ENERGY OPPORTUNITIES IN LATIN AMERICA AND THE CARIBBEAN

HEARING

BEFORE THE

SUBCOMMITTEE ON
THE WESTERN HEMISPHERE

OF THE

COMMITTEE ON FOREIGN AFFAIRS
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

APRIL 11, 2013

Serial No. 113–20

Printed for the use of the Committee on Foreign Affairs

Available via the World Wide Web: http://www.foreignaffairs.house.gov/ or
http://www.gpo.gov/fdsys/

U.S. GOVERNMENT PRINTING OFFICE

80–365PDF WASHINGTON : 2013

For sale by the Superintendent of Documents, U.S. Government Printing Office
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ENERGY OPPORTUNITIES IN LATIN AMERICA AND THE CARIBBEAN

THURSDAY, APRIL 11, 2013

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON THE WESTERN HEMISPHERE,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC.

The subcommittee met, pursuant to notice, at 3:04 p.m., in room 2200, Rayburn House Office Building, Hon. Matt Salmon (chairman of the subcommittee) presiding.

Mr. SALMON. Thank you so much for being here. I am usually overly concerned about time, so I apologize for keeping you waiting.

The quorum is present, and the subcommittee will come to order. I am going to start by recognizing myself and the ranking member to present our opening statements. And without objection, the members of the subcommittee can submit their opening remarks for the record.

Now I yield myself as much time as I may consume for my opening statement.

Good afternoon, and welcome to what is really part II of our subcommittee's look at energy security and prosperity in the Western Hemisphere. Our last hearing focused on Canada and Mexico specifically. We had the opportunity to discuss the Obama administration's unfortunate pattern of obstructing and delaying some of these energy-related projects, such as the Keystone XL Pipeline that will stand to benefit job creation and increased energy security.

We also talked about the real possibility of structural reforms to the Mexican state-owned oil company Pemex, and hope that these reforms will lead to increased production and increased prosperity for Mexico as well as the United States.

We also lamented the administration's failure to send the transboundary Hydrocarbons Agreement with Mexico to Congress for approval, putting in question our Nation's commitment to partnering with Mexico to improve its production and exploration in pursuit of energy security and mutual prosperity.

But I will say that at some of the recent meetings that we have had with the administration, I have been very pleased that language has been submitted that is acceptable to the administration. And I want you to know we are now doing everything we can to work with Members of Congress to move this forward as quickly as possible, because I think it's a win/win.

Today we are going to take a look at the rest of the region and hear from administration officials, industry, and regional experts on what the energy matrix looks like in Latin America. I wanted this subcommittee to lead the discussion on how to focus on energy production in the Western Hemisphere, and how this focus should be centered on leveraging vast energy resources to help the region as a whole achieve energy security and prosperity through true market reforms to the sector and beyond.

The United States needs to be a constructive and willing partner in the region and truly become a shining example about how opening up energy regimes can help resource-rich nations create jobs, stimulate growth, and generate prosperity. Unfortunately, as we review the opportunities available, again we find some examples of the administration standing in the way of some of the initiatives that will benefit our Nation's energy security and job creation.

Similar to delays in the Keystone XL Pipeline approvals, the administration has been delaying approving of the LNG export licenses to the Caribbean, Europe, and Asia. And I hope to hear more about this from our witnesses. In my view, the delays are just more of the same, and I would like to—I believe it is important for this subcommittee to make clear we want to see the U.S. move forward with energy-related efforts and end some of the perceived stall tactics.

There is so much promise in the region, from pre-salt discoveries off the coast of Brazil to the successes brought on by Colombia's energy sector reforms, and, most importantly, from the oil and gas renaissance we have enjoyed right here in the United States. We are now in the great position to truly help our region achieve greater prosperity, job creation, and energy security.

This subcommittee will be a loud voice in favor of exporting our values of free enterprise and open markets to the betterment of the region's growth and energy security. I truly believe we have a real opportunity to achieve energy independence right here in this Western Hemisphere if we unlock our true potential.

I want to thank Ambassador Pascual, State Department's Energy Envoy and Coordinator for International Energy Affairs; and Mr. Matthew Rooney, Deputy Assistant Secretary of State for Western Hemisphere Affairs.

I want to welcome our second panel of witnesses also: Jorge Piñon of the University of Texas at Austin; Mr. Eric Farnsworth, the Council of the Americas; and Mr. David Goldwyn of Goldwyn Global Strategies. I look forward to their testimony and hearing their perspectives on how we can achieve our goals of a more prosperous and energy-independent hemisphere.

Thank you. Thank you all very, very much for taking the time to be with us today to discuss this important and timely topic.

I would like to now recognize Ranking Member Sires for his remarks.

Mr. SIRES. Thank you, Mr. Chairman.

Good afternoon, and thank you to our witnesses for being here today.

Today's discussion is an effort to address what has long been an oversight in our foreign policy: Integrating energy policy with our national security interest. Oil production has increased in the

United States, but it has not increased enough to overcome our need to import oil. The United States imported four times the amount of—it exported in 2011 alone. This is a worrisome—this is worrisome, giving our energy dependence to nations residing in unstable regions of the world and to nations whose governments are at times hostile to our national interest. As a result, it is imperative that our energy security policy be not knee-jerk reactionor an afterthought in our foreign policy considerations.

The resurgence of oil and gas productions in the U.S. will change both the global landscape and geopolitics of energy. The United States is predicted to overtake Saudi Arabia as the largest the global oil producer by 2020. And a significant expansion of U.S. oil production could push oil prices down enough to devastate oil-producing nations. Regardless, I am realistic in regards to the nature of our energy independence.

Inasmuch as the United States remains integrated with global energy markets, no amount of oil or gas will completely insulate the United States from global events and price disruption. The more likely scenario is that the future in the U.S. production will simply have a shock-absorber effect to sudden spikes in energy prices. So in light of these predictions and in spite of our energy renaissance, I believe it is dangerous to allow ourselves a false sentence of security.

We get about half of our oil petroleum from the Western Hemisphere, half of which is from Canada. And after Saudi Arabia, Mexico is the United States' third largest supplier of petroleum. Venezuela has up to 88 percent of the region's proven oil reserve and accounts for roughly one-third of our oil imports from the region. And Brazil is the world's second-largest producer of ethanol in the world after United States.

On the other hand, in countries like Venezuela, Bolivia, Ecuador, and Argentina, expropriations and the nationalization of private industries have become the norm rather than the exception. Many of the beneficiaries of Venezuela's Petrocaribe program have few energy resources and are heavily dependent on oil imports. And with oil accounting for nearly 70 percent of the energy need of smaller countries, economic growth has been a difficult achievement. Meanwhile, in Mexico, we will not—we will have to wait and see if President Pena Nieto's energy reform will be realized.

It is for these reasons that the Western Hemisphere must play a critical role in our energy security policy, and why I believe committed engagement on energy cooperation throughout the hemisphere, it is in the national interest of the United States. Our national security requires energy policy be a central component of our foreign policy. We should build upon and expand our energy diplomacy effort, mitigate the Caribbean's dependence on subsidized Venezuelan oil, and support the economic growth of the region in ways that are both relevant and practical to the needs of everyday people.

And I thank you, Chairman, for holding this meeting.

Mr. SALMON. Before I introduce the witnesses, I do want to say something else for the record. What an honor and pleasure it has been to serve with the ranking member. You know, we talk a lot in this country about the need for bipartisanship, and I have never seen a gentleman more willing to reach across the aisle on policy in the Western Hemisphere than Mr. Sires.

It is just a real pleasure to work with you. And I am really excited. I think that maybe we can show the rest of this place how bipartisanship can really work.

Mr. SIRES. I feel the same way about you. Must be my Cuban genes.

Mr. SALMON. All right. Pursuant to committee rule 7, the members of the subcommittee will be permitted to submit written statements to be included in the official hearing record. Without objection, the hearing record will remain open for 7 days to allow statements, questions, and extraneous materials for the record, subject to the limitation of the rules.

I would like to introduce the first panel. Honorable Carlos Pascual. Ambassador Pascual is the State Department's Special Envoy and Coordinator for the International Energy Affairs. In this capacity he advises the Secretary on energy issues, ensuring that the energy security is advanced at all levels of U.S. foreign policy.

Prior to his appointment, Ambassador Pascual served as the United States Ambassador to Mexico and was vice president/director of the Foreign Policies Studies Program at the Brookings Institution. Ambassador Pascual received his M.P.P. from the Kennedy School of Government at Harvard University and his B.A. from Stanford University.

Matthew M. Rooney is the Deputy Assistant Secretary of the Bureau of Western Hemisphere Affairs. He led interagency and international negotiations that produced the Secretary's Pathways to Prosperity in the Americas initiative and the President's Energy and Climate Partnership of the Americas.

Mr. Rooney has served in the Ivory Coast, Germany, Gabon, and El Salvador, focusing on macroeconomic policy, energy exploration, and trade issues.

Mr. Rooney studied economics, German, and French at the University of Texas at Austin, and received his master's degree in international management at the University of Texas at Dallas.

Before I recognize you, I have done this before, and I apologize, it is just one of those things, but I am going to explain the lighting system in front of you. You each will have 5 minutes to present your oral statement. When you begin, the light will turn green; when you have 1 minute left, the light will turn yellow; when your time has expired, the light will turn red. I ask you to conclude your testimony once the red light comes on. I am not going to have a heavy gavel today, though; we want to hear what you have to say.

After our witnesses testify, all members will have 5 minutes to ask questions. And I urge my colleagues—looks like me and you—to stick to the 5-minute rule to ensure that the members get an opportunity to ask questions.

Let us begin, Ambassador Pascual. You are recognized.

STATEMENT OF THE HONORABLE CARLOS PASCUAL, SPECIAL ENVOY AND COORDINATOR FOR INTERNATIONAL ENERGY AFFAIRS, U.S. DEPARTMENT OF STATE

Ambassador PASCUAL. Thanks so much, Chairman Salmon, Ranking Member Sires. It is a great pleasure to be with you here today and to have this opportunity to have a discussion of the Western Hemisphere to look at the energy potential in the region and to be able to learn from one another on how we can develop this great potential that you have been mentioning already.

The United States is undergoing an energy revolution. Innovative technology, entrepreneurship and strong commodity prices have spurred the production of shale gas, shale oil, and offshore oil. Combined with vehicle-efficiency measures, the United States has decreased fossil fuel import dependence. Our experience in unconventional oil and gas opens commercial and technological opportunities for U.S. businesses. We are on the verge of comparable breakthroughs in renewable energy, which could provide similar benefits for U.S. industry and job creation. U.S. leadership on these opportunities will have an important implication for continuing and long-term energy security in North America and the rest of the Western Hemisphere.

The U.S. Energy Information Administration estimates that the United States has 24 billion barrels of shale oil resources. The State of North Dakota produces more oil than Ecuador, an OPEC member. We have gone from importing more than 60 percent of the oil we consumed in 2005 to less than 40 percent last year. Canada and Mexico alone accounted for 38 percent of our oil imports in 2012. The potential for North America can multiply this type of transformation that we are seeing today.

While Canadian and U.S. oil production have been rising, Mexican production has dropped since 2004. Mexican President Enrique Pena Nieto, as Congressman Sires has noted, has now made energy reform a priority. If it is successful, imagine these possibilities: If Mexican production could regain the level it had in 2004, by 2035 North American production can rise from 18 million barrels a day to over 23 million barrels a day. That jump alone in volume approaches the current combined production of Iraq and Venezuela, to give you the scale of possibility that exists in our hemisphere.

A similar story is playing out in global natural gas markets. In the last 5 years, U.S. gas production has increased 24 percent. Natural gas once intended for the United States is meeting demands in markets around the world. New supplies for Mozambique, Norway, Russia, and Australia are revolutionizing the world's gas markets. The potential in Mexico has only started to be explored.

These revolutions in oil and gas build a picture in which North America can be a hub not only for U.S. energy security, but global energy security. We have to keep seeing the hemisphere in that context that is the foundation for stability and security for the entire world, and this can come with benefits for stabilizing markets and contributing to our economic growth at home.

There are also opportunities in Argentina, Brazil, Colombia, Peru, Trinidad and Tobago. Their challenge, the challenge of these countries, will be to attract the commercial investment needed to enable development, and each country is approaching this challenge differently.

Venezuela, with one of the largest oil reserves in the world, faces a critical moment. Since a peak in 1997, production has declined by about 1 million barrels per day. With the upcoming elections Venezuela's new leadership will have the chance to create an environment that attracts investments and technologies that are revolutionizing global markets elsewhere and potentially could benefit Venezuela's people, its economy, and world markets as well. That choice is one they have to make regarding the kind of policy environment they set for international investment.

Throughout the Americas, the exciting prospects for commercial opportunities and economic growth are just as great in the power sector. The International Energy Agency estimates that the Americas, excluding the United States, will require $1.4 trillion in power sector investments by 2035 to meet electricity demand.

Our companies are already associated with 4.5 gigawatts of lower-carbon-energy development in the region. For example, a U.S. company, Sempra, plans to build a 1.2-gigawatt wind farm in Mexico, where the first phase will generate 156 megawatts with a U.S. $300 million investment. OPEC and Ex-Im are considering an additional $650 million in clean-energy projects in Mesoamerica in 2014. The Brazilian Government has announced plans to spend more than U.S. $330 billion in power generation and transmission through 2021. These are all opportunities for American business for trade and investment.

As we work to expand the potential for energy revolution in the region, we cannot forget the Caribbean. The islands of the Caribbean have been saddled with some of the highest electricity prices in the world, as much as four to five times what we pay here in Washington, due to their dependence on imported diesel fuels. Technology and good business practices can give them an alternative.

For example, Ex-Im Bank has provided a $6.4 million loan guarantee to finance the export of the SolarWorld Americas solar modules to Barbados. OPEC is going to provide $50 million to support the Caribbean Idea Marketplace, a business competition designed to foster collaboration among Caribbean diaspora entrepreneurs. Just in the past few days, we heard from colleagues in the Dominican Republic, new projects that are being considered to tap the vast gas potential that could exist in the United States and could allow creative power-generation projects in the Dominican Republic.

Entrepreneurship and innovation rooted here in the United States has given us a remarkable opportunity for this hemisphere with global significance. Innovation and resources are allowing us to grow economically and to protect our national security. We can do this in ways that protect the planet, and as we expand these opportunities regionally and globally, we will create jobs at home. It is a moment of opportunity that we cannot waste.

Thank you for the opportunity to discuss these important issues with you today. And I appreciate your willingness to add our witness statement to the record as well.

Mr. SALMON. Thank you, Ambassador.

[The prepared statement of Ambassador Pascual follows:]

Written Testimony of
Special Envoy and Coordinator for International Energy Affairs
Carlos Pascual

U.S. Department of State

Before the

House Committee on Foreign Affairs
Subcommittee on the Western Hemisphere
United States House of Representatives

Energy and the Western Hemisphere

April 11, 2013

Thank you Chairman Salmon, Ranking Member Sires, and members of the sub-Committee. I appreciate the opportunity to be here today to discuss our perspectives on the importance of energy in the Western Hemisphere. This is a story that integrates geopolitics with the extraordinary technology boom in our energy sector today, and it sees tremendous opportunities for U.S. energy security, commercial interests, and regional development and stability.

The United States is undergoing a revolution in our energy sector. A combination of technology innovation, entrepreneurship, and strong commodity prices has spurred a revolution in the production of shale gas, shale oil, and offshore oil. Production, combined with vehicle efficiency measures has decreased U.S. import dependence on fossil fuels. A decade ago, most experts predicted that the United States would become the world's largest importer of liquefied natural gas – today, we're seen as potentially one of the world's more significant exporters. Our experience in unconventional oil and gas opens an array of commercial and technological opportunities for U.S. companies. We are on the verge of a similar revolution in renewable energy, which, if developed well, can provide similar benefits for U.S. industry. At this crucial moment, U.S. leadership on these opportunities will have important implications for continuing and long-term energy security in North America and the rest of the Western Hemisphere.

North American Energy Development

The energy trading relationship with Canada is a cornerstone of North American energy security. The U.S. Energy Information Administration (EIA) estimates that the U.S. has 24 billion barrels of shale oil resources, and the state of North Dakota now produces more oil than Ecuador, an OPEC nation. Proven Canadian oil reserves are estimated at 175 billion barrels. As essentially all Canadian energy (oil, gas, and electricity) exports are to the United States, our countries have an unparalleled energy trading relationship, but it is also experiencing a phase of adjustment as U.S. production of oil and gas soars.

As the United States and Canada experience an increase in production, trade, and interconnectedness, the trend has been quite different with Mexico. Mexico has 10.2 billion barrels in proven reserves, but its production fell by 23 percent from 2004 to 2011, and nearly all projections forecast Mexican production will continue to decline in the short-term. This significant trend is often attributed to the maturation of major fields and the challenges for the national oil company, PEMEX, to maintain the necessary levels of investment in the sector. Newly elected Mexican President Pena Nieto has made energy reform a priority, and if it is successful, Mexico could attract international investment to develop its hydrocarbon resources. This would strengthen both North American energy security, and Mexico's fiscal position.

Despite the challenges facing Mexico in the near term, the exciting story here is that North America as a whole could boost national and global energy security. Global oil prices are increasingly driven by the demand of non-OECD countries, mainly China and India. For this reason, increased North American production could be critical to world supplies, and provide greater consumers and economic growth.

Natural Gas Market Development
A similar story is playing out with global natural gas markets. As U.S. natural gas production, largely from unconventional sources, has increased from 18 to 23 trillion cubic feet (tcf) since 2005, there has been a boom in manufacturing and other industries, and reductions in green house gas emissions. Canada is exploring opportunities to export Liquefied Natural Gas (LNG), and has attracted significant American, Malaysian, Chinese and UK investment in the sector. Mexico's shale gas potential is enormous as its northern border contains portions of the Eagleford Shale play that is producing gas and gas liquids in Texas, and Argentina has great potential as well. In this formative stage of unconventional gas development, the United States has a critical role: as the pioneer of shale gas technologies and with significant industry talent and capability, we can share lessons learned and best

practices with other countries that choose to explore their own shale gas resources, and help them do it in a sound and sustainable way. For example, preventing fugitive methane emissions not only preserves a valuable product, but also avoids emitting one of the most dangerous green house gasses. In addition to helping other countries prevent avoidable mistakes, this outreach brings more confidence and stability to gas markets, which are still in the formative stages of development. While gas is not yet a global commodity, we may witness, in the coming years, vast increases in gas production from an increasing number of countries. With respect to markets, this will tend to create an environment of greater competition, which can drive down costs and bring benefits to consumers. But it will also have extensive geopolitical consequences.

Just 20 years ago, most gas importers, particularly those in Europe, relied on pipeline monopolies for gas supply. The countries that supplied these point-to-point pipelines had significant leverage over those that depended on them. However, gas markets are now evolving towards Liquefied Natural Gas (LNG) trade, which can be shipped in tankers to any place in the world with LNG import terminals. The United States' own decision on whether to allow the export of LNG will be completed by the Department of Energy. Beyond the United States, gas markets are changing globally. Currently, the second largest gas reserves in the world are in Iran. Whether those resources are used to compete in a global marketplace, or are used to gain excess leverage, is a concern for the United States. Therefore, it is in our interests to see strong, competitive gas markets that preclude suppliers from using gas as a geopolitical point of leverage with its neighbors. It is also one more reason why the ability to produce more gas resources in the Western Hemisphere is also in our own national interest to support.

The Power Sector

This global revolution in gas markets is also leading to a transformation in the power sector. How the world generates and uses energy, especially electricity, is changing quickly. The availability of natural gas has led to innovations in the power sector, resulting in cleaner, more efficient generation and a reduction in green-house gas emissions. Looking forward, it has the potential to be the foundation of the U.S. power sector, both as a cleaner thermal fuel and as a fuel that can complement intermittent renewable technologies. How this is managed will have massive global implications for carbon dioxide emissions and climate change.

But let us look practically and pragmatically at the near term, and what this power sector transformation could mean for our industries in natural gas, renewable energy, and transmission and distribution infrastructure. The size of the power market is enormous: the IEA estimates that the power sector in the Western Hemisphere, excluding the United States, will need US$ 1.4 trillion in investment by 2035 to keep up with demand. It is in the interest of the United States to play a part in this market, and take advantage of this development to grow our own economy. A number of U.S. companies are already active in these markets: for example, U.S.-based AES has operations in the Dominican Republic, El Salvador, and Panama, where it operates 3.5 GW of installed capacity. The Ex-Im Bank has recently helped create 200 jobs in six states, when it approved a $28.6 million direct loan to a Honduran power company, which will purchase high-tech U.S. wind turbines for the Cerro de Hula wind farm in Santa Ana, Honduras.

One Initiative provides an example where benefits for U.S. commercial interests, U.S. and regional energy security, and greater regional growth and stability can all be achieved. The "Connecting the Americas 2022" Initiative (Connect 2022), unveiled by President Obama and Colombian President Santos at the Sixth Summit of the Americas one year ago, is a hemispheric Initiative that works to assist countries to achieve their renewable energy goals and promotes regional interconnection of power markets, from Canada to Chile. The United States already has extensive interconnections with Canada; last year our countries traded over 62 billion kilowatt hours (kWh) of electricity. Mexico and the United States trade much less, with 11 interconnections and about 1.5 billion kWh of trade in 2011. We continue to build on these opportunities, as do our businesses. For example, Sempra Energy, a San Diego-based energy company, has plans to build a wind farm in a region of world-class wind resources in Baja California, using U.S. wind technology components, and exporting the power back across the border to serve the San Diego market.

Interconnection can bring different kinds of benefits to different regions. For example, in Central America, markets are very small -- all together they account for less electricity demand than the state of South Carolina -- which makes it difficult to attract large-scale investment. They have a strong dependence on heavy fuel oil for electricity production, which is dirty, expensive, and almost entirely imported. The cost of this energy dependence is large, and links their economies to volatile oil prices, undermining their ability to grow and develop economically. Interconnection within Central America, and also with Colombia and Mexico, would promote greater energy security through the creation of more competitive, standardized, resilient, and larger markets. It is also an important step toward regional integration and prosperity.

Connect 2022 is also working in the Andes region, where the markets are larger but experience severe weather effects. Colombia derives approximately 70 percent of its electricity from hydropower, and most years it has excess capacity. But it is also hypersensitive to the *El Niño* effect, which causes droughts every two-to-seven years, requiring them to maintain a large number of inefficient thermal plants to cover shortages. Ecuador and Peru also have hydropower resources, but experience their *El Niño* effects during different months than Colombia, such that "wheeling" power north and south between these countries will allow their systems to complement one another during shortages. Interconnection among these countries would enable a more efficient use of existing resources, eliminating the need to build redundant large-scale dams, which increasingly raise concerns for environmental and indigenous rights groups. Governments in the region with large hydro-dependence are already exploring additional ways to provide their population centers with affordable power, such as through solar, wind, geothermal technologies, as well as natural gas and smaller-scale run-of-river hydro projects. In order to take advantage of those resources, countries must develop their power sector infrastructure, including smartgrid technologies. All of this spells tremendous commercial and development opportunities, and companies around the world are taking notice.

Geopolitics
In addition to the technical and investment challenges that must be overcome by the region, there are also significant geopolitical challenges. The Caribbean region suffers some of the highest electricity prices and lowest investment rates in the world. The energy security of many in the region, including the Dominican Republic, Jamaica, Haiti, and Cuba, relies upon Venezuela's Petrocaribe agreement, which supplies below-market financing for Venezuelan oil, and has left a number of them in serious debt to the Venezuelan parastatal oil company, Petroleos de Venezuela S.A., or PDVSA. Venezuela's oil policies going forward will continue to have important implications for the region, as well as the Venezuelan people. For countries in the region, a step toward greater energy diversification gives them the opportunity to lessen their dependence on imported oil, to build greater resilience in their markets and economy, and to enable those reforms that could bring down their electricity prices and give them the opportunity to compete.

Venezuela itself faces questions about its energy future. Despite extensive heavy oil resources, PDVSA's oil production has been generally falling since 1997, due to a lack of capital investment and maintenance of its facilities, as well as the politicization of its workforce. The EIA estimates Venezuela currently produces

2.5 million barrels per day, versus 3.5 million barrels per day in 1997. While the United States continued to import approximately 900 thousand barrels per day from Venezuela in 2012, the ascendance of North American production may affect this amount. But the greatest effects of Venezuela's energy policy will be for Venezuela itself. In the last few years, ordinary citizens in Venezuela have been subject to longer and more frequent power shortages, which hurt businesses and affect everyday life. Many of these challenges could be tackled by addressing the commercial viability of the sector. Ultimately, this is a question for the Venezuelan people to decide for themselves.

Brazil is another place where political decisions will have a strong impact on energy security and international opportunities. Brazil has vast potential in the hydrocarbons sector, with pre-salt recoverable resources estimated at 50 billion barrels of oil equivalent, one of the largest and most advanced biofuels industries in the world, and extensive wind and hydro resources. Brazil has also begun to explore its potential in shale gas development. Brazil's oil parastatal Petrobras, which has been given the lead in pre-salt development, faces significant technical, human and manufacturing capacity challenges to exploit these resources. Due to its economic growth over the last 10 years, Brazil is estimated to need to double its energy capacity in the next 10-15 years. Its power sector, like Colombia's, is 85 percent reliant on hydropower. This mix, while it makes important contributions in terms of Brazil's greenhouse emissions, has also led to severe power outages due to shortfalls in hydroelectric power plant capacity during peak demand periods. As Brazil faces these challenges and choses a strategy including local content requirements, its ability to draw on international skills and resources to ensure the safe and efficient development of its oil, gas, and renewables sectors will have major consequences for global opportunities in these sectors.

Another example is Argentina, which may have the third-largest shale gas reserves in the world. One potential challenge is the effect that last year's YPF expropriation had on the overall investment climate in Argentina's energy sector. We hope that YPF's recent agreement with Dow Argentina is a sign of a more productive attitude toward supporting a transparent and open investment environment. Argentina has great potential to help supply world energy markets and contribute to global energy security. Attracting private investment and creating confidence in Argentina's business climate over the long term are elements of meeting their potential.

There are also some issues that are universal for all energy-producing countries, such as the need to develop new resources responsibly and transparently. The "resource curse" thesis was first used in describing the situation in several Latin American countries, and countries in the region continue to face governance challenges today in managing these resources. A number have taken steps to address them, including by joining the Extractive Industries Transparency Initiative, and we will continue to make this a priority in our bilateral relationships with resource-rich countries in the region. The Energy Resources Bureau at the State Department also supports programs such as the Unconventional Gas Technical Engagement Program, the Energy Governance Capacity Initiative, and the Power Sector Program, which work to help countries throughout the hemisphere to explore conventional, unconventional, offshore resource development, and power sector development through technical assistance and sharing of best practices.

Fundamentally, the energy picture in the Western Hemisphere is deeply complex and interconnected, with spectacular opportunities for U.S. jobs, commercial interests, economic development, and energy security linked to the political perspectives in Canada, Mexico, Venezuela, the Caribbean, and beyond. As world energy markets transform, reflecting our own energy revolution, the United States has much to share and much to gain from being a formative part of the picture. This is especially true in the Western Hemisphere. From building North American energy security and shaping natural gas markets to paving the road for tomorrow's commercial and innovative transformation, the United States must continue to lead, to share our best practices and lessons learned, to support transparency and an even playing field, and to give our companies and innovators access to tomorrow's energy markets. All these activities are critical to achieve our own energy security, as well as to deliver greater economic development, energy access, and stability for a stronger, safer, and more prosperous future for the Americas. Thank you for the opportunity to discuss these important issues with you today.

Mr. SALMON. Mr. Rooney.

STATEMENT OF MR. MATTHEW M. ROONEY, DEPUTY ASSISTANT SECRETARY, BUREAU OF WESTERN HEMISPHERE AFFAIRS, U.S. DEPARTMENT OF STATE

Mr. ROONEY. Thank you, very much, Mr. Chairman, Mr. Ranking Member. Thanks for this opportunity to be here with you today to discuss these issues. We are grateful for this committee's attention to this set of issues, and we look forward to working closely with you to advance U.S. energy security in the Western Hemisphere.

As Ambassador Pascual has already noted, the Americas hold tremendous strategic importance for the United States in terms of energy. As energy demand continues to grow, both globally and in the region, all countries in the hemisphere have a vested interest in developing energy resources and the capacity to fuel sustainable economic growth. That is why the Bureau of Western Hemisphere Affairs has made it a central component of its economic strategy for the region for the last several years to conduct a dialogue with our partners throughout the region on energy, energy security, and renewable energy.

Through both bilateral and multilateral efforts, we have supported renewable—we have supported regional energy security by promoting the safe, sustainable development of energy resources. We have promoted increased access to affordable, reliable energy services, and the development of transparent, effective market structures that incentivize private-sector investment and provide opportunities for U.S. businesses in the region.

In the coming years, we expect our energy interdependence with the region to increase, as oil producers such as Canada, Brazil, and Colombia ramp up output, and as Mexico considers important reforms to increase its production. But while countries like Canada, Mexico, Brazil, and Venezuela have significant hydrocarbon resources, others in Central America and the Caribbean remain dependent on imported energy. This is one of the many reason it makes sense to focus on the Western Hemisphere's large potential for renewable energy.

In many Latin American countries, hydropower has traditionally played an important part in the energy matrix. Most countries also possess significant wind, solar, geothermal and bioenergy potential, and a number are setting targets to integrate renewables in their energy grids.

Through the Energy and Climate Partnership of the Americas, which was launched by President Obama at the 2009 Summit of the Americans in Trinidad, the United States is working with governments, the private sector, and NGOs in the region to promote development and deployment of renewable resources and technologies.

It is important to acknowledge that energy development projects even with conventional or renewable resources are not without controversy. In recent years large-scale hydropower projects have begun to attract more concern among human rights and environmental and indigenous groups. The construction of new transmission lines can improve the stability of power markets and lower prices for consumers, but their construction can also have adverse environmental and community impacts. We have used diplomatic engagements through out the region to urge governments to take full account of these impacts.

From the point of view of the United States, our work on promoting renewables, access and reliability under ECPA and the Connect 2022 initiative supports not just regional market development, but, equally importantly, more importantly, significant trade and investment opportunities for U.S. companies. Increased electrical interconnection in the region will open opportunities for investment in electrical generation and transmission, as well as good management technologies, all areas where U.S. businesses are highly competitive and where we work very closely with the Department of Commerce, the Export-Import Bank, and the Overseas Private Investment Corporation to ensure that the U.S. private sector has up-to-the-minute information on opportunities that exist.

We still face major challenges in the Americas. Countries that have pursued statist, nontransparent energy policies have seen their production decline, despite the high energy prices of the past several years. These countries have found it difficult to attract the necessary investments, both foreign and domestic, to help their energy production and economies grow. We continue nonetheless to advocate open and transparent energy markets free from corruption and reinforced by strong protections for investment to help countries enhance output and promote long-term economic growth.

As our closest neighbors and strongest trading partners, the energy and economic security of the Western Hemisphere is critically linked to our own. We have maintained a sharp focus on furthering our national energy security, promoting alternative and renewable sources of energy, fostering energy efficiency, promoting environmentally sound production and use of energy, and ensuring the stability and security of international energy supply. Continued progress will require patience, continued commitment and robust engagement, which our bureau, in partnership with Ambassador Pascual, are prepared to provide.

Thank you very much, Mr. Chairman, Mr. Ranking Member, other members of the committee, for your interest. I appreciate your willingness to enter the larger statement into the record and to present this shorter summary to you today. I appreciate very much your continued interest in this issue, and look forward to answering any specific questions or concerns that you might have.

Mr. SALMON. Thank you very much.

[The prepared statement of Mr. Rooney follows:]

Testimony of Deputy Assistant Secretary of State Matthew M. Rooney
Before the House Foreign Affairs Committee
Subcommittee on Western Hemisphere
United States House of Representatives
"Energy and the Western Hemisphere"
April 11, 2013

Chairman, Ranking Member, honorable Committee members, it is a pleasure to be here today to testify on energy issues in the Western Hemisphere. We welcome the Committee's attention to this issue and appreciate its support of our efforts to advance U.S. and regional energy security throughout the hemisphere.

The Americas hold tremendous strategic importance to the United States in terms of energy. Latin America is home to the second largest reserves of oil outside the Middle East. Currently, over 50 percent of the United State's oil imports come from countries in the Western Hemisphere. As energy demand continues to grow – both globally and in the region – all countries in the hemisphere have a vested interest in developing energy resources and capacity to fuel sustainable economic growth. But we should also take a broader view of the central role that energy plays in the lives of our citizen. Energy touches everything, and is at the crux of some of the most pressing social, financial, and environmental issues we deal with in the region.

This is why our engagement on energy continues to be a central part of our broader economic policies and engagement strategy in the region. While our efforts are wide-ranging, our strategy is focused. Through both bilateral and multilateral efforts, we are supporting regional energy security by promoting the safe, sustainable development of energy resources; increased access to affordable, reliable energy services; and the development of transparent, effective market structures that incentivize private sector investment and provide opportunities for U.S. businesses in the region.

A Safe, Sustainable Energy Future

In coming years, our energy interdependence with the region will only increase, as oil producers such as Canada, Brazil, and Colombia ramp up output, and Mexico, already a major energy producer, considers important reforms to increase its production. This is why we're focused on working with our hemispheric partners to ensure that hydrocarbon resources – both conventional and unconventional – are developed safely, efficiently, and sustainably. The United States has extensive experience and has developed significant expertise in permitting, regulatory oversight, and incident response planning for conventional and unconventional resource exploration and extraction. The Administration is sharing these environmental, regulatory, legal, and commercial best practices with other countries in the region to ensure that resources are developed in a responsible and environmentally-sustainable manner.

But while countries like Canada, Mexico, Brazil, and Venezuela have significant hydrocarbon resources, others in Central America and the Caribbean are fully dependent on importing energy, and do so at a high price. In the Caribbean, over 90 percent of commercial energy consumption is petroleum-based, and over 95 percent of all electricity is generated by fossil fuels.[i] This over-reliance on one resource is incredibly expensive, rendering these countries less competitive and unduly vulnerable to price shocks and geopolitics.

This is one of the many reasons it makes sense to focus on the Western Hemisphere's large potential for renewable energy. In many Latin American countries, hydropower already plays an important part in their energy mix; most countries also possess significant wind, solar, geothermal, and bioenergy potential. In Latin America and the Caribbean, where electricity prices are high, renewable energy technologies, such as solar and wind, can be quite cost-competitive with respect to thermal generation. Despite these advantages, countries in the region have historically been slow to adopt the use of renewable energy, with the exception of hydropower and traditional biomass, due to the small scale of individual markets, lack of awareness, inadequate regulatory policies, and a shortage of private investment or other forms of project financing.

In recent years, however, interest in exploiting the region's renewable energy potential has been increasing steadily. Through the Energy and Climate Partnership of the Americas (ECPA), which was launched by President Obama at the 2009 Summit of the Americas, the United States is working with governments, the private sector, and NGOs in the region to promote development and deployment of renewable resources and technologies in places where those technologies can make a difference. For example, through a pilot-project grant to the Organization of American States, we supported the installation of solar panels at the National Energy Commission headquarters in the Dominican Republic, the country with the highest rate of power outages in the region. The Government of the Dominican Republic is now seeking to install solar panels on other government buildings, and has highlighted this project as a best practice to be replicated country-wide.

In South America, governments are taking note of the benefits that renewable technologies can offer, and are integrating them into their grids and establishing renewable energy targets. Coupled with a decrease in technology costs and government incentives for investment, this has spurred growth in renewables, particularly in wind and solar. Industry experts predict that more than 450 megawatts will be generated by grid-connected photovoltaic solar panels installed in Latin America and the Caribbean this year, up from just 100 megawatts in 2012.[ii] Brazil, Chile, and Mexico are expected to be the drivers of the majority of the growth.

It is important to acknowledge that energy development projects, either with conventional or renewable resources, are not without controversy. In recent years, large-scale hydropower projects have begun to attract more concern among human rights and environmental groups. Such projects can require land acquisitions and resettlement of people, lead to soil erosion of surrounding land and adversely affect animal and plant life of the region. The construction of new transmission lines can improve the stability of power markets, lower prices for consumers, and increase access to electricity, but their construction can also have adverse environmental impacts. Communities are often caught in the middle. Our engagement, however, can help bridge these issues. In Panama, for example, an indigenous community in the Embera region was opposing proposed transmission lines that would run through its territory. Our embassy in Panama invited the community's leaders to visit the United States and meet with U.S. government representatives and indigenous groups in the Pacific Northwest to learn how to negotiate with power companies. During their visit, they told us: "We know this is a business proposition, and we know that no one will benefit if the line is not built. But we also want development, and we also need energy." Since their visit, the Interconnection Colombia Panama consortium has been working with the community, which has now approved the initial stages of environmental assessments for the transmission lines, and the government is taking steps to address their energy needs through the Government of Panama's Department of rural electrification.

Access to Affordable, Reliable Energy Services

Despite the region's role in global energy production and the wealth of energy resources it possesses, more than 31 million citizens in the hemisphere still lack access to electricity. This impacts the development of communities, the health of families and children, and overall economic prosperity. In rural communities not connected to the grid, it is common practice to harvest wood for cooking in a traditional but unsustainable way. Wood used for in-home or open fire cook stoves causes air pollution and deforestation, and can have serious negative impacts on health. In communities across the hemisphere – from Mexico to Paraguay – thousands of people die each year because of injuries and illness associated with traditional and open-fire cookstoves. The use of cleaner cookstoves and cleaner burning fuels can solve multiple problems at once. Through the ECPA, the Department of State is supporting programs that provide clean cookstoves and increase access to sustainable, reliable, and affordable electricity services. In Central America, the U.S.-based non-profit *Trees, Water, and People* is using a grant from the Bureau of Western Hemisphere Affairs to partner with local organizations to provide training for in-home, off-grid solar technologies and fuel-efficient cookstoves to rural residents. We also support Peace Corps volunteers in eleven countries in the region working with rural communities to build awareness of renewable, off-grid energy technologies that educate citizens on energy conservation, support small-scale, community-led renewable energy projects, and improve quality of life by generating income while reducing carbon emissions. These projects, and others like them, are critical to alleviate poverty and support low-emissions economic development in the region.

But access to electricity is not our only goal. Electricity must also be reliable and available at an affordable price. In the Caribbean and Central America, electricity costs are three-to-four times more expensive than the United States. In the past 12 months we have seen high prices and the threat of wide-spread blackouts spur social unrest in countries across the region, including the Dominican Republic and Guatemala.

To mitigate the hardships imposed by such high-costs, many governments in the region provide significant energy subsidies to consumers. Throughout the world, market-distorting energy subsidies have proven an inefficient mechanism for protecting the poor since they allow leakages into wealthier social groups and result in higher demand volumes and energy shortages. According to the International Energy Agency, energy subsidies cost Ecuador approximately $5 billion U.S. dollars per year, Mexico $10 billion per year, and Venezuela up to $20 billion a year.[iii] Additionally, subsidies place an increasing burden on governments' accounts and divert scarce resources away from issues such as education spending, healthcare, and citizen security.

We are addressing the issues of access, affordability, and reliability through Connecting the Americas 2022 (Connect 2022), the newest hemispheric initiative under the ECPA. Connect 2022 was launched by the Government of Colombia at the 2012 Summit of the Americas with the vision of providing universal access to affordable, reliable electricity within the next decade. For smaller economies and energy markets, electrical interconnection can decrease the cost to consumers through greater market efficiency and lower generation costs. Interconnection can also minimize shortages and supply disruptions, especially in a region that is highly dependent on hydropower and imported oil and vulnerable to severe climate events. Realizing the vision of hemisphere-wide electrical interconnection and increased access to electricity over the next decade will require strong government action and vigorous private sector investment - and work is already underway.

Transparent, Effective Market Structures

Within the Americas there is broad support for democratic values, market-based economies, and regional integration. These shared values provide a base for robust engagement on energy sector development. Our geographic proximity, technological expertise, and industry leadership make U.S. energy companies highly competitive in the region's expanding markets.

Our work under ECPA and Connect 2022 supports regional market development and business opportunities. Increased electrical interconnection in the region will open broad opportunities for investment in electrical generation and transmission, as well as in grid management technology - all areas where U.S. businesses are highly competitive. It will also help create a business climate that accelerates development of renewable energy as countries swap power with one another to more effectively utilize clean energy resources.

Additionally, we are working with the Department of Commerce, the Export-Import Bank, and the Overseas Private Investment Corporation to provide better and more readily available information on investment opportunities throughout the hemisphere that may be attractive to U.S. businesses.

We still face major challenges in the Americas. Countries that have pursued statist, non-transparent energy policies have seen their production decline despite high energy prices over the past couple of years. These countries have found it difficult to attract the necessary investments, both foreign and domestic, to help their energy production and economies grow. But our balanced approach of focused technical cooperation and broad policy discussions has provided an avenue for engagement with most countries in the region – even some with which we have significant differences. We continue to advocate open and transparent energy markets, free from corruption and reinforced by strong protections for investments, to help countries enhance output and promote long-term economic growth.

The Future of Energy in Western Hemisphere

As our closest neighbors and strongest trading partners, the energy and economic security of the hemisphere is critically linked to our own. Increased production, diversification of resources, and economic growth have increased regional energy security. We have maintained a sharp focus on furthering our national energy security, promoting alternative and renewable sources of energy, fostering energy efficiency, promoting environmentally sound production and use of energy, and ensuring the stability and security of the international energy supply. Continued progress toward a cleaner, more diversified energy future will require patience, continued commitment, and robust engagement.

Thank you Mr. Chairman, Mr. Ranking Member, and members of the Committee for your time. I appreciate your continued support and attention to this issue and the opportunity to testify. Thank you.

[i] IDB: Renewable Energy Best Practices in Promotion and Use for Latin America and the Caribbean, November 2011.
[ii] Solar in Latin America & the Caribbean 2013, GTM Research.
[iii] Source: IEA World Energy Outlook 2011.

Mr. SALMON. I would like to yield myself 5 minutes for questions, and I would like to start with you, Ambassador. Thanks for the testimony and the time that you have given to us to come before the subcommittee and talk about this extremely important topic.

My question is about the LNG licenses that have yet to be resolved. And how the DOE continues to, in my view, stall on issuing those licenses despite its own commission's study confirming that price increase concerns are not really the issue. I am wondering if you can tell me from the administration's perspective why the delay? I have heard it described just as with the delay and approving the Keystone XL Pipeline of paralysis by analysis. And this continued paralysis, is it affecting job creation and prosperity that can result from moving ahead with LNG exports? We have such a low price right now with LNG and such a vast supply in the United States, and it seems to me that could be a win/win. Is this something that we can find some common ground on and move ahead?

Ambassador PASCUAL. Mr. Chairman, thank you for the interest you have taken on the topic. And you really put your finger on an issue which has been critical in global markets, which is what has happened with the emergence of natural gas. And part of that has been here in the United States, but what we have also seen is a radically changing gas market throughout the world.

We have had some—the biggest finds in the world that we have seen in Mozambique in the last 30 years, in Australia, in Israel, in Cypress, and in Norway. So we need to think about this from a broader global perspective and the United States fitting into that picture.

I can assure you that our colleagues in the Department of Energy are serious about this issue. It is a topic that we talk about on a regular basis, and that they are proceeding with due diligence.

They published a study, as required under the Natural Gas Act of 1926, in December. That study laid out the parameters for what the benefits would be from natural gas exports for the United States. In accordance with that law, they had two comment periods that have been completed. The first comment period is open to everybody; the second comment period is to accept rebuttals of any of the first comments. That closed on February 22nd. There has been a relatively short period of time since then to take into account all of those comments.

What they now need to do is go back through the 16 applications that they have received and make final judgments. In making those judgments, they have to take into account both the initial study and the broad commentary that has been received.

I know that they have an interest in being able to review that, and bring it to conclusion, and be able to come forward with recommendations that they think are going to be consistent with the national interests of the United States. It would be premature for me to suggest what those outcomes would be, but I think it is fair to say that with the urging that you have given, the urging and the interest that the industry has had, that they recognize the importance of trying to move this issue along as quickly as possible.

Mr. SALMON. Okay. Thank you very much. I just would like to note that there is a lot of interest on both sides of the aisle in getting this issue revolved as quickly as possible so that we can get on with prosperity and energy independence, and I think that that achieves both objectives in due measure.

I have one other question, Ambassador. It is just kind of a personal bone to pick, and it is not necessarily with the administration. I think it is our policy on ethanol here in our country, and it deals with Brazilian ethanol, because you mentioned that in some of your comments.

I understand that we put a pretty heavy import fee on Brazilian ethanol, which is derived from sugarcane, as opposed to corn as it is here in the United States. And I am just wondering, it appears that the reason that we put such a—given the administration's strong support for free trade and constructive engagement, especially within our hemisphere, it kind of appears that what we are trying to do is provide some kind of unfair protection for our own home-grown ethanol when it appears that the Brazilian opportunity might be a pretty good one. And I would just like your thoughts or comments, and if I am asking the wrong person, you just tell me. But I feel frustrated that it feels a little bit protectionist that we are importing—you know, we are putting these high tariffs on the importation of Brazilian ethanol, and I would like to maybe understand what the rationale might be.

Ambassador PASCUAL. You are right, Chairman, to keep focused on this market and the potential that it has.

Let me just mention a couple of things. Specifically the tariff that you mentioned expired last year. There is an ironic situation that the Brazilians face right now that international sugar prices have been so high that they have actually been exporting the sugarcane for sugar rather than using as much of it as they have in the past for the production of ethanol. So, ironically, we have been in a situation where the Brazilians have actually been importing ethanol from the United States.

Together we have actually been working and identifying projects in Central America, the Caribbean, and even in some African states where we are trying to take some of the technologies, the commercially competitive technologies in the development of ethanol, and share them with others, as well as advice on the regulatory and pricing structure to make those markets more competitive and viable.

So the competitive environment has improved, and the record of our cooperation with Brazil has indeed improved. Ranking member indicated that you might be going there. If you talk with them about the work that they are doing on ethanol, I would be interested in any feedback that you get on that.

Mr. SALMON. Thank you very much.

I would now like to recognize the ranking member Mr. Sires.

Mr. SIRES. Thank you, Mr. Chairman.

Yes, the chairman has planned a trip to Argentina, Brazil, and Colombia. So at the end of the month, and I guess we will give him some feedback on what we——

Mr. SALMON. Your big focus will be on energy issues.

Mr. SIRES. You know, I sit through these hearings now a couple years, and I have to say I hear the same thing all the time, the opportunities that are available in the Western Hemisphere, how we can—you know, we should take advantage of it. You know, the growth, and, you know, power, electrical power, grids, everything.

But, you know, I also get a lot of people in my office complaining about the corruption and how they can't do business in the Western Hemisphere in some of these countries. So I was just wondering if you could comment, Assistant Secretary, on that, because I do get a number of people. And now we are looking at some of these countries. Argentina just nationalized the oil industry from Spain. You have going on in Ecuador. So can you just comment, because if I were a businessman, you know, I certainly don't know if I want to invest in a country there is no stability. So, to me, it is going to be another situation where the countries in the Western Hemisphere are going to miss an opportunity to—you know, to move ahead. And can you just talk a little bit about that.

Mr. ROONEY. Sure. Thank you very much, Mr. Ranking Member.

There is certainly a range of experiences out there. And there are countries, you mentioned Argentina and Ecuador, where I think American companies and other foreign companies have found it very difficult to operate. In those cases, in Argentina, for example, we have made it very clear, I think, to the Government of Argentina repeatedly and at the highest levels of that government that we think that expropriating assets of foreign companies is not a very promising economic policy, that it is likely to scare investors away, and that private investment is important to growth in any sector. And certainly in the energy sector, private investment is indispensable to sustain long-term development of those assets.

By the same token, in Ecuador we have been following very closely the disputes that have taken place there. We are very clearly aware of the many court cases and arbitrations that are unfolding with respect to Chevron—Texaco Chevron in Ecuador. I think the government there has no doubt about our view of that set of policies.

There are other countries at the other end of the range that are actually pretty clean. Chile has a very clean investment environment, and very transparent system, and a very transparent way——

Mr. SIRES. Can you name a couple of those countries?

Mr. SALMON. So we can recommend them.

Mr. SIRES. So we can recommend them.

Mr. ROONEY. So you can go there, right?

And then there is a bunch in the middle, where admittedly I think even they would admit they struggle with lack of transparency, they struggle with conditions of corruption in public service and in the courts. I think in those cases we have tried now in general, not just with respect to energy, to use different tools to encourage those governments to clean up their acts.

Our free trade agreements that we have with a number of countries, in particular Central America, provide a number of tools and protections that U.S. investors can use to protect their interests. And we have, I think, seen over time that those relationships have encouraged those countries to become more transparent as things go along. There is no question that in many of these countries you have to you have a strong stomach to do business.

Mr. SIRES. Deep pocket, too.

Mr. ROONEY. That being said, I think a number of American investors have proven to have pretty strong stomachs. And you have major U.S. corporations that have been engaged in many of these countries for years and years and years, have found ways to do business and thrive.

So I think certainly when we talk to American companies that are doing business or considering doing business in these regions, we advise them to take great care in selecting their business partners, to take great care in the way they draft their contracts, to take great care in who they hire to represent them, and to stay in close touch with the political environment as things unfold, because things can shift under your feet quite quickly.

Mr. SIRES. Thank you very much.

I am sorry, I have just got one more question. Mr. Ambassador, can you talk a little about the new President of Mexico, his effort to modernize Pemex, and what it would mean if it was able to pass through their legislation—legislature?

Ambassador PASCUAL. One of the things which President Pena Nieto has indicated is that his government and his party is very committed to pursuing comprehensive energy reform. It is a landmark step for Mexico. As you know, natural resources, hydrocarbon resources in Mexico were nationalized in the 1930s. It is a national day in Mexico celebrating the naturalization of those resources.

But Mexico has also taken a very realistic perspective, understanding that they haven't had the capacity to develop deepwater resources or the kind of shale gas and shale oil potential that exists here in the United States. And in order to do that, it is going to require significant private investment.

The first step that President Pena Nieto has taken has been to work within his party to gain the endorsement of the party to actually move forward with comprehensive energy reform. They have been working across a triparty basis of three major parties to build support for that. They have indicated that they want to introduce that reform measure after they complete the telecommunications reform, which is currently in process of working itself through the political system. After going through the parliamentary process, it would have to pass through the states; 21 out of—23 out of 31 states are actually controlled by the PRI.

So there has been quite extensive effort that has been taken to build the coalition for the prospects of energy reform that would welcome the possibility of private investments in a way that protects Mexico's resources, but allows them to be developed in participation with international actors. It is an issue which has very nationalistic resonance within Mexico. Mexico has to take the lead in it, because if they are not seen as leading, if it is seen as being opposed by the outside, that will become a constraint. But at the same time it is quite impressive that there has been a measure, a set of measures that are being developed that are quite as comprehensive and extensive as they are.

I would say, Mr. Chairman, as well, thank you for your mention of the transboundary issues, because I think one of the important steps that can be taken on the part of the United States is to indicate that we can pass the authorizing legislation for the transboundary agreement that would suggest that the U.S. is committed to the agreement that we have already signed together with Mexico that would allow for exploitation and sound environmental management of those transboundary resources between our borders.

Mr. SALMON. Thank you very much.

The chair now recognizes the gentleman from Florida Mr. Radel.

Mr. RADEL. Thank you, Mr. Chair.

I go back to Colombia when we talk about some of these countries where people may be a little apprehensive in terms of investing in. We have seen that Colombia has done partial privatization of their state-owned oil company, and because it is now more of a market-oriented energy sector, it is booming there.

Have we been able to—I guess I would even use the word "educate" or share the message of this kind of great example that we have had in working with Colombia to other countries in an effort to reach out and work with them? Has the administration or anyone from the Department?

Mr. ROONEY. Thank you, Mr. Radel. I think the—the short answer is yes. We are, of course, not shy about pointing out that kind of experience to others in the region. In general, particularly over the last several years, we found it very useful. I think the chairman mentioned an initiative that I was involved in launching a couple of years ago, which was a trade-related initiative called Pathways to Prosperity. There, and in the energy area as well, we found it very useful to create platforms so that experiences like Colombia's can be highlighted so that it is not us making those points to others about the desirability of this kind of privatization and restructuring of an important sector like that, but it is a Latin country outlining its own experience. We found that to be a very powerful—a very powerful way to carry that message. And the experience, as you say, is—pretty much speaks for itself.

Mr. RADEL. With that said, I would actually transition into Mexico with you, Mr. Ambassador. I mean, I am a firm believer that we hear a lot of talk about illegal immigration and fingers point south of all these people who want to cross the border come here illegally. The best way to solve that problem is with a booming economy south of us, and it is imperative for us to work with these countries to foster this kind of growth through market-oriented ways of doing so.

That said, the hydrocarbon agreement, what kind of a signal are we sending Mexico right now with the hold-up in this? And if you could give us some context of the hydrocarbon agreement, where we are at?

Ambassador PASCUAL. Certainly. First of all, on the transboundary agreement, transboundary maritime agreement, the purpose of it was to look at the area which is 1.4 miles on north and south of the border between Mexico and the United States, the nautical border. What in effect we have had thus far is a moratorium in the western gap, but in reality a moratorium over that entire area, because any company that might be looking at any kind of hydrocarbon development is going to look at it with uncertainty because there is a lack of clarity over the ownership of resources.

The discussions on this agreement began in September 2009 when I was Ambassador to Mexico. We went through a negotiation process. There were extensive consultations with industry in the

United States as well as a nongovernmental sector. The agreement was signed in February of last year. The Mexican Parliament has actually ratified that. It is now with the United States to actually pass the implementing legislation that is needed to be able to act on some of the key provisions to be able to implement it.

The language for that agreement has been put forward to the Congress. The administration is fully supportive of moving forward with it as quickly as it possibly can. This is something which the industry feels is positive, because it provides a way of giving greater assurance to develop the resources that are on our side of the border when there are reservoirs that cut across the border; provides a mechanism between Mexico and the United States to create units and cooperation among those units, and where there is advance agreement where in that unit one company gets 60 percent and another one gets 30 percent, or whatever it is, and you know when the oil comes out, there is no argument about how to divide it up because you have already created the unit and reached an agreement ahead of time of how to separate it. And it provides great environmental benefits as well, because it creates a mechanism that allows us to support the Mexican Hydrocarbons Commission. It allows us to be able to, within the individual agreements, ensure that the standards comply with American standards on the environment.

And so it really is a win/win. And so we are extraordinarily encouraged about the positive reception we have seen among various Members of Congress.

What it really needs right now is a vehicle to be able to move it forward, and if any of you can be helpful in that and give some direction and guidance to how that might be able to be done, we would be extraordinarily appreciative.

Mr. RADEL. I am sure that we all have the interest of doing that, working together, even if it is just symbolically to say—to reach out to all of Latin America to say that we are here to work with you.

Ambassador PASCUAL. Thank you.

Mr. SALMON. Thanks, Mr. Radel.

I would just like to say for the record that I strongly support moving that language or some permutation of it that is acceptable to the administration as quickly as possible. I believe that is a big win/win. And we are really fortunate to have a member of our subcommittee who is actually on the committee of jurisdiction that will be looking at that legislation, I think, ultimately, and that is the Resources Committee. And I would like to yield to him. The chair yields to Mr. Duncan.

Mr. DUNCAN. Thank you.

First off, I will just mention that I am currently drafting legislation. Hope to have it ready for your cosponsorship on the transboundary agreement, to move that forward, and working with folks here on the Western Hemisphere Subcommittee, but also Natural Resources, I think, is vitally important.

You know, when I approach American energy independence issues, often talking about, one, North American energy independence, but now I have expanded that on all American energy independence, where we work with our neighbors in this hemisphere, both in Latin America, Mexico, with Canada, I think it is an all-of-the-above approach to truly working with our neighbors. And it also helps foster those economies.

And when the gentleman from Florida was talking about Colombia, I couldn't help but recollect last year I was at the Summit of the Americas in Cartagena, and we met with the Colombian—Albio was there. We met with the Colombian Congress, and they said they keep spending-to-GDP ratio to about 4 percent. They have low taxes. And they just have enough government to support a free market. And the Colombian Government is really thriving.

And so we heard some of the concerns they had that are concerns of mine dealing with energy, and that is a question I have for the gentleman. How are you approaching Venezuela? And that may have been answered already, but Venezuela, with the death of the leader, Hugo Chavez, there, are there efforts to move away from U.S. dependence on Venezuelan oil or natural gas? And, you know, how do we work with the other neighbors within the Latin American community and in this hemisphere to move them away from Venezuelan dependence and maybe more toward an American or North American or Western Hemisphere agreement?

So I think the transboundary agreement helps with that with Mexico, but I would like to see how we approach Venezuela and those issues now. And I ask that of both of you gentlemen.

Mr. ROONEY. Thank you, sir.

I think as we look forward over the next couple of days to the Presidential election in Venezuela, we are all waiting to see what happens. Perhaps not terribly suspenseful, but we are waiting to see what happens nonetheless.

On the subject of Venezuela's energy trade with the United States, I think, as I recall, it is something in excess of 40 percent of Venezuela's exports of oil come to the United States, which, in turn, represents something less than 10 percent of our imports of oil. So it has been our sense throughout, and I think it helps explain why Mr. Chavez never used oil as a weapon against us, that, in fact, the importance to Venezuela of the U.S. as a market and as a place to refine its oil is actually quite, quite significant, and perhaps in some ways more important than Venezuela as a supplier to the United States. Ten percent is nothing to sneeze at, but it is nonetheless less than 40 percent.

We have a testy relationship with Venezuela. We have looked for opportunities to engage in areas of mutual interest. We think we have mutual interests with Venezuela, potentially, in counternarcotics, counterterrorism, and energy, and we have not found them terribly receptive in the past.

We are hopeful that the future will bring an opportunity to have a more constructive relationship with Venezuela. Nonetheless, I think you are absolutely correct that the opportunities for energy integration and energy trade in the rest of region are significant and offer us enormous opportunities to shift our trade elsewhere and to work more closely with other partners.

Mr. DUNCAN. And Ambassador?

Ambassador PASCUAL. Let me focus on the Caribbean aspect of this question, because the subsidies that Venezuela has provided the Caribbean countries have perpetuated a dependence on imported fuels, particularly diesel fuels.

I mentioned my in my testimony that right now in the Caribbean, countries are paying, people are paying, businesses are paying four to five times for electricity than what we pay, higher than what we pay here in the Washington, DC, area, about 35 cents a kilowatt hour. In the past countries have been hesitant to raise their concerns about that energy dependence because they have been concerned about the subsidies that they have been receiving from Petrocaribe.

The United States has been deeply engaged in the region, and we have been working with them through a mechanism called the Caribbean Renewable Energy Forum. And increasingly what we have heard from country after country is that the demands that they are hearing from their people and their businesses is that they need to enter in a competitive global economy. And as many of you have said, you can't be competitive if you are starting off already by paying four or five times more for the price of electricity than everybody else.

So among the things that we have been working on are a range of possibilities that could look at possibilities of the use of gas, of wind, of solar energies, and ways that can reduce the cost of electricity generation. We have already seen some prospects, including within the United States and Puerto Rico, and not far away, in the Dominican Republic, to lower the cost of the generation.

One of the things that these countries are finding is that to make it possible to attract the investment that is necessary, they have to create a better business climate, as you have indicated. But we have seen, for example, recently with the Dominican Republic efforts that they are trying to make to meters on their systems so that they can actually gauge who is using electricity and who is not and be able to collect from them.

This whole effort of good business climate, real business opportunities, the reduced cost of alternative fuel mechanisms than what we have seen in the past, together can begin to create—is already creating an alternative environment for power generation, which offers a real prospect to the region that they haven't in the past. And we are very much committed to be able to work together directly, with these countries directly, with the Inter-American Development Bank, with the World Bank, and most importantly with the private sector, because in the end one of the key things is going to be can you attract private investment to those kinds of projects in a way that is sustainable. Because these things can't run on the basis of subsidies. They have to run on a sound commercial economic basis.

Mr. DUNCAN. And I think I applaud the chairman. Earlier in his statement he talked about LNG exports. And I think one thing the administration can do is help expedite the permitting for LNG terminals so that we can export some of this gas. When you talk about quality-of-life issues, if we could export American gas to Latin American countries, if you travel to that area, the prevalent smell is charcoal because a lot of folks in that area cook and heat their homes with charcoal. If we could change that over to natural gas, refrigeration from propane, other things, there are just a world of opportunities to improve the quality of life of folks in Latin American through American and North American and Western Hemisphere energy sources.

And with that I will yield back, Mr. Chairman.

Mr. SALMON. Absolutely.

The chair would like to yield one additional question from the ranking member.

Mr. SIRES. You know, as the Congressman said, we spent a good deal of time with Members of the Congress in Colombia. It was very informative, the way they are moving forward. We also talk about their relationship with Chavez.

I just think that this politics of Chavez to give oil to the Caribbean nations basically was just used to turn them against the United States. And I do hope that the new President, even though he talked to the little bird the other day, changes the policy, because I don't think we can afford to have all these people that are dependent on Venezuela really day by day turn against us.

So we somehow in the State Department and through our energy policies here, we have to find a way of—how can I say it—battle that, because really—you know what I am talking about. You know. They give money to the Dominican Republic. Excuse me. Great prices to the Dominican Republic. Some of the small islands. Obviously, Cuba is the biggest beneficiary of that policy.

So I was just wondering, you know here is what they are doing. They having an election. How are we going to approach that? You know.

Mr. ROONEY. Thank you, sir.

I think you won't hear us defending Mr. Chavez's approach to this set of issues. We have certainly shared the concern about Petrocaribe—that is the program we are talking about here—over the last several years. I think the economic pressures on some of the recipient countries have been acute, especially 2 or 3 years ago when petroleum prices had spiked. Those countries are very, very dependent on imported fuel, both for electricity generation and for vehicle fuels. And so the pressures that they were under were simply irresistible, and I think they bought into Petrocaribe largely out of economic motives, not really for ideological reasons.

I think the success—I am not sure if I would have considered it cost-effective if I were the Venezuelan Government in terms of political payoff, because I think some of those countries have, you know, indicated that they were not entirely comfortable with the political pressures they were being put under, and looked for ways for escape.

When you look, I think, at the production of oil in Venezuela, the budget situation of Venezuela, price conditions there, you know, inflation is very high. I think you are looking at a potentially fragile financial situation. And sooner or later the budget realities are going to be such that any government is going to be under pressure to question that use of resources into the region. So I wouldn't—wouldn't want to speculate how long that might be, but I think budget realities have a way of catching up with the government.

Mr. SIRES. It is mind-boggling to me to see a country with, what, 80 percent, 88 percent of the oil in the Western Hemisphere, and they are broke.

Thank you, Mr. Chairman.

Mr. SALMON. Well, thank you very much, gentlemen. I appreciate your testimony before the subcommittee, and we look forward to working with you on all these issues. Thank you.

Mr. SIRES. Thank you very much.

Mr. SALMON. I would like to seat the next panel if we could. Thank you very much.

Okay. Thank you.

Looks like we are ready to introduce the next panel. Thank you for taking time to testify.

First we would like to introduce Jorge Piñon. Jorge Piñon is the director of the Latin American/Caribbean Program at the University of Texas as Austin. He was president and CEO of Transworld Oil USA prior to joining AMOCO Corporation as the president of AMOCO Corporate Development Company Latin America. In this position Mr. Piñon represented the business, development, and joint venture efforts in Latin America between AMOCO Corporation and state oil companies. He holds a degree in economics and a certificate in Latin American studies from the University of Florida.

Now I would like to turn to Mr. Farnsworth. Eric Farnsworth is a vice president of the Council of the Americas and Americas Society. Mr. Farnsworth began his career in Washington with the U.S. Department of State. Also, he was a senior advisor to the White House Special Envoy for the Americas. Eric Farnsworth holds an M.P.A.—that is a great degree; I have the same one—in international relations from Princeton's Woodrow Wilson School.

Next up, Mr. Goldwyn, David L. Goldwyn, is president of Goldwyn Global Strategies. Under his supervision GGS has staged shale gas regulatory workshops for government regulators in Belgium, Poland, Rumania, Bulgaria, and Ukraine. Also, Mr. Goldwyn served as the U.S. State Department Special Envoy and Coordinator for International Energy Affairs.

Mr. Goldwyn holds a B.A. in government from Georgetown University and a master's in public affairs from the Woodrow Wilson School of Public and International Affairs at Princeton University, and a J.D. from New York University School of Law.

Mr. Piñon, we would like to start with you.

STATEMENT OF MR. JORGE R. PIÑON, ASSOCIATE DIRECTOR, LATIN AMERICA AND THE CARIBBEAN PROGRAM, CENTER FOR INTERNATIONAL ENERGY AND ENVIRONMENTAL POLICY

Mr. PIÑON. Thank you, Mr. Chairman. I ask that my written testimony be included in the record.

Geopolitical uncertainties such as political instability, resource nationalism, civil conflict, economic downturns, and natural disasters in oil-producing countries and exporting countries in all regions of the world threaten both rich and poor nations alike.

Crude oil and natural gas, and now ethanol, have become true global fungible commodities with limited restrictions in their deliverability across oceans and borders. They respectively represent 34 and 24 percent of the world's primary energy consumption, making hydrocarbons the long-term principal fuel of economic growth around the world.

The role played by emerging markets, many of them, such as China, net importers of oil on a grand scale, also adds a new complexity to the challenge of international energy security as these countries race toward resource control outside of their own borders. The energy sector has become to many countries in the world the Achilles heel to their economic survival and growth, making these challenges strategically important issues of geopolitical context.

The Western Hemisphere represents approximately one-third of the world's proven conventional and unconventional hydrocarbon reserves. And like it was mentioned here, Venezuela alone has approximately 300 billion barrels of proven conventional and unconventional reserves. Argentina and Mexico are the third and fourth largest holders respectively of technically recoverable shale gas reserves in the world. Mr. Chairman, nearly 50 percent of world's total shale gas reserves are in the Western Hemisphere.

Today Latin America energy potential is being undermined by a number of serious geopolitical uncertainties, along with economic, environmental, social, and regulatory issues that could impact the monetization of the region's rich hydrocarbon resources. High political risk, onerous fiscal contractual terms and condition, populist rhetoric, and the nationalization of national oil companies' assets have caused the declining exploration and production investment in Venezuela, Ecuador, Bolivia, Argentina, and Mexico, seriously threatening the monetization of the rich hydrocarbon resource in the region.

Most recently Argentina's confiscation without compensation of 51 percent of YPA shares owned by Spanish oil company Repsol reenforces the challenge of resource nationalism in the region. If Argentina, a member of the G20, can carry on these policies without having to face the consequences, the rule of law could be seriously undermined, creating a domino effect in other Latin America countries, Bolivia, Colombia, and Brazil among them.

If countries want to increase energy and resource development activities, they have to offer fiscal and contractual terms and conditions which offer an acceptable rate of return to investors commensurate with their potential and associated technical and commercial risks.

We need to encourage the design of fiscal and investment models that create alignment between the objectives of the host government and foreign investors, while promoting good governance standards and behaviors by reinforcing through other regions the need for, as Congressman Sires raised, rule of law, accountability, transparency, and integrity.

Even though the region, Mr. Chairman, is rich in crude oil and natural gas reserves, it has a considerable deficit in the refinery capacity needed to monetize liquids production into petroleum fuels. Crude-oil-exporting countries, such as Venezuela, Mexico, Colombia, Ecuador, Brazil, and Argentina, are also importers of refined products.

For the first time, Mr. Chairman, since 1949, in 2011, the U.S. became a net exporter of petroleum products. Approximately 50 percent, Mr. Chairman, of the total U.S. petroleum exports in 2012 were destined to Latin America and Caribbean.

A comment: Petrocaribe has delivered 96,000 barrels a day to the region; we have delivered 300,000 barrels of petroleum products to the Caribbean and Central America during the same period.

We believe, Mr. Chairman, that academic institutions can play a role of thought leaders and agents of positive change by transferring knowledge and best practices, thus providing developing countries the opportunity to become fast learners to avoid mistakes made by others and to have access to existing process, research, and best practices that might be beneficial to their specific energy and sustainability needs. The University of Texas, Austin president William Powers, Jr., will be visiting Brazil June 5, 6, promoting the Scientists without Borders program, which will open the way for the Brazilian Government to fund graduate study in the United States for promoting Brazilian students in the STEM field.

It is clear to us, Mr. Chairman, that lessons learned and best practices have to be shared in order to avoid conflicts between good neighbors—Colombia is a good example—and foster conditions and relationships toward energy security and cooperation in the Western Hemisphere.

We thank you, Mr. Chairman, for allowing us to share with you our views on energy challenges and opportunities for Latin America and the Caribbean. Thank you, sir.

Mr. SALMON. Thank you, Mr. Piñon.

[The prepared statement of Mr. Piñon follows:]

Jorge R. Piñon, Director

Latin America and Caribbean Program
Center for International Energy and Environmental Policy
Jackson School of Geosciences
The University of Texas at Austin

The United States House of Representatives
Committee on Foreign Affairs
Subcommittee on the Western Hemisphere

April 11, 2013
"Energy Opportunities in Latin America and the Caribbean"

Geopolitical uncertainties such as political instability, resource nationalism, civil conflict, economic downturns, and natural disasters in oil producing and exporting countries in all regions of the world threaten both rich and poor nations alike.

Crude oil and natural gas have become true global fungible commodities with limited restrictions in their deliverability across oceans and borders in order to meet the growing appetite for energy among emerging economies; they respectively represent 34 percent and 24 percent of the world's primary energy consumption, making hydrocarbons the long term principal fuel of economic growth around the world.

Price volatility, as a consequence of supply uncertainty, negatively impacts economic growth around the world, therefore straining political relationships between exporting and importing countries. A shift in oil revenues can represent an increase or decrease in resources for education, health, and social services, which can have severe economic effects and political and social consequences in both importing and exporting countries.

Over 50 percent of the world's net oil exports are sourced today from politically precarious regions and countries of the world such as North Africa, the Middle East, the Caspian, and the Caucasus, among others.

The role played by emerging markets, many of them, such as China, net importers of oil on a grand scale, also adds a new complexity to the challenge of international energy security as these countries race toward resource control outside of their own borders.

To many countries and regions of the world these potential areas of conflict in the energy sector have become the Achilles Heel to their economic survival and growth, making these challenges strategically important issues in the geopolitical context.

Latin America and The Caribbean does not escape this ominous scenario.

According to the Energy Information Administration (EIA), 29 percent of U.S. petroleum imports come from Latin America and the Caribbean, while only 22 percent of imports are sourced from the Persian Gulf; if Canadian supplies are added to these figures over 50 percent of the United States' petroleum imports come from our regional neighbors in the Western Hemisphere. Mexico and Venezuela are among the top five suppliers of crude oil and petroleum products to the United States.

It is important to highlight that the Keystone pipeline, the reversal of the Seaway pipeline, as well as new and existing shale liquids pipelines, will bring to the U.S. Gulf Coast refineries the flexibility of nearly 3 million barrels per day of new sources of crude oil supply. This will play a very important role in our national energy security strategy as it will create a new supply-demand and price relationship between the United States and Latin America particularly as it relates to future Venezuelan and Mexican crude imports.

The Western Hemisphere represents approximately one third of the world's proven conventional and unconventional hydrocarbon reserves; Venezuela alone has approximately 300 billion barrels of proven conventional and unconventional reserves.

The United States Geological Survey's 2012 "Assessment of Undiscovered Conventional Oil and Gas Resources of South America and the Caribbean" estimates that there is an additional 126 billion barrels of oil and 679 trillion cubic feet of undiscovered natural gas in South America and the Caribbean's 31 geologic provinces, including 55 billion barrels in deepwater Brazil and approximately 14 billion barrels in the Guyana-Suriname offshore basins.

Most recently, a study from the EIA also showed that Argentina and Mexico are the third and fourth largest holders, respectively, of technically recoverable shale gas reserves in the world. According to this study nearly 50 percent of the world's total shale gas reserves are in the Western Hemisphere.

Even though the Western Hemisphere's proven natural gas reserves only represent approximately 10 per cent of the world's total reserves they play an important role in the region's energy balance.

With 305 tcf of proven natural gas reserves, the United States is the largest regional holder of natural gas reserves followed by Venezuela with 176 tcf of proven natural gas reserves; Canada, Mexico, Bolivia, Argentina, Peru, Trinidad and Tobago, and Brazil are also important holders of natural gas reserves. Peru and Trinidad and Tobago are the only two countries in the region currently exporting Liquefied Natural Gas (LNG).

As the United States becomes a future exporter of LNG, it would have a considerable impact in the region's LNG supply/demand balance, particularly as it would compete with regional exporters such as Trinidad and Tobago.

Clearly, Latin America and the Caribbean will continue to be an important strategic energy partner and continued future source of crude oil supply to the United States.

Today Latin America's energy potential is being undermined by a number of serious geopolitical uncertainties, along with economic, environmental, social and regulatory issues that could impact the monetization of the region's rich hydrocarbon resources.

High political risk, onerous fiscal and contractual terms and conditions, populist political rhetoric and the nationalization of foreign oil companies' assets have caused a decline in exploration and production investment both from the state and private sectors in Venezuela, Ecuador, Bolivia, Argentina and Mexico, seriously threatening the monetization of their rich hydrocarbon resource base.

The nationalization of privately held oil and natural gas assets by a number of governments, such as Venezuela's 2007 appropriation of Conoco and Exxon-Mobil assets and Ecuador's 2006 expropriation of Occidental Petroleum assets underline the reality of "resource nationalism" in Latin America and illustrate the potentially negative impact on future development of the region's hydrocarbon resources.

Also most recently Argentina's confiscation without compensation of 51 percent of YPF shares, owned by the Spanish oil company Repsol, reinforces the challenge of resource nationalism in the region. If Argentina, a member of the G20, can carry on these policies without having to face the consequences, the Rule of Law could be seriously undermined, creating a domino effect in other Latin-American countries, further deteriorating the much needed investment climate of the region.

The contentious legal dispute by the government of Ecuador against Chevron for the ecological damage caused by Texaco and its partner PetroEcuador in the development of the Lago Agrio oil field during the 1970s is another example which tends to question the seriousness of some governments in their long term commitment toward the sustainable development of their natural resources.

In order to take advantage of the vast energy investment opportunities in the region, the U.S., and the international community at large, has to strengthen the credibility of investment protection principles and instruments.

Established energy producers such as Colombia, Ecuador, Brazil, Peru, Bolivia, and Mexico, and new oil players such as Guyana and Uruguay will face huge technological challenges in both upstream and downstream resource development and environmental stewardship, along with governance and social responsibility issues related to the management of hydrocarbon resource development.

The development, production, and commercialization of conventional, unconventional, and renewable energy resources is highly capital intensive and requires a high degree of technological evolution, research, and development efforts.

If countries want to increase energy and resource development activities they have to offer fiscal and contractual terms and conditions which offer an acceptable rate of return to investors commensurate with their potential and associated technical and commercial risks.

Host governments fiscal and regulatory investment models objectives are;

- Maximize government revenues from oil and natural gas resources
- Increase and or replace resource base and production
- Attract foreign investment
- Technology transfer
- Infrastructure development
- Job creation

The objectives of investor's (International Oil Companies) are;

- Return on capital commensurate with commercial, technological and political risks
- Increase and replace hydrocarbon reserves

We need to encourage the design of fiscal and investment models that create alignment between the objectives of host governments and foreign investors, while promoting good governance standards and behaviors by reinforcing throughout the region the need for:

- Rule of law: incorruptible law enforcement agencies and an independent judiciary, where legal actions and enforcement follows rules and regulations.
- Division of responsibility between the supervisory, regulatory and enforcement authorities.
- Accountability, where public and private institutions are able and willing to show the extent, to which its actions and decisions are consistent with clearly-defined and agreed-upon objectives.
- Transparency, where government actions, decisions and decision-making processes are open to an appropriate level of scrutiny by others parts of government and civil society.
- Integrity, essential for building strong social responsible public and private institutions resistant to corruption.

According to the International Energy Agency (IEA) Latin America and the Caribbean's petroleum demand will grow in 2013 by 3.1 percent to 6.6 million barrels per day triggered by an increase in vehicle use from a growing middle class.

Even though the region is rich in crude oil and natural gas reserves it has a considerable deficit in the refinery capacity needed to monetize liquids production into commercial petroleum fuels, much needed to satisfy its growing regional demand.

The situation is compounded by the low operating efficiency and lack of heavy bottoms conversion capacity of its existing refining system; in 2011 refinery throughputs in Latin America and the Caribbean were only 71 percent of its available refinery capacity of 8.2 million barrels per day.

Crude oil exporting countries such as Venezuela, Mexico, Colombia, Ecuador, Brazil, and Argentina are also importers of petroleum fuels such as gasoline and diesel, much needed to supply their growing markets.

For the first time since 1949, in 2011 the U.S. became a net exporter of petroleum products. This was due in part to reduced domestic fuel demand and in part to increased production of record amounts of gasoline and diesel from new processing conversion capacity in the Gulf of Mexico coast refineries. Approximately 50 percent of total US petroleum exports in 2012 were destined to Latin America and the Caribbean.

It is highly unlikely in our opinion that the more than 2 million barrels per day of new refinery capacity construction planned in countries such as Mexico, Venezuela, Brazil, and Ecuador will materialize in the next five years; the only new major grass-roots refinery project that is moving forward and will be completed in the near term is the 230,000 barrels per day Abreu e Lima refinery in the state of Pernambuco, Brazil. Latin American refinery expansions planned for this decade will not be enough to stem the region's growing dependence on imported fuels from the United States.

Lastly another important challenge in the region is the shortfall of qualified human capital in science, technology, engineering, and mathematics (STEM) degree programs in institutions of higher learning, particularly in the geosciences and engineering areas of study needed to develop and manage the sustainable production of national energy resources.

We believe that academic institutions can play the role of thought-leaders and agents of positive change by transferring knowledge and best practices, thus providing developing countries the opportunity to become fast learners, to avoid mistakes made by others, and to have access to existing processes, research, and best practices that may be beneficial to their specific energy and sustainability needs.

Programs such as Brazil's "Scientists Without Borders" and the United States' "100,000 Strong in the Americas" promote collaborative academic partnerships between United States and Latin American and Caribbean academic institutions in order to support research and development for new or refined knowledge and ideas in the sustainable development of new technologies to improve the region's energy, economic, and environmental challenges by:

- Promoting institutional exchanges by inviting faculty and staff of the cooperating institutions to participate in a variety of teaching and/or research activities and professional development.
- Receiving undergraduate and graduate students of the partner institutions for periods of study and/or research.
- Organizing symposia, conferences, short courses, and meetings on research issues.
- Carrying out joint research and continuing education programs.
- Exchanging information pertaining to developments in teaching, student development, and research at each institution.

According to the National Science Foundation worldwide R&D expenditures totaled an estimated $1.276 trillion in 2009 (the latest year for which data are available). The United States accounted for about 34 percent of this total, followed by Southeast Asia with 28.9 percent, Europe with 25 percent and South Asia with 2.6 percent; South and Central America and the Caribbean, at the bottom of the list with 2.4 percent of total R&D expenditures.

The University of Texas at Austin has 100-year history of education and research throughout Latin America and the Caribbean. As a result, the University has a vast array of resources that can be utilized to assist in understanding and addressing energy and sustainability issues of importance to the region. These internal assets are force-multiplied by the fact that many of our graduating international students have returned to their home countries, achieved prominence in government, industry, and academia, and can be easily engaged in cooperative discussions and projects.

The University of Texas at Austin's President William Powers, Jr. will be visiting Brazil June 5-6 promoting the "Scientists Without Borders" program, which will open the way for the Brazilian government to fund graduate study in the United States for promising Brazilian students in STEM fields.

It is clear to us, Mr. Chairman that lessons learned and best practices have to be shared in order to avoid conflicts between good neighbors and foster conditions and relationships toward international energy security and cooperation in the Western Hemisphere.

We thank you Mr. Chairman, for allowing us to share with you our views on energy challenges and opportunities for Latin America and the Caribbean. Our goal is, as you clearly stated, "to further enhance partnerships on energy development with our regional neighbors to bring prosperity and stability to all the countries in our hemisphere."

Mr. SALMON. We would like to recognize Mr. Farnsworth.

STATEMENT OF MR. ERIC FARNSWORTH, VICE PRESIDENT, COUNCIL OF THE AMERICAS AND AMERICAS SOCIETY

Mr. FARNSWORTH. Thank you very much, Mr. Chairman. Good afternoon. And thank you to the ranking minority member as well as the other members of the committee. It is a real privilege to be with you today. I think you are going to hear a lot of similarities among us and with some of the other testimony that you have heard previously, and I would like to ask, as well, that my full written statement be submitted for the record.

Mr. SALMON. Without objection.

Mr. FARNSWORTH. I would like to give you the bottom line first. Energy security is of fundamental strategic importance. It has long been a core component of U.S. foreign policy globally on a bipartisan basis, and it is within this context that the nations of Latin America, the Caribbean, and Canada must be considered.

Already just over half of U.S. energy imports come from the Western Hemisphere, meeting approximately one-quarter of our daily energy needs. At the same time, a dramatic expansion of energy resources across the hemisphere made possible by cutting-edge technologies, including ultra deepwater drilling offshore and biofuel production and fracking onshore, has created the possibility of a new, highly favorable paradigm.

As a result, we should seek as a first priority to work together as a hemisphere to increase energy security for all parties in a manner that lowers costs through increased production and greater efficiencies; encourages sustainable economic growth, development, and job creation; and supports a clean-energy matrix with environmental protections. These issues will become even more relevant as the middle class grows and expectations and energy consumptions continue to rise across the hemisphere.

The reality is, we have heard from others already this afternoon, is that the Western Hemisphere is rich in energy resources. Latin America already boasts the world's cleanest energy matrix in large measure due to a reliance on hydropower and the purposeful development of biofuels. Meaningful additional projects in wind and solar are under way.

Nonetheless, traditional fuels will remain critical to meet both regional and global energy needs for the foreseeable future. And here, too, Latin America and the Caribbean boast significant resources. Unfortunately, politics, including populist governance and regional rivalries between and among states, and a suboptimal investment climate in a number of nations, specifically including a weak and malleable rule of law, has led to a sectoral underdevelopment and unnecessary inefficiencies.

At the same time, the United States is not the only Nation that sees the potential for cooperation in Latin America, Caribbean, and Canadian energy. China, for example, which is now the world's top energy consumer, is a relatively recent, but very active participant in the development of regional energy resources, as are other nations, including India and Russia. This is a region that is now in play. In my view, the United States must, therefore, do a better job making the case for regional partnership, because alternatives for the region exist today which simply did not exist a decade ago.

With this in mind, the United States can and should become more proactively engaged in regional energy issues, serving as a resource and a partner for nations that seek engagement with us. In the first instance, we must take several steps in the near term that will show a seriousness of purpose and leadership in hemispheric energy matters. Three come right to mind, and we have discussed all of them to a greater or lesser extent already this afternoon: Approval of the Keystone XL Pipeline as soon as reasonable environmental concerns are addressed; implementation of the pending transboundary Hydrocarbons Agreement with Mexico; and greater alacrity in the effort to approve exports of natural gas.

We should begin to view energy, in my view, and specifically natural gas, as a potent new tool of regional foreign policy, particularly in the Caribbean Basin, including Central America. The Caribbean Basin faces economic challenges unlike the rest of the hemisphere due to small and less competitive economies. As security gains are made in Mexico and increasingly Central America, drug traffickers will change their routes back into the Caribbean, where they came from originally.

Those realities coupled with Venezuela's growing economic challenges and political transition, which may cause Caracas to reduce its provision of subsidized energy under the Petrocaribe program, suggest that now would be an opportune time for the United States to help build will Caribbean competitiveness and job creation in the formal economy. The export of cleaner natural gas and the focus on regional electricity connectivity should, therefore, in my view, underlie such an initiative.

More broadly, the United States has a strategic interest in working with willing nations to develop their own energy resources effectively while promoting models that reduce the negative, if unintended, consequences of energy development. Nations need U.S. technology, management expertise, and investment dollars. They need our education system to develop their engineers and seismologists. They need help to understand regulatory tax and pricing models that work. They need be exposed to best practices and environmental mitigation. And they need technical assistance to improve the investment climate and the rule of law.

And in this regard, let me just raise very briefly one country in particular, because it is so much important in terms of hemispheric energy trends, and that is Brazil, which I believe offers a case study for consideration.

Major discoveries in the pre-salt fields off the coast may soon catapult Brazil into the ranks of the global energy superpowers. Energy cooperation with Brazil is thus a prime opportunity for the United States, as the President said when he traveled there in 2011. At the same time, despite massive potential, development has been slower than predicted due to a number of government-mandated requirements, complicated rule of law, and continued uncertainty in terms of elements such as the sharing out of royalties.

These issues are not unique to Brazil. The purpose in raising them, however, is to suggest that great opportunities in hemispheric energy come with certain challenges as well. Only by focusing purposefully on the region at the most senior levels of government will the United States, in my view, be able to take full advantage of a partnership that is clearly in our self-interest to pursue.

So, Mr. Chairman, members of the subcommittee, I want to thank you again for the opportunity, and I look forward to your questions.

Mr. SALMON. Thank you much, Mr. Farnsworth.

[The prepared statement of Mr. Farnsworth follows:]

COUNCIL OF THE Americas

ENERGY SECURITY OPPORTUNITIES IN LATIN AMERICA
AND THE CARIBBEAN

HEARING BEFORE THE HOUSE COMMITTEE ON FOREIGN AFFAIRS
SUBCOMMITTEE ON THE WESTERN HEMISPHERE
APRIL 11, 2013

ERIC FARNSWORTH
VICE PRESIDENT

***** As Prepared for Delivery *****

Good afternoon, Mr. Chairman and members of the Subcommittee. It is a privilege to be with you today. As you know, the Council of the Americas ("Council") is a leading policy voice on Latin America, the Caribbean, and Canada. For almost 50 years our mandate has been to promote democracy, open markets, and the rule of law throughout the Americas.

As well, for the past several years the Council has organized our Energy Action Group, a public-private dialogue that seeks to focus on the strategic, policy, and commercial issues at the heart of hemispheric energy matters with a view to providing recommendations to policymakers on the Western Hemisphere energy agenda. We genuinely appreciate the opportunity to appear before you to provide testimony regarding energy security opportunities in Latin America and the Caribbean.

Mr. Chairman, if I may give you the bottom line first: energy security for the United States is of fundamental strategic importance. It underlies our ability to function as a modern society, and ensuring energy security has long been a critical component of U.S. foreign policy globally on a bipartisan basis. It is within this context that we firmly believe the nations of Latin America, the Caribbean, and Canada must be considered, leading to a new and abiding appreciation at the most senior levels of government of the strategic importance of the Western Hemisphere to the United States.

The region cannot be an afterthought or taken for granted. Already, just over half of U.S. energy imports come from the Western Hemisphere, meeting approximately one quarter of our daily energy needs. Canada, Mexico, and Venezuela are three of our top suppliers worldwide. We receive more than twice as much energy from Canada, our top supplier, as from Saudi Arabia, our second largest supplier. Colombia, Ecuador, and Brazil also contribute significant amounts.

Even when political relations are troubled with certain countries, for example Venezuela and Ecuador, the United States continues to engage in energy trade on a commercial basis. At the same time, a dramatic expansion of new energy resources across the hemisphere made possible by new technologies including ultra-deep water drilling offshore and biofuel production and fracking onshore has created the possibility of a new, highly favorable paradigm for hemispheric energy.

Herein lies the primary opportunity for regional partnership, if we are nimble enough, collectively, to grasp it: working together as a hemisphere to increase energy security for all parties in a manner that lowers costs through increased production and greater efficiencies, encourages sustainable economic growth, development, and job creation, and supports a clean energy matrix with appropriate environmental protections. In fact, energy partnership was one of the key initiatives at the 1994 Summit of the Americas in Miami, at the insistence of Venezuela, and was one of the deliverables coming out of the 2009 Summit of the Americas in Trinidad and Tobago. Changing sector dynamics make the vision truly compelling, to the extent that regional political challenges can be minimized or overcome.

At the same time, the United States is not the only nation that sees the potential for cooperation in Latin American, Caribbean, and Canadian energy. China, which is now the world's top energy consumer, is a relatively recent but very active participant in the development of regional energy resources, as are other nations such as India and Russia, a trend that we expect will continue and also accelerate into the indefinite future. This is a region that is now in play and in my view, the United States must do a better job making the case for regional partnership because alternatives for the region exist today which simply did not exist a decade ago. A strategic approach to the hemisphere with energy at the core should be at the top of our agenda.

Developing Effective Regional Energy Markets Is Vital to U.S. Interests

Any discussion of hemispheric energy must take as its point of departure the dramatic changes in the industry, particularly on the production side, that have occurred in just the past few years. These changes have broad implications for shifting patterns of energy trade and regional development. By now the story of exploding U.S. production and the potential for energy self-sufficiency is well known. The United States is now the world's largest producer of natural gas and could become the world's largest oil producer by 2020. Estimates suggest that the United States could actually be a net exporter of energy by 2035, a remarkable historical shift.

At the same time, the region's energy demands are increasing as economic growth has produced a new middle class with higher expectations for an improved quality of life. No longer can the hemisphere be easily if simplistically divided into consumers (the United States) and producers (everyone else). This is a game changer. Old patterns no longer hold and the Western Hemisphere must be seen in a new light.

Still, energy markets are global, and the more energy available overall, the better for everyone because that reduces the cost and therefore increases competitiveness. At the same time, greater production by any one country changes its terms of trade, increases investment, stimulates technology transfer, and builds management expertise. When pursued with a broader vision, increased energy production can also contribute to sustainable, environmentally-sound economic development. It is on this basis that partnerships can be pursued with willing partners.

The reality is that the Western Hemisphere is rich in natural energy resources. Latin America already boasts the world's cleanest energy matrix, due in large measure to a reliance on hydropower and the purposeful development of biofuels. Developing clean, renewable energy resources is a regional priority, and meaningful additional projects in wind and solar are underway. Nonetheless, traditional fuels will remain critical to meet both regional and global energy needs for the foreseeable future, and here, too, Latin America and the Caribbean boast significant resources. The region is energy rich. Unfortunately, politics including populist governance and regional rivalries between states, and a sub-optimal investment climate in a number of nations—specifically including a weak and malleable rule of law—has led to sectorial underdevelopment and unnecessary inefficiencies.

Of course, there is nothing more politically fraught in some Latin American and Caribbean countries than national energy policies. These matters strike at the very core of nationalist sensitivities in ways that North American observers cannot easily appreciate. These are sovereign nations with long histories and memories, and the natural resources sector is often ground zero in the national and local discourse, a short-hand, highly symbolic political proxy in nations which lack strong democratic institutions that would normally be expected to channel and address the challenge of competing political interests. These issues go a long way to predicting which nations will be more and which will be less receptive to meaningful energy partnership with the United States.

Specific Actions the United States Should Take

Nonetheless, the United States can and should become more proactively engaged in regional energy issues, serving as a resource and a partner for nations that seek engagement with us. In the first instance, we must take several steps in the near term that will show a seriousness of purpose and leadership in hemispheric energy matters. Three come right to mind: approval of the XL Keystone pipeline as soon as reasonable environmental concerns are addressed, implementation of the pending trans-boundary hydrocarbons agreement with Mexico, and greater alacrity in the effort to approve exports of natural gas particularly to the Caribbean Basin including Central America.

The first of these is rightly seen as an indicator of U.S. willingness to deepen the strategic energy partnership with our top energy supplier, strengthening a relationship that is manifestly in the U.S. national security interest and limiting Canada's potential desire to seek alternative markets including China for its energy resources due to questions about the reliability of the U.S. market.

Second, approval of legislation to implement the trans-boundary agreement with Mexico will likewise be seen in Mexico as a sort of "proof of concept" to find creative ways to introduce outside investment into Mexico's energy sector. It also creates mechanisms to increase collaboration on environmental protection and disaster response, and will open new avenues for U.S. commercial activity which has been desired for many years.

Finally, we should begin to view energy—specifically natural gas—as a potent new tool of regional foreign policy, particularly in the Caribbean Basin including Central America, but only if we first allow ourselves to export it rather than keeping it bottled up in the United States. The Caribbean Basin faces economic challenges unlike the rest of the hemisphere due to small and less competitive economies. As security gains are made in Mexico and increasingly Central America, drug traffickers will change their routes back into the Caribbean. Those realities, coupled with Venezuela's growing economic challenges and political transition which may cause Caracas to reduce its provision of subsidized energy under the Petrocaribe program, suggest that now would be an opportune time for the United States to help build Caribbean competitiveness and job creation in the formal economy. The export of natural gas and a focus on regional connectivity should underlie such an initiative.

More broadly, the United States has a strategic interest in working with willing nations in the hemisphere to develop their own energy resources effectively, while promoting models that reduce the negative if unintended consequences of regional energy development, including a lack of transparency and official corruption, the distorting impact of consumption subsidies, an over-reliance on a single commodity or sector, environmental concerns, and a concentration of wealth and political power around the sector. In order to develop their respective industries, nations need U.S. technology, management expertise, and investment dollars. They need our education system to develop their engineers and seismologists, they need help to understand regulatory, tax, and policy models that work, they need to be exposed to best practices in environmental mitigation, and they need our technical assistance to improve the investment climate and the rule of law.

Brazil Offers Significant Opportunity for Enhanced Partnership

Brazil offers a case study for consideration. Major discoveries over the past decade in the pre-salt fields off the coast may soon catapult Brazil into the ranks of the global energy superpowers. Energy cooperation with Brazil is thus a prime opportunity for the United States. Already, significant agreements have been signed between the two countries, most notably the presidential-level U.S.-Brazil Strategic Energy Dialogue, signed during President Obama's 2011 visit to Brazil. This dialogue reflects the common goals between the two countries for safe, secure, and affordable supplies of energy, in particular oil and natural gas, biofuels, and energy efficiency. Cooperation in the production of biofuels, of which the United States and Brazil are the top two global producers, has been a worthy and productive effort. This is a partnership that can be further developed across the broad spectrum of energy issues.

At the same time, Brazil's energy sector is in transition and the direction the government chooses to go will have longer term implications. The reality is that despite massive potential, development has been slower than predicted. State energy giant Petrobras, while globally competitive, also exercises an inordinate amount of control in the sector, particularly the pre-salt fields. Price restrictions distort incentives. Burdensome local content requirements and a lack of sufficient trained personnel have slowed production timelines. Without firm commitments to produce, equipment such as drilling rigs which must be procured months if not years in advance cannot be locked in. While not directly related to production decisions, the high-level political battle regarding the sharing out of royalties is creating an impression of instability in the sector. Ongoing corruption investigations are also contributing to investor restraint. In fact, local independent private sector operators in the energy sector—those who know the country and sector best—are focusing their efforts onshore and even outside Brazil. And, of course, rule of law remains complicated. The government will hold the next round of bidding on May 14 and 15 for some non-pre-salt deep water and onshore areas, with pre-salt bidding rounds set to take place in mid-November. Investor response will be determined in part by where they see the sector going and the signals that the government is giving to the private sector.

These challenges are not unique to Brazil or to any other nation necessarily. The purpose in raising them is to suggest that great opportunities in hemispheric energy come with certain challenges as well. And only by focusing purposefully on the region at the most senior levels will the United States be able to take full advantage of the partnership that is clearly in our self-interest to pursue.

Mr. Chairman, members of the Subcommittee, thank you again for your invitation to appear this afternoon. I look forward to your questions.

Mr. SALMON. Chair recognizes Mr. Goldwyn.

STATEMENT OF THE HONORABLE DAVID L. GOLDWYN, PRESIDENT AND FOUNDER, GOLDWYN GLOBAL STRATEGIES

Mr. GOLDWYN. Thank you, Mr. Chairman, Mr. Ranking Member. And thank you for your attention to this issue, you and the members of the committee. Rather than summarize my quite lengthy testimony, I thought I might ask to enter into the record and then just talk about the opportunities.

Mr. SALMON. Without objection.

Mr. GOLDWYN. Thank you.

We have heard a lot this morning about the impact of this tight oil and gas boom on U.S. energy security. Certainly our self-sufficiency in gas lets us be an LNG exporter, but not only of LNG, but natural gas by pipeline to Mexico and potentially by compressed natural gas to the hemisphere. The real significance of this is that we can create a more competitive market for the hemisphere, which can lower price as well as lower emissions.

Our oil production boom has strategic advantages as well. We no longer import light sweet crude. This was the essence of what we were seeking for decades in terms of security. With supply from Canada, we will have a limited amount of imported heavy crudes from outside the Continental North American Continent. Some of that will come from Saudi Arabia, through its Motiva refinery system, and the rest is really a competition between Saudi heavy, Canadian, and Venezuela.

So our decisions that we make on that will be important, but it also means that with our self-sufficiency we are going to force the hemisphere, and, frankly, everybody else who is an oil producer, to adapt or die, essentially to be more competitive, because investment around the world in oil and gas as shifted dramatically to North America because we have market, we have terms, we have contract security, we have infrastructure. So the countries which have the state-led models are going to undergo a severe challenge, and the countries which have market-oriented models are going to attract more investment.

And this is really—this is the significance of what is happening to us, how it is going to shape the hemisphere. It is, frankly, an open question. It is a dramatic geopolitical pivot for us, because we have more physical security, and we have the ability to use exports as a tool of foreign policy. And it is going to take a while for Americans to get used to the idea that we are resource wealthy and not resource scarce. But we have this potential.

So the question is how do we make the most of this opportunity? And I have six suggestions. The first, we have to keep up the work on energy efficiency and renewables, because there is a huge amount which the hemisphere can do, particularly the Caribbean and Central America, to reduce its dependence on fuel. That will be an economic boom for them. And so we do important work there, and we should keep that going.

The second thing we need do is to spread this unconventional oil and gas boom to countries in the region. I began something called the Global Shale Gas Initiative when I was at the State Department; now it is called the Unconventional Gas Technology Assistance Program, but essentially teaching other countries how to produce unconventional oil and gas safely and efficiently. Let them grow their own. Some of that is about framework, some of that is about taxation, some of it is about infrastructure, but also it is about the technology and how to protect air and water. That brings to the table something that we want to talk about. And then we get to have the conversation about framework and corruption and other issues, which they may not want to hear, but that is the quid pro quo for having that conversation.

Third is to implement the transboundary agreement. We have talked about that a lot this morning, and it is very encouraging to know that there will be legislation from Representative Duncan to push that through. That is important for Mexico, because Mexico is also going to have to adapt, and Mexico's national security interests clearly are in our interests as well.

My fourth suggestion is a sharper focus on the Caribbean. And here I think the real choice for them is between fuel oil and gas. Renewables have a role to play, but they need base-level electricity. They are small islands, small markets, with small transportation distances. So the potential for gas penetration is quite large there.

The question is, how do they get it in? Now, they don't need liquified natural gas. They don't need that price, they don't need to spend that money. Maybe compressed natural gas is the answer. So but if we can find a way to get it out, perhaps by finding it is in U.S. national interests for all gas exports to the Caribbean to be in the U.S. national interests, make it easy for the Department of Energy, and find how to get that in. What they need is an engineering study more than anything else to figure out as a practical matter what is the most cost-efficient commercial way to get that in. Maybe that is something that the committee could task.

Fifth, I think we need to reconsider our policy on exports. Now, with gas exports we have talked a lot about the Department of Energy's process. I think they will get through that relatively quickly. I think when they look at the projects which are mature, in that they have gone through the prefiling process with FERC, they have filed their environmental reports, and they have a real contract, I think you will have a small number of projects that are ready to be permitted, and they will be permitted soon. But maybe there are smaller projects to export CNG to the Caribbean. They should get attention also.

So I think that will move along because it has huge benefits economically and for climate, but we are also going to have to start looking at oil exports, because we have a surplus of light sweet crude. We don't have a place to put it. Rather than using it as blend stock with heavy crude to make a refined product, we might look at a way to swap that in the hemisphere and export as much light as we have heavy, because our primary customer base for the products and for the light crudes is in the hemisphere. So it is a great thing that we can bring to help them.

Lastly, I think we need to focus our diplomatic and commercial engagement in the hemisphere. We have a lot of fora, but we need to focus on Brazil, Mexico, Venezuela, and the Caribbean. And, in particular, if I can just say just a few seconds about Venezuela, the conversation is going to be difficult for a while, but we need to start talking to them again so when things turn and the wheels turn, we have people that we can talk to on the other side; reconnect with Pedevesa because they are going downhill, both in terms of where their market is and where their production is going and fiscal pressure. And so eventually things will change; we just need to be ready. Thank you.

[The prepared statement of Mr. Goldwyn follows:]

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House Committee on Foreign Affairs; Subcommittee on the Western Hemisphere;
"Energy Opportunities in Latin America and the Caribbean"

Thursday, April 11, 2013

The Impact of the Tight Oil and Gas Boom on Latin America and the Caribbean: Opportunities for Cooperation

Mr. Chairman and Members of the Subcommittee, it is an honor to speak with you today about the role that the Western Hemisphere plays in U.S. energy security.

The global energy economy is undergoing significant changes, and the unconventional oil and gas revolution in the U.S. has played a large role in transforming global markets. The transformation of these markets could impact the entire Western Hemisphere. Regional producers will largely see market growth in Asia, not the U.S. Energy consumers will benefit from increased energy supply stability, resulting from exports of petroleum products from the U.S., and, potentially exports of light oil and natural gas as well. Latin American producers will have to compete for capital with unconventional energy investment opportunities in Canada and the U.S., both of which offer a more stable investment environment, better terms of investment, and a more favorable and welcoming political climate. This could be a pathway to developing more open societies in the hemisphere, with more productive economies.

All of this is evidence that the U.S. needs a fresh approach to energy diplomacy in the hemisphere. The United States will enhance its energy security by engaging the region on issues that concern its people: job creation, poverty alleviation, migration, and trade promotion. An asymmetrical approach, one that addresses a broad range of issues rather than just energy security, may pay dividends equal to or greater than one focused solely on energy. But the opportunities for creative energy diplomacy are numerous. The U.S. can explore avenues for improving the investment climate of the Hemisphere, spreading advanced clean and unconventional energy production technology in the Hemisphere, advocating for shale gas and renewable energy technologies as climate-friendly alternatives to oil and gas, and weaning Caribbean nations off fuel oil as a primary energy source through the export of LNG. These initiatives, if realized, would render positive benefits for U.S. influence in the Hemisphere and for our broader energy and climate goals simultaneously. The U.S. must also ensure that it has the flexibility to utilize sub-regional energy dialogues and that any new framework strengthens, rather than weakens, the energy diplomacy missions of the Department of Energy and the Department of State.

I. The Unconventional Energy Revolution

Only a short number of years ago, the U.S. was facing a future of resource scarcity. Domestic energy production was falling. Oil and gas imports were projected to rise. The advent of the so-called 'shale gale' has changed that outlook entirely. U.S. natural gas production has risen by 20 percent since 2000. Shale gas production alone grew from 0.75 Tcf to 7.85 Tcf between 2005 and 2012.[1] Further innovations saw the same horizontal drilling and hydraulic fracturing technology expanded to the production of tight oil. U.S. crude oil production has grown from 5.2 million barrels per day (mbd) in 2005 to 6.5 mbd in 2012 as a result.[2] As a share of that production, tight oil accounted for 1.2 mbd in 2011.[3]

We no longer expect to import significant quantities of liquefied natural gas (LNG). These cargoes, once bound for the U.S., were rerouted to other consumers. Many of the companies that built costly liquefied natural gas (LNG) import terminals are now seeking approval to build export terminals. The production of tight oil has changed the U.S. oil import scenario as well. While the U.S. will continue to import foreign oil for the foreseeable future, both to meet total demand and to fulfill the requirements of domestic refineries that are not designed to process the light tight oil, imports are expected to continue to fall. The EIA estimates that imports could be as low as 34 percent of total liquid fuel use in the U.S. in 2019, compared to 60 percent in 2005.[4] This is as much a credit to demand side measures such as increased fuel efficiency standards, changed driving habits and biofuels as it is to increased supply. Some experts have even begun to call for a reexamination of the ban on crude oil exports, arguing that exports or swaps of light and heavy oil would be the most economically efficient manner to meet U.S. refinery needs, sustain U.S. production and capitalize upon the U.S. tight oil boom.

Our resource wealth has helped reduce our trade deficit from $753.3B in 2006 to $539.6B in 2012.[5] Low cost natural gas has also advanced our climate agenda. Total U.S. GHG emissions have dropped from 7.2 to 6.7 billion metric tons of CO_2 equivalent between 2007 and 2011.[6] U.S. energy-related emissions of carbon dioxide have dropped considerably, falling to 5.3 billion metric tons of CO_2 in 2012, the lowest emissions since 1994,[7] in large part from substitution of natural gas for coal.

We have also become a significant supplier of petroleum products to Europe and the hemisphere. Our efficient refinery system allows us to make the gasoline we need, but also the diesel products we need and the fuel oil and other products imported by our neighbors in the hemisphere. Roughly 60 percent of U.S. crude oil and product exports go to nations in the Western Hemisphere, with over half of those exports going to Canada and Mexico. We thereby improve our export balance, increase domestic revenues and provide a more competitive market for petroleum products.

This great wealth of domestically produced gas and, increasingly, oil, leads some to believe that the U.S. is on the cusp of an era of "energy independence." Many adherents of this line of thinking predict that the unconventional revolution will allow the United States to look inward and take less interest in international affairs, including those of the politically challenging countries that produce oil and natural gas in the this Hemisphere, the Middle East, Africa and

[1] Energy Information Administration, "Annual Energy Outlook 2013 Early Release," http://www.eia.gov/forecasts/aeo/er/index.cfm
[2] Energy Information Administration, "United States Overview Data," February 12, 2013 http://www.eia.gov/countries/country-data.cfm?fips=US&trk=m#pet
[3] Energy Information Administration, "Annual Energy Outlook 2013 Early Release"
[4] Ibid
[5] U.S. Bureau of Economic Analysis, "International Economic Accounts" http://www.bea.gov/international/index.htm#bop
[6] Environmental Protection Agency, "Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2011," February 2013 http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html
[7] Energy Information Administration, "Today in Energy: Energy-related carbon dioxide emissions declined in 2012," April 5, 2013 http://www.eia.gov/todayinenergy/detail.cfm?id=10691

elsewhere. This is unlikely to happen. Despite more production from shale deposits like the Bakken in North Dakota, oil's share of total U.S. energy demand is expected to decrease only to 32 percent from 36 percent in 2011 by 2040. Natural gas will increase its share to 28 percent from 26 percent and renewables will grow to 11 percent from 8 percent, according to the EIA.[8] Oil, even that produced domestically, will continue to be priced at market levels, meaning that prices here will continue to be impacted by global events. The most strategic factor in American consumption will remain the price of oil and the effect of disruptions on the U.S. and the global economy, not the source or quantity of U.S. imports.

The shale boom will, or at least should, lead to changes in U.S. policy. We have the opportunity to use our energy supply and our technology as a powerful tool for good in the hemisphere and worldwide. By sharing our best practices for safe and efficient development of tight oil and gas formations, engaging our hemispheric partners on clean energy technologies, encouraging resource rich nations to practice transparency in how they manage their resource sectors, and being a direct supplier of oil, natural gas and products, we can help foster a more free and prosperous region.

A. The Unconventional Revolution: Impacts on Latin America

Latin America is a strategic region for U.S. foreign policy for many reasons. We are neighbors, trading partners, and investment partners, and we share deep familial and cultural ties. The hemisphere is largely democratic, with one notable exception. In the energy sphere, the hemisphere provides the U.S. with a large portion of our diverse of oil and gas supply and it remains an essential contributor to global oil and gas supply. For this reason, the failure of the hemisphere to realize its potential for growth is a serious concern for U.S. and global energy security. While the investment climate in key Latin American countries is deteriorating as state control increases, even in Venezuela access to exploration acreage remains superior to some countries in the Middle East. Additionally, the non-OPEC producers in this region exert counter-pressure on OPEC's monopoly power.

Mexico and Central and South American nations delivered just over 12 percent of global oil production in 2012,[9] and possess significant proved reserves, which are concentrated heavily in Venezuela, Brazil and Mexico. The region has also been a major refining center, and additional capacity is currently being planned and constructed with major projects underway in Brazil, although some delays have been experienced. Regional refineries were primarily designed to serve the specialized needs of U.S. markets. The most important exporters, Venezuela and Mexico, consistently rank in the top four sources of US oil supply along with Canada and Saudi Arabia. Venezuela averaged 0.95 mbd in 2012; Mexico averaged 1.03 mbd in that year.[10]

The impacts of the tight oil and gas boom on Latin America could be significant. Increased natural gas production in the U.S., if it leads to greater exports of LNG, will mean more supply for consuming countries at lower prices than are currently available to them. Such U.S. exports to the Western Hemisphere could help reduce Caribbean dependence on subsidized and high-carbon fuel oil supplies, including those from states whose goals in the region have been at odds with

[8] Energy Information Administration, "Annual Energy Outlook 2013 Early Release"
[9] Energy Information Administration, "International Energy Statistics, Petroleum Production," http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=53&aid=1
[10] Energy Information Administration, "US Imports by Country of Origin" http://tonto.eia.doe.gov/dnav/pet/pet_move_impcus_a2_nus_ep00_im0_mbblpd_a.htm

U.S. interests. The U.S. has free trade agreements (FTA) with ten countries in Central and South America and the Caribbean. If we can allow some exports to countries that do not have FTAs with the U.S. we can help other major consuming nations as well. Natural gas consumption in non-OECD Latin America is expected to rise from .6 Tcf in 2008 to 8.8 Tcf in 2035,[11] and U.S. shale gas exports could be a significant factor in meeting energy demand and lowering carbon emissions in the Hemisphere through the offset of coal and fuel oil.

There are great prospects for greater energy self-sufficiency in the hemisphere, which will provide economic gains from lower cost energy, production related job growth, and reduced dependence on high carbon fuels for power generation. A report published in 2011 by Advanced Resources International, Inc. (ARI) for the EIA estimated that there could be as much as 1,195 Tcf of natural gas in Latin America.[12] ARI estimated that the largest potential reserves of shale gas in Latin America are located in Argentina, Mexico, and Brazil, with 774, 681, and 226 Tcf of estimated reserves respectively.[13] Smaller shale gas resources, less than 70 Tcf apiece, were estimated in Chile, Paraguay, Bolivia, Uruguay, Colombia and Venezuela. The U.S., through the Unconventional Gas Technical Engagement Program (UGTEP) at the Department of State (the successor to the Global Shale Gas Initiative I launched during my tenure at the US Department of State), is actively engaged in assisting foreign countries develop their unconventional gas resources safely and efficiently. Through UGTEP the Department of State partners with the Department of the Treasury, , the U.S. Geological Survey (USGS), the Department of Interior, the Department of Commerce's Commercial Law Development Program, and the Environmental Protection Agency (EPA). UGTEP can offer nations expertise on scientific, technological, legal, commercial and environmental issues related to shale gas development. Some nations, like Argentina and Colombia, are already making strides towards developing domestic programs for shale gas exploration and production.

The unconventional revolution will also force the resource-endowed nations of the Western Hemisphere to develop more competitive investment frameworks. North America has become the investment destination of choice, with large markets, attractive fiscal terms, strong rule of law and respect for contract sanctity in the U.S and Canada. As will be discussed in greater depth, many Latin American countries are noted for resource nationalism, volatile investment frameworks, and political extremes rather than stability. In order for Latin America to compete, investment terms will have to improve and regulatory frameworks must be enforced with equity and consistency. In short, the southern half of the Hemisphere must prove that it can adapt to changing markets, resource bases and technologies in order to compete with the opportunities found in North America. The prospects for this adaptation are mixed, providing opportunities for U.S. energy diplomacy.

II. Energy Trends in the Western Hemisphere

The Western Hemisphere has seen the rise of two trends in energy governance in recent years. One trend is towards rising state control of energy resources – in Venezuela, Argentina, Bolivia and Ecuador in particular. The concern here is that this trend will limit the growth of global supplies of oil and gas by undermining the value of existing investments, discouraging future

[11] Energy Information Adminstration "International Energy Outlook – natural gas," http://www.eia.gov/forecasts/ieo/nat_gas.cfm

[12] Energy Information Administration, by Advanced Resources International, Inc., "World Shale Gas Resources: An Initial Assessment of Regions Outside the United States," www.eia.gov/analysis/studies/worldshalegas/pdf/fullreport.pdf

[13] Ibid

investment and leading to political instability resulting from declining living standards. The economic consequence of this trend is that the hemisphere will contribute less to the diversification of oil supply, thereby engendering a tighter international oil market more vulnerable to the negative effects of supply shocks, increasing the importance of OPEC supply and, over time, undermining economic development in the region. The political consequences of these trends include the decline of U.S. influence in the region relative to competing ideologies and the erosion of democratic structures.

A second, much more positive, trend is towards creative fiscal regimes that welcome foreign investment and require state owned companies to compete with international companies, with independent regulators that promote fair and efficient regulation. Countries observing this model are increasing production or stalling the decline of existing reserves. Colombia, Trinidad and Tobago, and Peru are key examples of this creative model.

When I last testified on Latin American energy trends before Congress, Mexico was generally considered to be a part of the first group, making the net trend negative. Today, however, Mexico's government is actively seeking reforms that include, but are certainly not limited to, the energy sector. A new question mark hangs over Brazil, however. While Petrobras had been viewed as an exemplar national oil company in recent years, it has recently seen its production estimates curtailed, and its market value tumble. The company is no longer second in value only to Exxon Mobil. Perhaps as a sign of changing regional dynamics, Petrobras is now reported to be worth less than Colombia's national oil company, a development that would have been thought to be nearly unthinkable just a few years ago.[14] While natural gas production is rising, oil production is falling, as Petrobras has faced major challenges fulfill both its newfound responsibilities in the deep and ultra-deepwater subsalt resources, companies face challenges meeting aggressive local content requirements and Petrobras struggles to meet the political expectations of the government.

Venezuela and Mexico are the most important oil exporters in the hemisphere. While Brazil, Colombia and Argentina are important destinations for foreign investment, and helpfully produce enough oil to meet their own domestic needs and make some contribution to the global export market, they are not strategic suppliers to the global market at this time. Only Mexico, Brazil and Venezuela produce more than a million barrels per day, although Colombian crude oil production rose as high as 944,310 barrels per day in 2012,[15] and Federico Renjifo, the Colombian Energy and Mining Minister, has stated that the country expects to produce 1.01 mbd in 2013.[16] Bolivia has enormous gas reserves, but exports mostly to Brazil and modestly to Argentina. Only Trinidad and Tobago is a key supplier to the world gas market.

A. The Rise in State Control

From those countries now committed to increasing state control, the U.S. faces two key challenges: the loss of production growth and diversity of supply from the region if new economic frameworks are unattractive to foreign investors and, most critically, the loss of U.S. influence vis-à-vis competing political visions.

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[14] Simon Romero, "Petrobras, Once Symbol of Brazil's Oil Hopes, Strives to Regain Lost Swagger," *New York Times*. March 26, 2013

[15] Energy Information Administration, "Colombia Overview/Data," http://www.eia.gov/countries/country-data.cfm?fips=CO

[16] Carlos Vargas, "Colombia expects higher average oil production in 2013," *Reuters*, Feb 7, 2013

The Economic Impact of Rising State Control

The recent wave of changes in contractual terms and dramatic changes in tax regimes in Venezuela, Bolivia, Ecuador and, in recent years, Argentina, threatens to slow new investment and eventually deepen instability and poverty in these nations, as well as destroy shareholder value for the companies invested there. The deterioration in the investment climate for energy in these countries is primarily an economic threat, as it foments an environment where supply is constrained and prices are high. We are seeing the revision of economic terms at a time when producers rather than companies hold more market power.

Venezuela

In 2007, President Hugo Chavez led the nationalization of oil exploration and production in Venezuela, mandating renegotiation of contracts with a minimum 60 percent PdVSA share. While sixteen companies, including Shell and Chevron, complied with the new agreements, ExxonMobil and ENI refused to cooperate and were forcibly taken over. Both companies have pending complaints before the International Centre for the Settlement of Investment Disputes (ICSID) at the World Bank that are expected to be decided in late 2013. As a result of those claims, particularly the ExxonMobil claim, Venezuela withdrew from the ICSID in 2012.[17] The impact of the nationalizations, according to expert analysts like Deutsche Bank and Wood Mackenzie, was a massive flight of investment capital from Venezuela's heavy oil sector to Canada's oil sands, effectively freezing development of the hemisphere's largest oil reserves during one of the greatest oil booms in history. The net impact on Venezuela's credit and credibility are quite negative, again with serious negative long-term consequences for the global oil market and Venezuela's own economy. In 2008, ENI and Total came reached an agreement with PdVSA regarding a 2005 joint venture requirement that they had not previously signed an MOU for. Terms for involvement in natural gas development in Venezuela are slightly more beneficial, although in 2012, the year before his death, President Chavez expressed some interest in altering those terms. It is generally expected that Venezuela's oil production will continue to fluctuate or stagnate without considerable outside investment. According to the EIA, some analysts estimate that PdVSA must spend at least $3 billion annually in order to keep production at its current levels.[18] Venezuela plays a significant role in the Western Hemisphere, acting as a proxy for Cuba and providing oil at favorable cost and financing terms to Caribbean nations through Petrocaribe and the Southern Cone through Petrosur, ventures which add stress to the country's fiscal situation. While change is unlikely to happen quickly, pressure stemming from the recent failed currency devaluation, rising inflation, and vast external subsidies will take a toll on the economy and are ultimately unsustainable.

Bolivia

In Bolivia, President Evo Morales ensured the adoption of a new Bolivian Constitution in 2009, the 17th in the country's history. One of the clauses in the new Constitution states that "all hydrocarbon resources are the property of the Bolivian people and that the state will assume control over their exploration, exploitation, industrialization, transport, and marketing (Articles

[17] U.S. Department of State, "2013 Investment Climate Statement Venezuela," March 2013 http://www.state.gov/e/eb/rls/othr/ics/2013/204759.htm
[18] Energy Information Administration, "Venezuela Country Analysis Brief," October 2012 http://www.eia.gov/countries/cab.cfm?fips=VE

348 and 351)."[19] Under the new constitution, the state-owned company Yacimientos Petroliferos Fiscales Bolivianos (YPFB), which had also benefitted from government action in 2006 that gave it control of all domestic production and transportation, is responsible for managing all transport and sale of hydrocarbons, as well as determining whether it can be exported.[20] The U.S. Department of State considers investment in Bolivia to be difficult for both domestic and foreign companies. For companies seeking to operate in hydrocarbon industries, the only contracts available are negotiated as service contracts, although there are "no restrictions on ownership percentages of the companies providing the services."[21] Because all foreign companies in the hydrocarbon industry are subject to state sovereignty, with a limited ability to appeal for international arbitration, there has been extremely limited foreign investment. This is deeply unfortunate and Bolivia has enormous reserves of natural gas that could be monetized to address the country's longstanding poverty.

Ecuador

In Ecuador, President Correa convincingly won re-election in February 2012, defeating several candidates from a political opposition that analysts routinely describe as fractured. Given the death of President Chavez, Correa is now arguably the most prominent Bolivarian leader in the region and may seek to bolster his international profile. Yet it is unlikely that Correa has adequate resources to turn Ecuador into a regional player with influence commensurate to Chavez's Venezuela. While Correa hasn't launched a nationalization campaign in a scope equal to that of Chavez, critics have raised concerns that he is aggressively expanding Presidential power and is seeking to clamp down on the independent media. The climate for foreign investment in Ecuador is considered relatively hostile. While the State Department's 2013 Investment Climate Statement for Ecuador notes that the nation is "relatively open to foreign investment in most sectors" and that policies have been enacted aimed at drawing investors to the country, they add the caveat that "other legal changes have reduced private sector participation in so-called strategic sectors, most notably extractive industries.[22] Continued changes to the nation's economic, commercial and investment policies, as well as tax codes, prevent the investment climate from being stable for any industry and presents significant difficulties to the development of business plans. The continuation of high profile legal cases against foreign oil companies, most notably Chevron, has also served to limit interest from foreign investors. In 2010, under President Correa, reforms to Ecuador's Hydrocarbons Law came into effect, providing for the negotiation of contracts with foreign oil companies operating in the country, and as a result five operators successfully negotiated contracts, while three other companies did not. The operations of those companies reverted to state control. The Occidental field, which Ecuador asserted state control over in 2006, is still not a productive field. Despite the domestic resources and production, a lack of refining capacity in the country means that Ecuador is forced to export crude oil and import refined products in order to meet domestic demand.

Argentina

Argentina boasts considerable natural resources, but its recent history of nationalization, particularly that of YPF SA in the shale gas fields, have made it a risky destination for foreign

[19] U.S. Department of State, "2013 Investment Climate Statement – Bolivia," February 2013 http://www.state.gov/e/eb/rls/othr/ics/2013/204605.htm
[20] Ibid
[21] Ibid
[22] U.S. Department of State, "2013 Investment Climate Statement – Ecuador," February 2013 http://www.state.gov/e/eb/rls/othr/ics/2013/204634.htm

investment. The country has recently made efforts to revamp its image, most recently in January 2013, when the government unveiled reforms of the oil export taxes aimed at luring in new investors. In November of 2012, President Cristina Fernandez announced that wellhead natural gas prices would be permitted to rise as high as $7.50 per million British Thermal Units (BTU), a 44% increase over the previous $5.00 cap. These reforms, coupled with a willingness to adapt contract terms, have made it easier for companies to take on the risk of operating in Argentina, particularly in the shale gas fields that are estimated to be even larger than those in Europe.

The net effect of these developments is that new investment in these countries is virtually frozen at a time when prices should be driving new exploration and production. It is notable that even China, which is aggressively competing for exploration acreage worldwide, is not a major player in the hemisphere. Since 2008, China has finalized oil-for-loan deals with a number of Latin American countries, including Venezuela, Brazil, Ecuador and Bolivia. Observers have suggested that China has recently appeared less willing to provide additional financing to Venezuela, perhaps due to compounding economic difficulties there and the political uncertainty that such negative developments could eventually bring about. Several companies, including Occidental Petroleum, Repsol YPF Ecuador SA, and Noble Energy, have filed complaints against Ecuador with the ICSID at the World Bank. The most notable case was that of Occidental Petroleum, which was awarded $1.77B in October 2012, although President Rafael Correa disavowed the award and has threatened in the past to expel any company that sues it in international courts. The future growth potential of the hemisphere is being undermined and the region's economies risk a major contraction if oil prices drop significantly anytime over the next decade.

Brazil

Brazil has received enormous, well-deserved credit for the contribution that sugar based ethanol has made to its self-sufficiency in oil. But equal credit should go to Brazil's opening of its oil sector to foreign operatorship, which led to technological innovation and a boom in its domestic oil production. While the adoption of a competitive model made Brazil one of the most desirable destinations for exploration, even this 'success story' has seen recent overtones of state control. As recently as 2008, Brazil's aggressive oil production strategy increased domestic oil production by 1 mbd over 10 years. In 1995, Brazil produced less than 700 mbd. In 2008 they produced close to 2.4 mbd.[23] Their jump in domestic production had as great an impact on reduction in oil imports as anything else.

Since 2008 Brazilian production has fallen by roughly 14 percent to 2.061 mbd in 2012.[24] Petrobras was recently the second most valuable publicly traded energy company behind only Exxon Mobil, but its value has fallen drastically. This trend has been, in large part, attributed to attempts by the government to assert higher levels of control over Petrobras, placing it in charge of the deepwater oil discoveries in 2010, despite the attempts of the 1990s to end the Petrobras monopoly. Brazil's local content requirements, lack of sufficient refining infrastructure and delays to construction of new refineries, and the use of Petrobras to shore up the national economy have all had an impact on the countries energy situation. In spite of these challenges,

[23] Energy Information Administration, "World total liquids production by region and country, Reference case" http://www.eia.gov/oiaf/aeo/tablebrowser/#release=IEO2011&subject=5-IEO2011&table=38-IEO2011&region=0-0&cases=Reference-0504a_1630
[24] Energy Information Administration, "Brazil Overview Data," February 12, 2013 http://www.eia.gov/countries/country-data.cfm?fips=BR

Petrobras remains profitable, and remains a publicly traded company influenced by global markets, giving it an advantage over the fully state-run companies of Venezuela and Bolivia.

Mexico

Mexico has been a long time reliable supplier, but its oil production has been falling steadily since 2004. Due to constitutional constraints, foreign involvement in upstream development and ownership of resources has been strictly limited. In 2008 minor reforms were undertaken that loosened those restrictions, granting PEMEX greater autonomy and making it possible for some private participation in exploration and production through incentive-based contracts with foreign oil companies, but the impact was minimal and production has continued to fall. In 2011, PEMEX announced the first production licensing round in Mexico in over 70 years, with 20 blocks noted for international bidders.[25] For a number of years, analysts have noted that unless the Mexican government dramatically increases the amount of PEMEX earnings it can keep for capital investment (in 2004 PEMEX paid the government 60% of its revenues), the company would have significant difficulties in maintaining production, not to mention expanding into more technically complex and diverse resources. Mexico has enormous oil potential on its side of the Gulf of Mexico and a change in policy could both change global oil markets and create a formidable source of wealth for development of the country itself.

Change appears to be forthcoming for Mexico. In 2012 Mexico ratified the US-Mexico Trans-boundary Agreement that would permit foreign investment in the Mexican Gulf of Mexico if a trans-boundary reservoir were to be found, and if companies on both sides of the reservoir wished to cooperate. This is an effort I helped launch during my tenure at the Department of State. The US needs to adopt implementing legislation allowing the U.S Department of Interior to implement the agreement, and the US needs to notify the Congress, although it does not require Senate ratification in my view. More recently, the new government of President Enrique Pena Nieto has announced plans to undertake major reforms of the energy sector and conduct some experimentation with Mexico's shale oil and gas reserves. Some analysts view these reforms with skepticism, noting that the constitutional nature of the restrictions on the energy sector may require that any reforms are backed by a constitutional amendment, but the initiative appears to be sincere. If the reforms are unsuccessful, the EIA estimates that Mexico, currently one of the largest sources of oil exports to the U.S., could see its production sink as low as 1.4 mbd by 2025, compared to 2.96 mbd in 2011. Any incremental step that Mexico can take would be helpful to the global oil market. I am optimistic that Mexico will make significant reforms, including constitution changes.

B. The Market Model

The hemisphere is not monolithic. We have seen remarkable success stories, including Colombia and Peru, which have created independent regulators and obliged their national energy companies to compete with outside companies for exploration rights. Such progressive cases provide bright spots in the region.

Colombia

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[25] Energy Information Administration, "Mexico Country Analysis Brief," October 2012 http://www.eia.gov/countries/cab.cfm?fips=MX

The story in Colombia is largely positive. Colombia has set up favorable fiscal terms for foreign investment, has an independent regulator working to ensure safe and efficient development of resources, and recognizes the importance of competing in the global economy. While Colombia, like many other Latin American companies, legally considers all natural resources to belong to the state and centers production under state-owned companies Ecopetrol and Ecogas, the country has made strides to make foreign investment attractive. Colombia allows foreign companies to take 100 percent stakes in oil ventures, competing with Ecopetrol. The government has also undertaken several initiatives, including partially privatizing Ecopetrol in 2007 and "establishing a lower, sliding-scale royalty rate on oil projects and lengthening the time for exploration licenses."[26] As a result, Colombia has experienced growing oil production, up 47% between 2008 and 2012 according to EIA, and is also the recipient of significant new investment in its shale gas resources. Colombia is taking a model approach to shale gas development. It selected a small number of qualified companies to participate in its first shale gas bid round in 2012, and has engaged in an intensive effort to develop best practices for environmental protection.

Trinidad and Tobago

Trinidad and Tobago is another example of a Latin American country that has worked to develop its energy resources as part of the global economy. The economy of Trinidad and Tobago is driven primarily by the energy industry, making it one of the only Caribbean nations that do not rely primarily on tourism for government revenue. The island nation produces only minimal amounts of crude oil, but produced 1.4 Tcf of natural gas in 2011.[27] Nearly half of that gas is exported as LNG, making the nation a fairly significant player in global LNG trade. Given that the U.S. no longer requires LNG imports, much of its LNG supplies will likely flow to Asian consumers. Trinidad and Tobago is considered to be friendly to foreign investment, and numerous U.S. companies are invested in the oil and gas sectors. Looking to the future, the U.S. Department of State notes that challenges lie ahead for the nation's economy, as it must cope with declining gas reserves, high production costs, production slowdowns, and a lack of political will to invest in the future of the energy sectors. Depending on how developments take place in Venezuela, the country could be become a center for liquefying and transporting Venezuelan LNG.

III. The Impact of Hemispheric Energy Trends on U.S. Foreign Policy

The tight oil boom will produce competitive pressure on the region's oil and gas producers. If global oil prices soften, revenues could fall significantly and put major fiscal pressure on governments highly dependent on resource revenues for their budgets. The market will impact these economies far more than any U.S. policy can. But there will be a debate over economic frameworks in the hemisphere, and the U.S. should be a part of it. While U.S. influence in the hemisphere has waned in key areas in recent years, our ability to help these economies revive through energy investment, and to grow through more competitive energy feed stocks can help change this pattern if we take advantage of it. We have key strategic partners in the region including Brazil, Mexico, Chile, Argentina, and Colombia. We can effectively use trade as a tool for good, as witnessed by the US-Colombia Free Trade Agreement. We need to appreciate the salience of legitimate regional issues like poverty and advocate how our economic and political

[26] Energy Information Administration, "Colombia Country Analysis Brief," June 2012. http://www.eia.gov/countries/cab.cfm?fips=CO
[27] Energy Information Administration, "Trinidad and Tobago Overview Data," February 12, 2013 http://www.eia.gov/countries/country-data.cfm?fips=TD

models can alleviate them. Examples of this are addressing trade barriers to agricultural imports, expanding educational opportunities in the U.S. for future leaders, improving the visa application process, dealing with migration issues with Mexico in a spirit of respect and fairness, supporting World Bank and Inter American Development Bank infrastructure programs in the hemisphere, supporting the development of civil society and the capacity of democratic institutions, and treating our relations with our hemispheric neighbors as intrinsically important, not as litmus tests of loyalty to the U.S. on issues external to the region itself. In countries where we face ideological competition, it is crucial that we do not abandon the field. We need to increase our diplomatic engagement and defend our way of thinking.

A. Uncertainty in Venezuela

Venezuela has long been seen as the leader of a regional group of states seeking to wage an ideological and political competition for regional influence with the U.S. Yet the death of President Chavez, whose charisma has long been regarded as a key facet of the Bolivarian narrative, and Venezuela's growing economic problems, which were recently reflected by the government's efforts to devalue the currency by more than 30% against the dollar, have led some observers to believe that the influence of the Venezuelan model has peaked. Many are now forecasting that the Brazilian economic model, which still provides for a generous state role in the economy, yet does so in a more market-friendly and democratic context, will gain clout among states in the region that remain skeptical of liberal economics and the Washington consensus.

In the wake of Hugo Chavez's death, many questions remain about whether political change is possible in Venezuela itself. Indeed, the opposition candidate in the April 14 election to succeed Chavez, Henrique Capriles, is a vocal adherent of the Brazilian model that many say is gaining regional traction. Yet it is widely assumed that Chavez' handpicked successor, Vice President Nicolas Maduro, will win the election. Several divergent prognostications have been made regarding what a Maduro Presidency would entail for the U.S. While some perceive Maduro as a pragmatist who may be amenable to normalizing bilateral ties, others believe that he will be eager to prove his Bolivarian credentials to Chavez's constituency and reject any U.S. entreaties to reengage. Still others doubt whether he will be able to retain the Presidency at all should the economic situation deteriorate further. Diosdado Cabello, a fellow Chavez adherent who is President of the National Assembly and is reported to be a popular figure among the Venezuelan Armed Forces, is commonly cited as an individual capable of seizing the Presidency, potentially through forcible means, should an opportunistic situation present itself.

The manner in which the next Venezuelan President manages Venezuela's oil wealth will have significant implications for international oil markets, which remain fairly tight due to supply disruptions in geopolitical hotspots Iran, South Sudan, Yemen, and Syria. In February 2012, the *Economist* estimated that international markets have lost 1.25 million barrels per day as a result of these and other recent supply disruptions.[28] Venezuela is an even more significant player in international markets; EIA estimates that it exports around 1.7 million barrels of crude per day.[29] The impacts on Venezuela's own economy will also be very profound, as Venezuela's economy is far from diversified and remains nearly entirely dependent on the oil sector. In recent years, PdVSA's exploration and production capital expenditures have not been sufficient to reverse

[28] The Economist, "Oil Markets: High Drama," February 25, 2012 http://www.economist.com/node/21548272

[29] Energy Information Administration, "Today in Energy," January 22, 2013 http://www.eia.gov/todayinenergy/detail.cfm?id=9651

production declines in the country's mature conventional fields or to harness the country's massive oil sands reserves in the Orinoco Belt. These unconventional resources are thought to account for around 90% of Venezuela's remaining proven oil reserves. In order to maintain production at a reasonable clip, the next Venezuelan President will have to improve the country's oil and gas investment regime to attract international firms with expertise in enhanced oil recovery techniques in conventional fields and in the unique, challenging technical requirements for producing the extra heavy crude oil in the Orinoco Belt, and that also have the resources to alleviate massive infrastructure bottlenecks that plague the oil sands production.

It is hard to be optimistic about Venezuela's near term prospects. Canadian heavy crudes are likely to fulfill a greater share of the US need for heavy crude. While heavy coking refinery capacity is growing world wide, Venezuela will face a challenging market for its crudes and lower profit margins as the distance to market will grow.

B. The Status of Current Dialogues

The US has had a number of bilateral and multilateral energy policy forums in the hemisphere over the years. These forums are platforms to understand market dynamics, share best practices on energy efficiency and conservation, share understanding on ways to enhance energy production, and exchange views on how a nation's energy policies may be enhanced or reformed to promote the nation's own policy. These policy dialogues are also essential for building the understanding and relationships that are essential for trade promotion and conflict resolution.

Numerous dialogues and programs have been enacted since 2008, when I wrote that engagement with the Western Hemisphere needed to be renewed. Among those are a number of programs and initiatives aimed at energy relations.

The Energy and Climate Partnership of the Americas (ECPA) was founded at the invitation of President Obama following the April 2009 Summit of the Americas, hosted in Trinidad and Tobago. ECPA was intended to focus on issues including energy efficiency, renewable energy, cleaner and more efficient use of fossil fuels, energy poverty, and infrastructure, and Secretary of State Clinton later proposed expanding the focus to include sustainable forests and land use and climate change adaptation. ECPA brings together governments and public and private sector partners to implement initiatives and complete projects, and boasts numerous initiatives in Central and South America and the Caribbean.

Among the ECPA Initiatives are the Colombia Biomass Initiative, which aims to develop a technological plan for the production of energy from agroindustrial biomass, and the Chile Renewable Energy Center, which is intended to serve as a tool and resource for the region as it seeks to increase its use of renewable fuels. Both projects are undertaken in collaboration with the U.S. Department of Energy, which provides technical assistance and opportunities for collaborative work.

Numerous dialogues exist today between the U.S. and Brazil. The U.S.-Brazil Strategic Energy Dialogue (SED), a presidential-level partnership aiming to deepen energy cooperation between the two nations, is one of the most significant. Strengthening energy security, the creation of new jobs and industries and reduction of carbon emissions are key goals of the SED. Major topics of the dialogue include biofuels, renewables and the sustainable development of oil and gas resources.

The US has a trilateral energy policy dialogue with Canada and Mexico, which has addressed electric power, energy conservation, harmonization of standards and market outlooks. It has taken many forms, but it functions very well. In May 2012 the U.S., Mexico, Canada Map of Potential Carbon Dioxide Storage Capacity was released, identifying capacity in North America for at least 500 years worth of carbon dioxide emissions. The "New North American Carbon Storage Atlas" was created through the North American Carbon Atlas Partnership, and was developed by DOE, Natural Resources Canada, and the Mexican Ministry of Energy.

We have many paths for cooperation. What we need now is a sharper focus on what we should prioritize, so we can maximize our impact and make the most of the limited engagement of our senior officials.

IV. Energy Security Opportunities for the U.S.

The Committee is wise to see the unique period of opportunity that the massive changes in oil and gas markets have created for U.S. foreign policy. While we will be more self-sufficient at home, our national security will still depend on a diverse global supply of oil gas, one able to withstand the inevitable disruptions we will face. If we can take this moment to help the hemisphere increase its own self sufficiency, wean itself from high carbon fuels, access more cost competitive feed stocks for power and transportation, and reduce dependence on subsidized Venezuelan fuel oil, we will have helped our own national security interests and helped to foster a freer, more prosperous, and more climate secure hemisphere. Here I offer six steps that the United States can take to meet its energy security goals in the Hemisphere.

1. *Sustain Efforts Aimed at Energy Efficiency and the Adoption of Biofuels and Renewable Technologies*

Lowering global carbon emissions in order to mitigate the impacts of climate change is an important step towards ensuring global energy security. Latin America is highly dependent upon fossil fuels for its energy needs, most notably oil, coal and natural gas. Fuel oil is still a frequently used fuel for power generation, in spite of the fact that it is relatively inefficient and particularly bad for the environment. Hydropower has long been the favored form of renewable energy in Latin America, but changing weather patterns and droughts have prevented it from being fully reliable. The United States has, as described above, undertaken initiatives aimed at expanding the spread of biofuels and renewables in the Western Hemisphere, and this should remain a priority. The expiration of the U.S. tariff on imported biofuels was a step in the right direction, and more can be done to develop biofuels industries in Latin America. The development of new industries, clean energy research centers and government policies incentivizing the use of renewable technologies for power generation will help to build long-term, sustainable industries in the Hemisphere. Regardless of the power source used, energy efficiency is a worthwhile goal for Latin America. The IEA noted in the World Energy Outlook 2012 that while energy intensity is not particularly high in Latin America, it is primarily because high energy intensity in energy producing nations is offset by low energy use in energy importing nations. Improving energy efficiency, particularly in energy producing nations, will permit more efficient use of energy resources, allowing them to stretch farther. Existing forums like the ECPA already have energy efficiency as an issue of focus and can aid in connecting companies that represent successful and proven efficiency technologies with partners in Latin America.

2. *Propagate Advanced Production Technologies Abroad*

Latin America has significant reserves of oil and gas, including potentially huge unconventional resources. One of the fastest, and perhaps easiest, ways for the U.S. to ensure diversification of energy supplies is to help other nations take advantage of the unconventional energy revolution. This will mean sharing technology, building regulatory regimes, improving environmental safety standards and possibly even developing infrastructure in nations with shale gas and tight oil reserves. The U.S. should continue to expand upon the work that the Department of State and partner agencies are attempting to achieve through UGTEP, offering technical, regulatory, geological and other support to countries that want to develop their shale oil and gas resources. There are also roles for companies to play, sharing their technology and technical expertise through partnerships, investment opportunities or service contracts. Helping other nations develop their domestic resources will increase global energy security by increasing and diversifying global supply. Natural gas is also, as far as fossil fuels go, a relatively low-carbon source of energy, and the expansion of the shale gas boom may offset global coal consumption and carbon emissions, serving as a boon for climate goals as well. By helping other nations, such as Colombia, Brazil and Mexico, adapt to changing energy markets and complex new sources of energy, the U.S. will be simultaneously ensuring its own energy security.

3. *Research Ways to Encourage Gas Penetration in the Caribbean*

With abundant natural gas supply a short distance from the Caribbean, the US should look for ways to back out fuel oil and gasoline as a feedstock for power and transportation. While these nations are trying to maximize renewable energy, they still need a non-intermittent source of power generation. But short driving distance makes CNG or other natural gas technologies a real possibility. The key challenges are moving gas to small islands, ensuring storage or other means of security of supply, and identifying the right forms of vehicle technology. How to make this transition economically is a question for engineers as well as policymakers. The U.S. should design ways that private foundations, in tandem with our national laboratories and perhaps the OAS, can look for near-term, practical ways to increase natural gas utilization. Combined with a permissive policy on natural gas exports to the Caribbean, this could be major step forward for climate and national security for the Caribbean.

4. *Reconsider the U.S. Policy Regarding Oil and Gas Exports and Swaps*

In light of the unconventional revolution, the U.S. will have surpluses of natural gas and even light oil, given that the domestic refining system is primarily configured to process heavy oil. Large price differentials also exist for U.S. resources, largely as a result of infrastructure and policy constraints that keep them trapped in the U.S. Current U.S. policy only permits the export of crude oil in highly limited circumstances. A careful reconsideration of U.S. export policy, particularly towards oil, may be warranted. Allowing some exports or swaps of light oil produced in the U.S. for the heavy oil needed for refineries would enable us to supply our hemispheric neighbors, increase export earnings, and sustain domestic job growth. Granting an additional avenue for sale of energy resources, either oil or gas, will also ensure that artificial barriers to export don't lead to decreased production, high domestic prices and lost value to the economy, while simultaneously adding to global energy supply stability and security.

The hemisphere can also benefit from additional exports of natural gas. Mexico imports costly LNG at oil-linked prices. The Caribbean is dependent on fuel oil for power generation and Brent prices gasoline for transportation. These exports could present a political advantage as well as an economic one, granting the U.S. with another tool to use in the Western Hemisphere, where Venezuelan influence is cemented by subsidized sales of crude oil and products.

5. Complete the U.S.-Mexico Transboundary Agreement

On February 20, 2012, the U.S. and Mexico signed a transboundary hydrocarbons agreement that allows for the joint the development of oil and gas reservoirs that cross the international maritime boundary between the two countries in the Gulf of Mexico.[30] If implemented, the agreement would end the current moratorium on exploration and production in the border area. While the Mexican Senate ratified the agreement on April 12, 2012, the Obama Administration has not formally submitted the agreement to the U.S. Congress for passage. The entry into force of this agreement would render significant benefits for both the U.S. and Mexico.[31] It would provide a means for Pemex to collaborate with private companies in the Gulf of Mexico border area, which would give Pemex a crucial opportunity to gain expertise in deepwater activities that could be applied to the firm's operations throughout Mexico. This would serve U.S. interests by boosting Mexican production and reducing U.S. dependence on imports from more politically troublesome regions, which have replaced lagging Mexican exports in recent years.[32] Conversely, U.S. reticence to implement the agreement may send the wrong signal to Mexico and dampen enthusiasm for energy sector reform at a time when the stage may be set for historic change. Indeed, competent implementation of the agreement could demonstrate to Mexico that its interests can be protected in joint production regimes with U.S. companies and bring about an impetus for broader Mexican energy reforms.

6. Revive Energy Diplomacy and Commercial Engagement

Energy diplomacy and commercial advocacy should be vital components of U.S. energy policy in the coming decades. The global energy system is projected to remain dependent upon fossil fuels for the foreseeable future, and as a result, having access to reliable, affordable sources of energy will remain important, as will the stability of energy markets. Energy diplomacy should center on ensuring that the U.S. has good working relationships with the countries that produce and consume energy. Successful energy diplomacy can serve a critical role in managing tensions over energy development, transportation, investment, and other issues.

The Department of State has significantly increased its capabilities to conduct energy diplomacy through the establishment of the Energy and Natural Resources Bureau, led by Ambassador Carlos Pascual. Its programs should be robustly funded. We should also deepen the international energy diplomacy capacity of the Department of Energy. The Department of Energy's relationships with civil servants in ministries across the globe provide a bridge across changes in government here and there. They can talk when the politics of non-energy issues obstruct dialogue among the foreign ministries. It is easier to get Energy Ministers together for regular meetings than Secretaries of State. Their staff should be expanded and serious program budget established to make our cooperation more than rhetorical. For true reform to be achieved, foreign ministers and heads of government will have to be involved, as this will be the key to integrating energy security into foreign policy.

The three countries that need robust attention at this time are Mexico, Brazil and Venezuela. Mexico is considering major reforms and we have much we can share at a technical level on gas

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[30] Department of State Fact Sheet, "U.S.-Mexico Transboundary Hydrocarbons Agreement" February 2012 http://www.state.gov/r/pa/prs/ps/2012/02/184235.htm

[31] Neil R. Brown and Carl E. Meacham, "Oil, Mexico, and the Transboundary Agreement," December 2012 www.foreign.senate.gov/publications/download/oil-mexico-and-the-transboundary-agreement

[32] Ibid

markets, unconventional oil and gas technology, safe regulation of the deepwater, and energy efficiency. We should create a quiet bilateral mechanism for sharing this information with Mexican ministries, its nascent regulator and PEMEX. Changing global markets also impact Brazil, and we should ensure that the Strategic Energy Dialogue is reactivated as soon as new officials are on board at the Department of Energy. Venezuela is trickier because it is in political transition and there is a great deal of rhetorical hostility. But the US had a technical dialogue with Venezuela that lasted over 30 years. We need to know the new officials at the Ministry and PdVSA and to share our view of market realities, even if we may not agree on them. Sometime in 2013, after the Venezuelan elections, this technical dialogue should be revived, perhaps at the Assistant Secretary, or Deputy Assistant Secretary level.

Conclusion

Mr. Chairman, the ties between Latin America and the Caribbean and the energy security of the United States are numerous. Here I have addressed only a few of the possible avenues for improving U.S. energy security, and there are undoubtedly more, but the overarching conclusion is that energy security goals in the Hemisphere can be achieved through improved dialogue and relations with allies and adversaries alike. As I stated in 2008, it will require new approaches to energy and foreign policy. It will require fresh policy approaches, money, and creative diplomacy. But more than anything it will require leadership. As a citizen I thank the committee for its leadership on this critical issue.

Mr. SALMON. Thank you, gentlemen.

I yield myself now 5 minutes for questions. And the first question I would like to direct to Mr. Farnsworth, but it could equally be addressed to you, Mr. Goldwyn.

You touched on the LNG exports and the importance of the U.S. finally moving forward with granting export licenses to LNG to the Caribbean. Formalizing economies in the Caribbean Basin and Central America should be a regional goal. So how important would these exports be toward realizing that goal? And with the Petrocaribe's largesse in question now, now is the time to push, I believe, for free trade agreements with many of these nations in the Caribbean Basin. Do you agree with that?

Mr. FARNSWORTH. Yes, sir, I do. And thank you for the question.

I caution that it is not a panacea. I mean, there are some real issues here in the Caribbean Basin. But fundamentally, if you look at a global economy, there aren't a lot of options for small island state that is connected only through tourism or maybe some small industry or some small agriculture. And if the cost of electricity and the cost of fuel imports is three, four, five times higher than in advanced economies just next door, you are fundamentally economically uncompetitive.

If you take that and you take away, potentially—we don't know, but potentially you take away the subsidies that some of the islands have been receiving from Venezuela, and you layer on top of that the enhanced security requirements that are quite predictable as the United States works with our Latin America partners in Central America and Mexico to try to address some of those security issues, you have a fairly complicated stew here that could compel one of two things. It could compel illegal activity, or it could compel additional migration. Neither one of those is particular, I think, in terms of the U.S. interests.

So it seems to me we should try get ahead of the curve to the extent that we can, recognizing there are lead times in terms of permits and infrastructure development and all of that. But we should get started now because we can see this train coming down the tracks. And this is something that I think is both proactive, but it is also positive.

You know, the United States has a very strong and positive relationship with the Caribbean in the context of global politics. During the Cold War we were very active with the Caribbean Basin Initiative. We saw it in global context. That is fine. The beneficiaries, however, were the Caribbean region and Central America. And I think we really need to begin to look at this region in a new way, a way that recognizes some of the obvious limitations, but says, look, we have a foreign policy need in the region, and let us use energy as part of that. And I think you can't really get there from here unless you begin to open the spigot in terms of natural gas exports.

Mr. SALMON. Right.

Mr. Goldwyn.

Mr. GOLDWYN. I would just add two quick points. One is these are relatively small markets, so in terms of total volume of gas, it really shouldn't be a concern on price. And given all the studies that have been done, I actually don't think there is a legitimate concern on price anyway, but that is another question.

The second is these countries do need a market signal that if they sign a purchase agreement, that they will be able to get a license relatively quickly. And so that is where I think a policy determination would be helpful.

Mr. SALMON. Thank you.

Mr. Piñon, thank you for your testimony, and thank you for coming all the way from Texas to be here with us.

With respect to Argentina's recent confiscation of YPF shares owned by the Spanish firm Repsol, you correctly point out that they flagrantly turned their nose up at the rule of law, yet Argentina has significant resources, particularly in shale gas fields, and they can benefit from the U.S. shale gas revolution.

Do you see President Kirchner taking more serious steps toward attracting foreign investment while moving away from her statist and highly politicized policies?

Mr. PIÑON. Well, I believe that a major change has to take place. I think the signal that she sent to the industry by the confiscation of the Repsol assets sure puts in question who else is going to invest money in Argentina. If I was a major oil company or an international oil company, I would question how long will my assets be safe in Argentina.

You have also have to remember, Mr. Chairman, that any upstream project takes anywhere between 1 to 7 years to bring onstream. These are issues that do not happen overnight. There is huge amount of capital investment that has to go up front. So even if I sign an agreement today that is valid to my corporation, what says that after 5 years, when I already have 2-, 3-, 5 billion on the ground, that the rules of the games are not going to change?

So that is the big issue. That is what happened in Venezuela. That is—with Exxon Mobil and with CONOCO. That is what happened in Ecuador with Occidental Petroleum. Once these international oil companies start putting large amounts of capital into the country, they more or less have you; in other words, the negotiation rule now is totally different.

I think she is going to have a problem. There is economic problems in Argentina. Argentina is a very wealthy country not only in oil and gas, but in many other areas, and the country has always failed to materialize. So we will see what happens.

Mr. SALMON. I think, you know, I learned early in my business career that if you take the idea that you have got to deal with long-term objectives for your business, and that is grow business over time and develop a reputation as an honest broker and somebody that people will be willing to do business with, and not the mentality that some look at the used car salesman—just sell that car and take advantage right here and now because we gotta get the sale, gotta squeeze every bit out that we possibly can now—it provides long-term success. And with Argentina's economic travails and problems, they would be well suited to look at focusing on some of these rule-of-law issues on investment, not just in regard to Repsol, but in regard to many other companies that I have talked to, international companies, that are very wary about doing business in Argentina because of these contract issues that are not being adhered to and rule-of-law issues that are being flouted. And I think ultimately if Argentina recognizes it is not in their best interests, it is not in their best long-term interests to continue going along this road, they have got to start recognizing contracts and adhering to rule of law.

But thank you very much.

I would like to recognize the ranking member Mr. Sires.

Mr. SIRES. I am glad that the Caribbean Basin has been raised, because I think one of the problems that we have had in the past, in my opinion, is that we focus on the big fish. You know, we focus on Mexico, we focus on Brazil. And obviously the large opportunities are in those countries.

But there is a whole host of small countries, small markets that we seem to fly over. So when you said, Mr. Piñon, that we give them 300 million gallons, you know, of oil, that—I didn't know that figure. I think that bodes well for us, because we can certainly rebuff the influence of Venezuela by doing the same thing. I guess the 115 million people in Mexico makes Mexico the best partner we could ever have because of all the resources. And I would think the natural connection that we have with Mexico would make it a natural to continue.

But one of the concerns that I always hear from Mexico is that they don't want to be seen as the United States' interfering in their business. And even this change that they are going to modernize their industry, they are very cautious about proceeding so they don't perceive that the United States is pushing this.

Can you comment on that? All three of you? I will start with you, David. You don't mind if I call you David do you?

Mr. GOLDMAN. Please. I think there has been a bit of an evolution in Mexico. Traditionally, certainly this was nationalization was core to the revolution, it is a very sensitive subject. And most of the conversation right now is going on among the political parties in Mexico to see what they can live with. And they have this hard balance. They want to increase production, and they want new technology and their capital constrained. So they have to figure out how do they get that in, and will they have constitutional reform or not? And so it is largely an internal discussion.

I don't think they see us pushing it. I think they have a Petrobras model, they could have a stat oil model. They could have a number of models which keep the state as the owner of the resource and keep the state as the regulator and keep the state in every deal, but still allow foreign companies to be operators and to book reserves. They have got to figure that out.

I think what we can do is very quietly we can let our geologists talk to their geologists. We can talk to people at the Department of Energy about the nature of deepwater technology. We can have people in Interior talk about how to manage that safely, and none of that has to be in the public eye. We can work to give the government privately the confidence that it can see its way through to do this. But I agree, the less public we are, the better. But I really think this is internally driven by the pon and by the pre rather than seen as some sort of a U.S. effort to impose this or change this.

Mr. FARNSWORTH. I would agree with that, and I would simply add that from my perspective, it seems that the new government of Enrique Pena Nieto sees energy reform in the context of overall national competitiveness, and so they don't see it as an independent stand-alone but rather integral to Mexico's ability to achieve its economic growth targets over time and the ability to really turn Mexico into an engine of global production and growth which is clearly where the government is headed. Now how they do that is really an issue for the Mexican people to figure out. There are some good models out there which would seem to hit the framework that they need politically. But it is their issue.

And frankly, I have been quite amazed at the restraints that has been shown by other countries, not just the United States, but other countries saying, look, this is a political issue for you, and you need to resolve it in your own way in your own terms. But having said that, there is a horizon out here by which if you can find a way to reform this sector, it will turn Mexico into, or contribute to turning Mexico into that type of partner, Mr. Ranking Member, that I think we would all see.

Mr. PIÑON. I lived in Mexico for 5 years and I agree with David, I think even if the legal and legislature and political obstacles can overcome, you still have Pemex. Pemex is not Petrobras. Pemex is not Ecopetrol. So even if you can put the legal mechanisms in place that would allow Mexico to play ball in this game, they won't be able to achieve the goals that we are looking for because they have this state oil company that is called Pemex. And it is not from the point of view of their technical expertise. By the way, many of them are graduates of the University of Texas. That is not the issue.

Is there skills as far as being entrepreneurs, is there skills of being able to play the game competitively? Mexico has been a national oil company that has stayed inside of Mexico for the last 50 years. Petrobras has an international experience. Petrobras is a true independent international oil company. Ecopetrol today, Colombia's national oil company, is doing business with Shell in the U.S. Gulf of Mexico. Why? Because they learned from that experience and regrettably Pemex is a true national oil company from the point of view that technically they might be very competitive. But from an entrepreneurial management stewardship point of view I think they lack the skills to really take Mexico into what we want it to be 5, 7 years from now.

Mr. SIRES. So you are not very hopeful of this?

Mr. PIÑON. No, sir, I am not. Mr. Pena Nieto has 6 years in power. It is a 6-year presidential term. And as I share with you today, any project upstream takes anywhere between 1 to 5 years to materialize. I am sorry, I am optimistic for the potential of Mexico. It has been shared by all of us this morning, this afternoon in the panel. I just don't think that they will be able to achieve their goal, again, in particular with the organization that they have of the energy sector particularly in Pemex, I don't think so.

Mr. SALMON. The chair recognizes Mr. Radel.

Mr. RADEL. Mr. Piñon, in that same vein looking at Brazil, have they reverted to increased resource nationalism? Brazil? And I follow up with we have this so-called pre-salt reserves, which has the potential to turn the country into one of the top five oil and gas producers in the world. Is there opportunity there for us?

Mr. PIÑON. Brazil will surpass both Venezuela and Mexico as the largest producers of oil in the region, which to many of us that have been in this industry for 34 years, we never thought that we would mention something like that.

When Lula da Silva came in power in 2003, I believe, those of us that were in the industry said there goes Petrobras. We thought that is it, close the doors, go home, there is another Venezuela coming. And Lula da Silva is probably to me the best President that Latin America has ever had because being a leftist, being a socialist, he was able to recognize that Petrobras was that golden goose that was laying the eggs, and he said, I have to let it run like a true enterprise. I, as the state, am more than happy to collect the dividends and part of the shares if they go up. I want it to make more money because I am collecting 28, 30 percent corporate tax and by the way, they are going to make a lot of money for me. Lula knew how to run Petrobras. He just let it be Petrobras.

That is why I am concerned about Argentina. We have two poster childs in the region and that is Brazil and Colombia. And what I am afraid of is that if we let Venezuela and Ecuador and Bolivia and all of these guys and now Argentina go through, it might give some of these governments a second thought, particularly if they do find all of these resources that now they say, by the way, I don't need the techno, I don't need the geologist, because I know where it is. I still need the engineers because I need to know how to get it out. But I don't need the geologists anymore.

What is the advantage of an Exxon or a marathon or a Chevron or a Conoco to any of these countries anymore? Is it really technology? You have Schlumberger and Baker Hughes and Halliburton today in Mexico doing business that used to belong to the international oil companies. So the service business even has taken today a role that the majors always never wanted to take, which was the service type of business.

So I have a problem. I think that we really, again, I think the future is fantastic. I am optimistic. I think Latin America can do it. All that I am saying is we need to take a step back, and we need to take the job and the role that some of these countries are playing.

And China, today when China goes and is, and forgive me Mr. Chairman, but when China today is negotiating with Brazil and in the other room you have an American oil company, there are two different type of negotiations going on. I am not saying that the U.S. ought to have a national oil company, by the way. We don't have a national oil company. So when you have an international oil company in one room and you have a Chinese oil company in the other room, that Chinese oil company has government officials with it, has the National Bank of China with it, has all of the infrastructure required, has the engineer, has a turn key package.

We don't have that flexibility because we don't have a national oil company. And I am not saying that we need to have one. But I just want the members of the committee to understand that when you have a China national oil company competing versus an American oil company, in many of these countries, and it is not—but wait—it is not an issue of corruption. It is not an issue of corruption. It is an issue that they have the competitive advantage that we don't have. That is what I am going to say.

Mr. GOLDMAN. I will just offer a slightly different view. I am a little bit more worried about Brazil because the big boom in Brazil happened when they opened the offshore to foreign operators and they got in technology and project management, what they didn't have, and they learned a lot and they had to tag along with that. And now they have taken a step back by saying that Petrobras has to be the operator in every project, that they have to put capital into every project, that they have to evaluate every project, has already slowed them down.

So their production estimates have declined and the local content requirements are understandable, but they are required, companies are required to have things that Brazilians don't make yet. So all of that is going to slow things down. I think they will still be huge and they are very adaptive, so they may learn that this is not a revenue maximization model, and maybe they wanted to have that money for development and they will change. But right now where if that take off looked like this, it has flattened out a little bit.

And I think Brazil, if the prices soften a little bit, companies will bid in the next round. But whether they go from exploration to production will depend a lot on what the returns are and what the price is whether Brazil is competitive. So I think they are going to have to compete more or they are not going to be the producer that they could be.

Mr. FARNSWORTH. If I could just piggyback on that as well; this is where the North American play comes in so heavily because given a choice between investing in the United States or Canada versus uncertain markets in Latin America, most people chose North America. And what we have seen with the dramatic increase in recoverable energy in North America, companies don't have to make those riskier plays. And to the extent that any country, Brazil or any country is taking a step back, the issue then is how are they going to be able to attract the massive investment that is required to develop those resources?

The resources are there. What isn't there is the investment. This is why China is so important because it has played a role that really didn't exist in the past whereby countries—Venezuela is a perfect example—can pursue policies and ambitions that the rest of the international community might have rejected in the past, but with China's support, they have been able to pursue certain policies. Now perhaps the Chinese are getting a little bit impatient with Venezuela and the inability to repay debts and that sort of thing, that remains to be seen.

But this is where I think an argument in terms of the quality of investment can be developed with the western hemisphere. And I think the Western hemisphere nations are very receptive to that. In other words, a dollar of Western company investment isn't necessarily the same as a dollar of Chinese investment, not necessarily because the Chinese come with a package, but because of all of the externalities that we don't discuss: The corporate social responsibility, the hiring on the local economy, the support for local education systems, anti-corruption, Foreign Corrupt Practices Act, corporate governance, all of these that Western companies will bring, none of those things that the Chinese will bring.

And so you have a quality of investment. Yes, you can make more money in terms of some of the investment coming from other parts of the world. But in the longer term, is that a good thing to help develop your country along the way that, frankly, I think most of the people in the region would want to go, dare I say it, does that help support democracy? Now this is the Western Hemisphere Subcommittee, so I am comfortable making these types of argument.

But the truth is, I think this is a concrete connection between investment policy and energy and resource nationalism and the quality of democracy down the road and true partnership. And I think we are seeing that develop right before our eyes in many of the countries in the region.

Mr. RADEL. Thank you, gentlemen.

Mr. SALMON. Thank you. The chair recognizes Mr. Duncan.

Mr. DUNCAN. Thank you, Mr. Chairman.

I just want to mention one thing that the gentleman from New Jersey talked about in the last panel, and that is opportunity with, in a post Castro, post Chavez environment in the Latin America region. We have an opportunity there to go back and redevelop some relationships and find some opportunity for American businesses. But I know we all only want to deal with democratic regimes and democratic governments. And so I think we have got to find a way to negotiate that, we have got to find a way to support pro democracy, and we have got to find a way to seize those opportunities. And I look forward to working with the ranking member going forward.

I think the administration should begin that process as well, and so I appreciate the efforts, especially with Cuba that the ranking member has had.

Mr. Piñon, you mentioned China and the Chinese example. We heard the same thing in the Kurdish region of Iraq that when American companies are trying to negotiate with these governments, the Chinese have a leg up in that they have got the support of their government, and along with that comes the bank and everything you mentioned. I think the American Government needs to do a better job with supporting American businesses going into those negotiations. And I hear that other places. So I appreciate your bringing that up.

And what we see with China is not just negotiating with Chinese companies with the government backing, we actually see the Chinese Government going in and not only purchasing mineral rights and mines and oil and natural gas fields and rights but also purchasing companies and rare-earth minerals and just a lot of different things.

And so I guess the question I have, because this is a very interesting topic for me, is what can the U.S. Government do to better support American businesses so that U.S. business can better compete with China, Russia, Iran, and I appreciate you guys mentioning Argentina, Argentina has reached out to Iran recently, and that concerns me greatly.

And so what can the government do? Give us some ideas, things that we might be able to work on as the legislative branch to push forward those concepts?

Mr. GOLDMAN. I think we can do a number of things. One is we can make clear to the countries in the region that the expertise in unconventional oil and gas, which is the future of their hemisphere was born and raised here in the United States. So they are not going to find that expertise from Chinese companies. Second, deepwater, ultra deepwater other than Petrobras, no Chinese company——

Mr. DUNCAN. They are paying big dollars to purchase these mining companies, not the rights, but the companies themselves, they are paying big dollars for that in order to have access. I didn't mean to interrupt you.

Mr. GOLDMAN. They bought Nexen up in Canada. But I don't think anybody is yet trusting SINOC to be the operator of a deepwater. Now mining is a different story and I agree with you there. But one thing we can say is if your future is in unconventionals and in deepwater, you want to go with people who actually know how to do this right and do it efficiently and those tend to be Western companies, not exclusively American, but in this hemisphere, American.

The second thing I think is to point out to them the reliability and the business climate that it creates. If you want investment in lots of other areas you have to have a positive investment climate and we come with all the things Eric has explained so well how in terms of how we behave in country.

The Chinese increasingly being seen as colonialists, particularly in Africa, because they have an enclave way of operating. They don't bring any jobs. They keep to themselves. They don't treat the environment well. And people are getting irritated with them. And in the hemisphere so far, they have mostly bought assets which Western companies have wanted to dump so they haven't made any strategic acquisitions.

But I think going forward, as you said, we have go to also just get in there and have a relationship that is good across the board so that we can make the case and be commercial advocates.

Mr. DUNCAN. Before I come back to Mr. Piñon for some additional, let me make just make a comment that I was talking with some oil and natural gas folks from the Gulf of Mexico, the Louisiana Texas area, and they are talking about a lot of those companies left the Gulf and went to the coast of Brazil, went to the coast of Africa and now they are coming back because what they found dealing with those governments and their regulations and the slowness of permitting and other things, as bad as the rules and regulations are currently under this administration for deepwater drilling in the Gulf of Mexico, it is still they understand there is some certainty, they understand what the policies are, they may not like them, but it is a better business climate for dealing with our U.S. Government having to go through the delays and all that, at least they know what they are getting, whereas there is so much uncertainty.

So they are pulling a lot of those rigs back to the Gulf of Mexico. I thought that was an interesting thing to hear from them because of the certainty aspect and the uncertainty, I guess, is what I am trying to say dealing with the Brazilian Government or the African governments that they had to deal with.

And so going back to what can the U.S. Government do to support businesses and these environments, U.S. companies to make them better to compete with the Chinese? Mr. Piñon.

Mr. PIÑON. I still think that we do need, we have in this country, and by the way one of the things that made this country the best country to invest in oil and gas is because we do have that separation between the private sector and the state, and the government. And so we have to be very careful in the amount of support that the United States oil companies can get from our Government. We have to be very careful with that.

But again, I think support in the area of technology transfer, the area of STEM education, working with, like Brazil, with scientists without borders, we in the United States have right now the State Department 100,000 strong in the Americas in which we exchange students, in other words, there is a lot of ways in which the U.S. can really influence and work on changing the behaviors and the knowledge and the skills in a lot of these countries.

But we have to be very careful how the United States Government gets involved in the business dealings of U.S. oil companies overseas. I think that could set certain precedents that I wouldn't be in favor of.

By the way, another issue that China is doing is China and Brazil today have joint ventures with both Statoil and with Repsol. So China is also not going necessarily on their own, but China is also going into joint ventures with international oil companies who have the deepwater expertise like the Norwegians and like Repsol.

So the Chinese, I don't know what David's data shows, but we believe that in the next 4 years, if you have all of the equity production that China could very well have in Latin America, including the oil for loan exchange, China could be pulling as much as 600,000 barrels a day out of Latin America in equity production.

In fact, they are looking for a refinery. They have talked to Valero, they have talked to a number of people to look for refinery capacity in the Caribbean.

And by the way, China is a good partner. Many of us, ask the Exxons and the Chevrons and everybody else, we have partnership with China in China and in many other places in the world. So that is not necessarily the issue. If, like you said, the rules of the game when they go into a lot of these countries is totally different than the rules of the games as far as it goes with us.

You mentioned the issue of all of the regulations and all of the rules that we have to follow, by the way, not necessarily because they are set by the United States Government, because from the corporate point of view, is good business. So those are the things that we have to work with.

Mr. DUNCAN. My time is expired but I just want to mention the ranking member talked about fly-over countries, the smaller countries in Latin America, because we focus on Argentina, Brazil, Colombia, and we focus on the hot spot of Venezuela, but there are tremendous opportunities in Honduras and Nicaragua and other countries in the isthmus there. But also there is opportunities in, I believe, in Ecuador and Bolivia, Paraguay, Uruguay.

There are tremendous opportunities for the U.S. to begin fostering, reestablishing those relationships that I think are going to be very, very important for us going forward and I yield back. Thanks.

Mr. SALMON. I couldn't agree more.

Mr. Sires had a follow-up question.

Mr. SIRES. I guess I get a little more reaffirm of the fact that I think some of these countries are going to miss the opportunity that is there for them by doing all the things that we talked about today.

Here is a golden opportunity to move forward, and they are their own worst enemies by doing what, as Congressman Duncan said, he spoke to some of the members, some of the companies are pulling back and they are coming back into America. Why? Because they don't have the same problems that they encounter when they do business in those countries.

I was just telling the chairman the last time I was in Colombia, I had dinner with one of the presidents of one of the universities. And he said to me that the second most studied foreign language in Colombia today is Mandarin. So that tells you something that the influence of China, and that is Colombia. I could just imagine where they have more influence and where they are doing more business than in Colombia, what is going to happen? Thank you, Mr. Chairman.

Mr. SALMON. Thanks. We do have a few more minutes. I would like to ask another question, too. I have a significant amount of background with China. I have been there over 30 times. I speak the language. And I did not learn it in Colombia, but, in fact, I learned it in Taiwan. But I would like to say that given the fact, it is always easier to move things when you deal with an autocratic government, where the business and the government are all working in concert with one another.

And Mr. Piñon, you mentioned that that is an advantage with their oil companies, the state-owned oil company where they have the government, the financier there, the oil company all at the table and they can blow and go. We can't do that, and we never will because we live in a government where the system of checks and balances and free market sector.

So what are some of the things beyond—that we can adopt as policy to make it so our oil companies can compete a little bit more effectively?

And then one other question to Mr. Goldman, you talked about the importance of energy and diplomacy and I couldn't agree more. But what can the United States and this subcommittee, in particular, do to help encourage energy-rich nations like Ecuador and Argentina develop the type investment climate that will boost their production and increase exploration? Thank you.

Mr. PIÑON. Mr. Chairman my apologies, I am biased, but 52 of the top geologists in Petrobras today are graduates of the University of Texas. Now I can assure you that the University of Oklahoma and Texas A&M and those universities also have a huge number of graduates from the universities in those national oil companies.

The best way that we have to reach those governments are through our own people, whether it is education, whether it is technology, whether it is student exchanges, whether it is environmental issues, water resources, one of the things that we are working now at the University of Texas helping a lot of these countries is whether it is shale gas or something else, it is going to impact water resources in a lot of these countries. So we are focusing on that too.

We have just had the vice minister of energy of Guatemala, Eric was there, so we are looking at Guatemala for geothermal, how can we help Guatemala develop their geothermal industry. So I think there are a lot of things that we can do as the United States not only from the government, but also from the private and academic sectors.

Mr. SALMON. Thank you.

Mr. Goldman.

Mr. GOLDMAN. Thank you. Well, I think the market is a strict disciplinarian, so I think the first thing that is going to happen is they will notice how Colombia is doing, and how Chile and Argentina are doing something on gas and the Bolivias of the world will have to adapt. But I think the other thing we can do is use some of our multilateral mechanisms, the energy and climate partnership of the Americas, use demonstration examples as you heard from Ambassador Pascual earlier, so Colombia can stand up and say this is how we are getting an investment; Brazil can say this is what has worked for us so far; Mexico can say these are the changes we are looking at so they can hear it from their neighbors and not from us.

And I think we can also our strategic dialogues with Brazil and others to talk about whether we can do some triangulation and get some, the people who those countries listen to to deliver some of this message so it is not coming from us directly.

Mr. SALMON. Great idea. Mr. Radel, did you have any other questions you wanted to ask?

Mr. RADEL. Sure, for the record as we talked about Mandarin being studied in Colombia, we are learning Spanish here in the United States.

Mr. SIRES. You got some oil.

Mr. RADEL. I would like to talk about Ecuador. I think maybe Mr. Goldman, this would be best for you. There is a vacuum now with Hugo Chavez gone, even just symbolically. Could you describe our relations right now with Ecuador? One of the biggest splashes that Correa, President Correa made years ago was we said we would like to have our air base there and he said, sure, I would like one in Miami too. Not going to happen. But could you describe our diplomatic relations with them, and whether or not you believe that they would try and fill that kind of vacuum within the Bolivarian revolution, if you will.

Mr. GOLDMAN. Well, I think I have been out a little while so I don't know how relations are. So my guess is they are probably cordial. The foreign investment condition in the energy sector is worse than it is in any investment sector in Ecuador, but that is where it is worst and the actions against Oxy and others have been very serious. So I think the Department warns people of the volatility there.

I don't think Ecuador has the resources, and I don't think Correa has the charisma, and I don't think the country has the respect to fill that vacuum. I don't think anybody wants to follow the Ecuadorian model. Bolivia has tried, I think, to its enormous detriment, and maybe permanent detriment as other countries find their own sources of gas. So I don't think anybody is going to be following President Correa wherever he may be trying to lead them.

And, in fact, we will have to see what happens to Ecuador's production, but if it declines at the pace that Venezuela's production has declined, my guess is there will be enough internal problems there that no one will wish that on themselves.

Mr. RADEL. Well, there is one assessment. Thank you. Mr. Farnsworth do have something as well?

Mr. FARNSWORTH. I agree with what David has said, but also to piggyback on what Mr. Sires, the point that you made which I think was absolutely correct. You have a boom in global energy that threatens to bypass some of the countries in the region despite being extraordinarily wealthy in energy. For the last several years, production in Venezuela has decreased, even though global emergency markets have been at historic highs. And any first year business student will tell you you want to sell as much as you can in a tight market for the highest price you can. And in fact, the production has been decreasing because of mismanagement of the energy sector et cetera, et cetera, some of the things we have already talked about.

One country we haven't talked a lot about but which just came up is Bolivia. Bolivia is a perfect example of this. Bolivia should be, in some ways, the major supplier of natural gas in South America because of their geographic location, because of the amount of supplies they have. And what happened is they created conditions that were so negative to investment and delayed so long the actual development of the sector that now, discoveries around them have taken over and you have surrounding countries, Brazil, Argentina, of course we know Peru, Chile even, which traditionally doesn't have a lot of energy at all, and now you have Bolivia, instead of being the center of energy in South America, is really the hole in the doughnut. And the people that lose ultimately, in my view, are the people of the country because they are the owners and they are the ones who should be receiving the benefit of the natural resources, and they are not, because it is just not getting sold.

Now yes, I am overstating the case, yes there is Bolivian gas going to Brazil, yes, it is going to Argentina, et cetera, but not as much as it should have, and they should have been the first mover in South America that would capture those markets, capture those patterns of trade and allow them to really establish the terms of discussion.

They haven't done that. But I think if you extrapolate that more broadly, you could see and you later on, now some of the changes again that we talked about in North America, some of the changes in Asia, some of the finds we see that we have seen in the Middle East et cetera, et cetera you have a region that is rich in resources that might simply miss the boom because of politics, and that is a concern to all of us.

Mr. SALMON. This discussion has been increasingly engaging and I don't want to cut anyone off. I believe Mr. Piñon, you wanted to talk and then I am going to close with Mr. Sires' last question. But you guys have been phenomenally well-spoken in giving us your thoughts and ideas, and I think we could probably go on for another couple of hours, and none of us would be bored. We are really enjoying this, so I don't want to clamp it off. We have got another few minutes, Mr. Piñon, and then I will go close with Mr. Sires.

Mr. PIÑON. Just one comment, we haven't talked about the Guyana basin. We have today Guyana and Surinam who probably have 15 billion barrels of reserves offshore. And I was just recently in Georgetown, and those countries are not ready to what is coming for them. We really have to keep an eye on both Guyana and Surinam because they have huge resources. And if they do discover oil, we need to be there.

The other one is Uruguay. Already, international oil companies are moving offshore Uruguay. By the way Bolivia is looking now at moving gas LNG via barges down the Parana because they are now really being landlocked.

So all that I am saying is that the Western Hemisphere and Latin America is going to be a lot of fun, and we look forward to come down here often and share with you our thoughts on the region. Thank you.

Mr. SALMON. Mr. Sires.

Mr. SIRES. Mr. Chairman, this has certainly been a very informative hearing today, and I thank you for putting it together. But I have to end it with disagreeing with you a little bit about these countries' adopting. I think some of these leaders are making too much money. You look at the Nicaragua, whole family is multi millionaires. These people were in the mountains years ago. So I don't think they get it for their people. Some of these people are getting very, very wealthy in this whole process. And to adopt, and they are going to have to adopt, I am sorry, I disagree with you. That is just the way I think. Thank you for the hearing.

Mr. SALMON. Thank you so much, Mr. Sires. And thank you so much. We are in an exciting crossroads right now, and I think that we have phenomenal opportunities if we but use them, and it is totally win-win.

Mr. Radel, you mentioned earlier I believe on some of the issues of illegal immigration we are talking about. Is it not one of the best things that we could do to stave off some of those problems to prop up Mexico's economy or help them to be more successful?

That having been said, their economy is growing at about 7 percent and their unemployment rate is lower than ours, and I have heard that they are about to employ a U.S. guest worker program in Mexico.

So thank you very much for being here today. We appreciate your attendance, and we appreciate your wonderful comments and intellect. Thank you very much. This meeting is now adjourned.

[Whereupon, at 4:55 p.m., the subcommittee was adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

SUBCOMMITTEE HEARING NOTICE
COMMITTEE ON FOREIGN AFFAIRS
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C. 20515-6128

Subcommittee on the Western Hemisphere
Matt Salmon (R-AZ), Chairman

April 3, 2013

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 by the Subcommittee on the Western Hemisphere in Room 2200 of the Rayburn House Office Building (and available on the Committee website at www.foreignaffairs.house.gov):

DATE: Thursday, April 11, 2013

TIME: 3:00 p.m.

SUBJECT: Energy Opportunities in Latin America and the Caribbean

WITNESSES: Panel I
The Honorable Carlos Pascual
Special Envoy and Coordinator for International Energy Affairs
U.S. Department of State

Mr. Matthew M. Rooney
Deputy Assistant Secretary
Bureau of Western Hemisphere Affairs
U.S. Department of State

Panel II
Mr. Jorge R. Piñon
Associate Director
Latin America and the Caribbean Program
Center for International Energy and Environmental Policy

Mr. Eric Farnsworth
Vice President
Council of the Americas and Americas Society

The Honorable David L. Goldwyn
President and Founder
Goldwyn Global Strategies

By Direction of the Chairman

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

COMMITTEE ON FOREIGN AFFAIRS

MINUTES OF SUBCOMMITTEE ON *The Western Hemisphere* HEARING

Day *Thursday* **Date** *04-11-2013* **Room** *2200 RHOB*

Starting Time *3:00 p.m.* **Ending Time** *5:01 p.m.*

Recesses ___ (___ to ___) (___ to ___) (___ to ___) (___ to ___) (___ to ___) (___ to ___)

Presiding Member(s)

Chairman Matt Salmon

Check all of the following that apply:

Open Session ☑
Executive (closed) Session ☐
Televised ☑

Electronically Recorded (taped) ☑
Stenographic Record ☑

TITLE OF HEARING:

"Energy Opportunities in Latin America and the Caribbean"

SUBCOMMITTEE MEMBERS PRESENT:

Chairman Matt Salmon, Rep. Jeff Duncan, Rep. Trey Radel, and Ranking Member Albio Sires.

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

N/A

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.)*

Testimony by Jeremy M. Martin, Director, Energy Program, Institute of the Americas

TIME SCHEDULED TO RECONVENE ________
or
TIME ADJOURNED *5:01 p.m.*

Mark A. Walker
Subcommittee Staff Director

MATERIAL SUBMITTED FOR THE RECORD BY THE HONORABLE MATT SALMON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ARIZONA, AND CHAIRMAN, SUBCOMMITTEE ON THE WESTERN HEMISPHERE

Testimony by Jeremy M. Martin
Director, Energy Program, Institute of the Americas

Hearing on "Energy opportunities in Latin America and the Caribbean"
House Committee on Foreign Affairs, Subcommittee on the Western Hemisphere
April 11, 2013

I am sorry that I am not able to present this testimony in person today, but I would like to thank Chairman Salmon and members of the subcommittee for extending me the privilege to submit this written testimony on a topic of such relevance and importance for the United States and our entire hemisphere. It is an honor to submit this document on behalf of the Institute of the Americas as we celebrate our 30th anniversary as one of the hemisphere's leading policy centers, examining issues from energy to regional integration to economic development.

Latin America is home to three of the United States' largest suppliers of petroleum: Mexico, Venezuela and Colombia. The region accounts for roughly 3 million barrels per day (MBD) of US oil imports, or 28 percent of the total; Mexico and Venezuela are the US' 2nd and 4th largest suppliers. Further, Argentina and Mexico hold two of the world's largest unconventional reserve bases, according to an April 2011 Energy Information Administration (EIA) report.

Through this written testimony, I would like to offer some further insights on the most important producing nations in the region, their production outlook, geopolitics and future trends, as well some thoughts on electric integration. In doing so, I would like to discuss three points:

- The role of natural gas in Latin America and how lessons learned from the energy boom in the United States, particularly in terms of unconventionals, provide a major opportunity to export knowledge, technology, goods and services to the region;

- The opportunity for Central America to benefit from regional electric integration; and
- The region's long term outlook, including Latin America's tremendous upside and production potential for both conventional and unconventional resources

Natural gas: exporting the lessons learned from the US energy boom

Let's begin by looking at the energy boom in the US – the so-called shale revolution – but more specifically the lessons Latin America should heed when developing its own unconventional reserves.

When it comes to shale gas in the US, we all know the story: just a few years ago, trends indicated a decline in domestic production. But thanks to shale – and a lot of money – the energy outlook of the US has radically changed. Indeed, on the back of the shale revolution the US is poised to become the world's largest overall hydrocarbon producer by 2020.

Latin Americans should take note of four aspects that have been critical to the success of shale development in the US: 1) Natural resource ownership; 2) Finance; 3) Technology; and 4) Infrastructure.

That is to say, who owns the rights to the subsoil – the natural gas deposits – the ease and access to significant finance and risk capital, the availability of cutting edge technology, and the ability to use existing infrastructure to move the gas to market.

Natural resource ownership presents the first major hurdle for many Latin America nations. Most governments across the region fiercely guard their role and rights as the owners of "the subsurface" be that oil, gas, gold, copper, or coal reserves. In Mexico this concept of state ownership is even stipulated in the Constitution.

Beyond mineral ownership, technology stands out as another key component in the successful development of unconventional resources. Gaining access to the technology and know-how necessary to extract the gas in a cost effective manner is critical.

However, the real challenge is to create the appropriate market incentives and policy framework to provide capital for shale gas development and access to the cutting-edge technology. Latin American nations with higher levels of state intervention in particular have been unable to provide the conditions necessary to jumpstart entrepreneurial investment in the shale industry.

The US experience underscores the significant investment required to develop shale gas and its corresponding infrastructure. Insufficient infrastructure in Latin America has already impacted the nascent industry. According to a recent analysis, a shale well in Argentina today costs $4 – 5 million more than in the US

I do believe Latin America's shale potential will be developed, but it will require deft navigation of each country's unique natural resource culture, as well as time and patience.

Central America electric integration

The potential benefits of electric integration in Central America have long been touted, particularly if larger electric generation projects can tap into a regional market and take advantage of economies of scale.

The Central American Electrical Interconnection System (SIEPAC), first envisioned in the mid-1990s, aims to establish an electricity market across the Isthmus. At its core is a roughly 1,800 kilometer electric transmission line, that once completed later this year or early next, will run from Panama to Guatemala and connect the electric systems of the six Central American nations.

The initiative also aims to create a regional market, known by its Spanish acronym MER, which will permit exchanges of electric power across the existing six national markets using the SIEPAC transmission infrastructure.

Bu the fundamental challenge for SIEPAC is to establish this regional market and a corresponding regulatory system in which political intervention assists rather than impedes integration, and which allows the six member nations to think and act regionally instead of ceding to domestic concerns.

Latin America's long term energy outlook

The US is not alone, with paradigm-shifting energy developments rippling across the Western Hemisphere.

Despite some recent hiccups, Brazil's discovery of the deep sea pre-salt basin should catapult that country's oil production to roughly 5 million bpd by 2020 or soon thereafter. Meanwhile, oil production in Colombia has almost doubled to 1 million bpd, with a goal of 1.5 million bpd by 2020. And by many accounts, including estimates by the US Geological Survey, Venezuela holds the world's largest oil reserves. Argentina's unconventional reserves are the largest in Latin America, according to the EIA, and have drawn interested companies from across the globe. Add in the latent but important reserve base in Mexico and it is apparent that the Americas have the potential to alter the international geopolitical landscape when it comes to oil and gas.

More importantly, the major oil and gas producing nations of Latin America are in a position to greatly aid the entire hemisphere's energy balance. However, it is not just a question of the region's potential, but rather how all countries – and companies – can best work in a cooperative, collaborative manner to assure the long term development and sustainability of oil and gas, from the Hudson Bay to Tierra del Fuego.

Indeed, cooperation between nations and companies is one positive trend already apparent across the hemisphere, particularly in the case of National Oil Companies (NOCs). Based upon the increasing role of NOCs, there should be a shift to focus on how to work in concert, how to foster partnerships and how to find win-win opportunities.

Examples of collaboration include Colombia's ECOPETROL, which is teaming up with several US firms in a bid to increase its stake in the US Gulf of Mexico to 136 blocks in 2013; there are also numerous partnerships between private firms and Petrobras in Brazil; and even in Venezuela, private partnerships with PDVSA remain important to oil and gas developments.

Perhaps the most exciting opportunity, however, is the potential for US companies to collaborate with Mexico's NOC, Pemex, under the 2012 Transboundary Hydrocarbons Agreement. The agreement, once approved, would allow joint ventures between Pemex and US firms to exploit deepwater reserves along the two countries' maritime boundaries in the Gulf of Mexico. The Agreement has been ratified by the Mexican Senate but approval has been delayed in the United States.

To conclude, it is true that Latin America is in need of massive investments in energy and infrastructure. But its importance to the US market means the United States simply cannot afford not to engage, particularly with the largest oil and gas producing nations. Without question, Latin America's outlook and opportunities are complex and at times challenging, but given the region's potential, the energy glass is at least half full over the long term.

It is my personal opinion that we will see the Western Hemisphere re-emerge as a global energy hub, though not as quickly as some have suggested.

Thank you for your time. I hope that my written remarks have been useful.

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