipeline jobs claims

- Obama threatens to veto House payroll tax cut bill

"At a time when many are without work, it is time that we come together in a bipartisan way to pass this legislation which will create tens of thousands of new jobs."

— Rep. Dan Boren (D-Okla.), Dec. 12, 2011

"The privately financed Keystone XL pipeline project is projected to create tens of thousands of U.S. jobs in construction and manufacturing."

— Mark H. Ayers, president of the building and construction trade department, AFL-CIO, Nov. 3, 2011

"My administration will stand behind the Keystone pipeline, creating more than 100,000 American jobs while reducing our dependence on overseas imports."

— Former Utah governor Jon Huntsman (R), Nov. 1, 2011

There is bipartisan consensus: The Keystone XL pipeline means jobs, jobs, jobs.

The Obama administration last month announced that it was taking more time to consider how to balance environmental concerns and economic issues in deciding whether to approve the pipeline, which would carry heavy crude oil from Canada's Alberta province to the Gulf Coast. (Skeptics would suggest the White House wanted to avoid angering two key allies during an election year.)

Ever since, advocates of the pipeline have pressed the case that thousands of shovel-ready jobs are being delayed by the administration's inaction, with House Republicans including a shortened timeline for a permit in legislation extending the payroll tax cut.

We've repeatedly warned that many "job creation" statistics are often guesstimates of estimates, and should be viewed skeptically. By some accounts, the number of jobs that would be created could be as many as 150,000. But the State Department in August put the number of construction jobs at just 5,000 to 6,000.

What's going on here?

The Facts

TransCanada Corp., which is pushing to build the pipeline, claims that Keystone XL "was poised to put 20,000 Americans to work to construct the pipeline." The company also cites another figure — 118,000 spin-off jobs Keystone XL would create through increased business for local restaurants, hotels and suppliers — that comes from a study commissioned by the company. The study even suggested that under "normal" oil price assumptions, the number of permanent jobs would top 250,000.

These statistics form the basis of most of the claims made about the jobs supposedly created by the pipeline. Caveat emptor: the company building the pipeline is obviously going to offer the rosiest scenario possible. One should especially view with a large grain of salt any study for which it paid good money.

Juliet Eilpern and Steven Mufson of The Washington Post explored some of the problems with these numbers in an article last month, but their analysis apparently did not get enough attention. Here's what they wrote:

A key question for the administration is how many jobs the Keystone XL project would create. TransCanada's initial estimate of 20,000 — which it said includes 13,000 direct construction jobs and 7,000 jobs among supply manufacturers — has been widely quoted by lawmakers and presidential candidates.

[TransCanada chief executive Russ] Girling said Friday that the 13,000 figure was "one person, one year," meaning that if the construction jobs lasted two years, the number of people employed in each of the two years would be 6,500. That brings the company's number closer to the State Department's; State says the project would create 5,000 to 6,000 construction jobs, a figure that was calculated by its contractor Cardno Entrix.

People can reasonably disagree whether one should look at the overall size of the construction force — as the State Department did — or whether one should look at jobs per-person-per-year. Obviously, the second method can greatly increase the number of "jobs," depending on the length of the project. TransCanada officials also argue that the State Department estimate was made before binding labor contracts were signed, which they suggest means the estimate could increase.

Opponents and proponents of the project have also disagreed over whether as many as 7,000 indirect supply chain jobs will be created. (That's the rest of TransCanada's 20,000 figure.) Much of that figure depends on where steel pipe will be fabricated, with opponents claiming that many of the jobs will actually be outside the United States.

Opponents obviously have their own reasons for minimizing the number of jobs created. But the biggest stretch in all of these figures is the biggest number: the 118,000 "spin-off" jobs that supposedly would be created from building the pipeline. (This is again "person-year" jobs.)

This figure, calculated by Ray Perryman, a Texas-based consultant, depends mostly on two key figures, both of which are estimates: the basic capital costs, and the multiplier effect. As opponents have documented, if the capital costs are lower than predicted, and if the multiplier is smaller, then the number of "spin-off jobs" can shrink dramatically. The same goes for the estimates of "permanent jobs," which depend also on the price of oil.

And what are some of these jobs? The TransCanada report does not say but Perryman used a similar technique for a report touting the benefits of a wind farm project.

Among the list of jobs that would be created: 51 dancers and choreographers, 138 dentists, 176 dental hygienists, 100 librarians, 510 bread bakers, 448 clergy, 154 stenographers, 865 hairdressers, 136 manicurists, 110 shampooers, 65 farmers, and (our favorite) 1,714 bartenders.

He even suggested the project would create jobs for 898 reporters and 98 public relations people, but that ratio seems off these days. Surely, it must be reversed. Anyway, you get the picture.

The House Speaker is the most prominent person in recent days to claim "tens of thousands of Americans jobs" would be created. Brendan Buck, his spokesman, defended the use of the figures. "Americans need jobs, and however you slice the numbers, approving this project will create a whole lot more of them than punting on it — like the president has done," he said.

The Pinocchio Test

The main problem with all of the "tens of thousands of jobs" statements above is that they are spoken with such certainty and conviction. (Huntsman, who is running for the GOP presidential nomination, gets special mention for grabbing the highest possible number — 100,000!)

There is no hint that these are company figures, that these are estimates, that these are "person-year" jobs — or that some of the estimates are likely pie in the sky.

Lawmakers on both sides of the aisle may have legitimate reasons for pushing this project, but they don't need to oversell it. Imagine if someone actually said: "The company says this project will create an estimated 13,000 construction jobs over two years."

That, at least, would be closer to the truth.

Two Pinocchios