CHANGING ENERGY MARKETS AND U.S. NATIONAL SECURITY

HEARING

BEFORE THE

SUBCOMMITTEE ON TERRORISM, NONPROLIFERATION, AND TRADE

OF THE

COMMITTEE ON FOREIGN AFFAIRS
HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

DECEMBER 16, 2011

Serial No. 112–89

Printed for the use of the Committee on Foreign Affairs

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

U.S. GOVERNMENT PRINTING OFFICE

72–104PDF WASHINGTON : 2011

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
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CONTENTS

Page

WITNESSES

Mr. Neelesh Nerurkar, specialist in energy policy, Congressional Research Service 9
Mr. Robert McNally, president, The Rapidan Group 14
Mr. Martin J. Durbin, executive vice president of government affairs, American Petroleum Institute 24
Gal Luft, Ph.D., executive director, Institute for the Analysis of Global Security 30

LETTERS, STATEMENTS, ETC., SUBMITTED FOR THE HEARING

The Honorable Edward R. Royce, a Representative in Congress from the State of California, and chairman, Subcommittee on Terrorism, Nonproliferation, and Trade: Prepared statement 3
Mr. Neelesh Nerurkar: Prepared statement 11
Mr. Robert McNally: Prepared statement 16
Mr. Martin J. Durbin: Prepared statement 26
Gal Luft, Ph.D.: Prepared statement 32

APPENDIX

Hearing notice 52
Hearing minutes 53
The Honorable Gerald E. Connolly, a Representative in Congress from the Commonwealth of Virginia: Material submitted for the record 55
The Honorable Brad Sherman, a Representative in Congress from the State of California: Material submitted for the record 59

CHANGING ENERGY MARKETS AND U.S. NATIONAL SECURITY

FRIDAY, DECEMBER 16, 2011

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON TERRORISM,
NONPROLIFERATION, AND TRADE,
COMMITTEE ON FOREIGN AFFAIRS,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:12 a.m., in room 2200, Rayburn House Office Building, Hon. Edward R. Royce (chairman of the subcommittee) presiding.

Mr. ROYCE. This hearing of the subcommittee will come to order. The title of this hearing is "Changing Energy Markets and U.S. National Security."

Energy has become a national security issue in the United States. And one of the realities that we have to explore is the impact that energy has on so much of the trade issues, terrorism issues, even the nonproliferation issues. All of these are in the orb of the responsibilities of this subcommittee.

This week the House passed sanctions aimed at Iran's energy sector. A nuclear armed Iran would hugely damage security in the Persian Gulf. It is just a reminder to us of the role played by energy, the reality that the United States is in a competitive situation, competing with China. Energy prices in China are 20 percent higher than energy prices here in the United States. Yet the question is, going forward, are we going to be able to access energy at a lower cost or are we going to foreclose those possibilities?

We sit here today at this hearing at a time when you already have layoffs in the United States related to the Keystone pipeline. Last week, 60 Americans lost their jobs as a result of the President's decision not to give the green light and go ahead with the Keystone project. We sit here in the United States today, some of my colleagues were recently talking to the Canadian Ambassador and Prime Minister Harper, after the President made a decision not to go forward with the Keystone pipeline, and that reaction was to embrace a long-term strategy of looking to Asia for exports from Canada.

We know Hu Jintao has approached and had a meeting with Prime Minister Harper about the idea of having the oil from Alberta shipped not here to the United States but instead transited to China to Chinese refineries. And what China seeks here is to reduce its cost of energy.

We compete with China. It is going to impact jobs in the United States if energy costs go down in China as a result and if energy

costs go up in the United States. So we have an opportunity. The United States has this opportunity, if you read the financial press, of being a net fuel exporter if we are able to access—North America can do this—if we can access the oil sands from Alberta. If we go forward with the Keystone pipeline. For the first time in 60 years our country would have the opportunity to be independent of the current circumstances where we depend upon the OPEC cartel, where we shift our dollars, our petro dollars into that market. And we should ask ourselves, at this point in time, are we better served recirculating those dollars, sending money to an ally, Canada, where 80 percent of what we spend in Canada, according to economists, is spent back here in the United States? Or are we better served by closing that option, allowing China and Canada to cement the deal that Hu Jintao is working on, which would allow those resources to go instead to China, and to continue to be dependent on sending our petro dollars into Saudi Arabia and into Venezuela and to other states that are either unreliable or hostile to the United States?

We can continue with that trade imbalance with respect to the OPEC cartel or we can have our dollars stay at home, not being shipped to Saudi Arabia and Venezuela. From the standpoint of American jobs, we can create those jobs here or we can create those jobs in China. That is our decision. Right now the President is making a decision to lay off Americans, and 60 have already been laid off as a result of his decision, and instead have those jobs go to China.

You can have American jobs if the U.S. Government and State governments will assist. There is a reason why unemployment is under 4 percent in North Dakota, and that is because of the booming energy sector there, that is because the administration has yet to find a way to shut that down. But not only does that benefit North Dakota, it is also benefiting Pennsylvania and other States.

Greater U.S. manufacturing competitiveness is a major issue for us here in the United States. The explosion in natural gas production has given the United States an advantage here, but only if we can access that advantage. If we curtail that, if we shut off that possibility, then we are not going to be the beneficiaries. Good things are only going to happen if those in Washington who make these decisions in our State capitals let them happen.

I am going to go back to the Keystone pipeline, a 1,700-mile extension that would transport 830,000 barrels of oil per day from Alberta to our refineries here rather than in China. By the Chamber's estimate—we know that the estimate of 20,000 direct jobs—by the Chamber estimate it is 200,000 indirect jobs in the United States. Yet we face delay after delay and now this suggestion of delay until the next election.

Well, the Chinese are not waiting and if the energy isn't piped to Texas refineries and refineries throughout the Midwest it is going to go instead to China.

And I just would conclude with the concept or the argument that Prime Minister Harper made after the administration rejected his decision. He was very disappointed. And he laid out the argument that they would look long range to China and to Asia. And we can only hope President Obama drops his opposition.

I turn now to the ranking member, Mr. Sherman, for his opening statement.

[The prepared statement of Mr. Royce follows:]

Statement of Representative Ed Royce
Chairman, Subcommittee on Terrorism, Nonproliferation, and Trade
"Changing Energy Markets and U.S. National Security"
December 16, 2011

Today we'll look at "Changing Energy Markets and U.S. National Security." Indeed, energy markets *are* constantly changing, reshaping our security picture. Energy impacts trade, terrorism, and even proliferation, this Subcommittee's focus. This week the House passed sanctions aimed at Iran's energy sector. A nuclear-armed Iran would hugely damage security in the energy-rich Persian Gulf.

One major --and not so-well noticed-- development has been the reemergence of the U.S. as a major energy producer and exporter. This is due to technological advances, and hostile political and regulatory climates overseas. A few weeks ago, the *Wall Street Journal* ran a story: "U.S. Nears Milestone: Net Fuel Exporter." Yes, the U.S. is on track to be a net exporter of petroleum products this year, the first time in over 60 years! One academic has gone so far as to claim, "The Americas, not the Middle East, will be World Capital of Energy." Exploiting its oil sands, Canada is now a bigger oil exporter than was Libya before its civil war.

There may be a bit of academic hype, and predictions are just that, predictions; but the fact remains that global energy demand is surging --especially with China and India modernizing-- and it's far better off to be resource rich than resource poor. The benefits of U.S. energy development are many:

- Less dependence on hostile, unreliable and shaky energy suppliers.
- A healthier trade balance. More dollars are staying at home, not being shipped to Saudi Arabia and Venezuela.
- American jobs. Unemployment in North Dakota is under four percent because of its booming energy industry. Pennsylvania and other states are benefitting too, lessening unemployment and helping balance their budgets.
- Greater U.S. manufacturing competitiveness. The explosion in natural gas production, by one estimate, has give U.S. manufacturing a 20 percent energy cost advantage over Chinese manufacturing.

But these good things are only going to happen if Washington and state capitals let them. Consider the proposed Keystone XL pipeline, a 1,700-mile pipeline extension that would transport 830,000 barrels of oil per day from Alberta to Gulf Coast refineries.

This project will create jobs. Over 20,000 direct jobs, according to a Cornell University study. These are good jobs --manufacturing pipe and earth movers. Another advantage: buying oil from Canada, a close trading partner, means more dollars will be re-circulated in the U.S. Keystone also means more tax revenues.

Yet the Obama Administration has delayed, and delayed, now waiting until after the *election* to decide on this key project. It has delayed, despite favorable government environmental studies. And despite the economic misery of so many Americans. An Arkansas pipe company just released five dozen employees, citing the permitting delay; 60 more Americans are now unemployed.

Well, the Canadians aren't waiting. The Chinese aren't waiting. Make no mistake about it: the Canadians *will* develop and export the oil they're developing in western Canada. If this energy isn't piped to Texas refineries, it'll go to China. Prime Minister Harper said so much in reacting to the Administration's disappointing decision. Keystone is part of the Job Creation Act the House passed this week. We can only hope President Obama drops his opposition.

In concluding, back to China. Beijing is on an aggressive quest for energy, in Canada, and worldwide. It is in a resource-driven territorial disputes with its neighbors, some being allies of ours. It's important to reinvigorate relations with the Philippines and other friends to help maintain peace in the South China Sea and elsewhere.

Mr. SHERMAN. Mr. Connolly.

Mr. ROYCE. Mr. Connolly.

Mr. CONNOLLY. Thank you, Mr. Chairman. And I thank the ranking member for his graciousness. I want to thank you for the opportunity to address energy and national security issues as interrelated. In the promise of the debate about the Keystone XL pipeline rider in the House payroll tax bill, like you, Mr. Chairman, I am going to focus my comments primarily on that issue.

The International Energy Agency recently issued its world energy outlook which contained one notable piece of good news: U.S. dependence on foreign and particularly Middle Eastern oil is projected to decline in contrast to China, India and Europe.

According to the EIA, the primary reason for our dependence on foreign oil will decline at the adoption of aggressive vehicle efficiency standards, which will increase corporate average fuel economy standards to 54.5 miles by the year 2025. A projected increase in domestic oil production also will make a contribution to reduce foreign oil dependence, though according to the EIA that increase in production will have a much smaller impact than actual vehicle efficiency standards.

Proponents of the Keystone XL pipeline have argued it will increase U.S. access to Canada oil. While this position has intuitive appeal, it deserves further examination. Five major oil pipelines already transport this oil derived from Canadian tar sands into the United States. These pipelines now terminate in Oklahoma, Illinois and Michigan, providing much of the United States with an ample supply of tar sands derived oil. In fact industry analysts note that these pipelines have produced an oversupply of oil in some parts of our country, creating low gas prices for some Americans at diminished oil company profits. The Keystone pipeline will provide an export outlet for Canadian oil, actually reducing supply in the Midwest by allowing oil companies to sell at higher priced markets elsewhere in the world.

In the abstract I think members of this committee could address that boosting domestic oil production in an environmentally responsible manner would be beneficial insofar as it could reduce our dependence on OPEC oil. We discussed this subject in this committee. And as I stated at the time, I support such efforts to boost domestic production for domestic consumption.

Therefore, when legislation to advance the Keystone pipeline came to the House floor I introduced, as I said I would, here a simple amendment requiring that oil to be used in America. That amendment would have ensured that Americans enjoy affordable gasoline and enjoy national security benefits as a result of the tar sands oil production. Obviously those benefits evaporate if oil companies simply export Canadian oil to the more expensive markets in China or Europe.

I was surprised and disappointed, Mr. Chairman, that the House majority rejected that simple amendment, calling into question the motives underlying the push to approve the Keystone pipeline. Alberta Minister Ron Liepert said if there was something that kept me up at night it would be the fear that before too long we are going to be landlocked in bitumen.

While Canadian oil companies might increase their profits from selling oil overseas, such exports come at the expense of American consumers and American national security. If we are in conceptual agreement that there is a relationship between domestic oil supply and national security, then perhaps we should acknowledge that hemorrhaging oil overseas would undercut those benefits.

Proponents of the pipeline have argued it will create jobs. I ask unanimous consent to enter into the record a Washington Post Fact Check article noting that many job estimates offered by prominent elected officials have been wildly exaggerated.

In reality the pipeline likely will produce at most some 6,000 annual temporary construction related jobs and as few as 50 permanent jobs. Compared to the half million public sector jobs that have been lost in the recent recession and nascent recovery, this is an anemic job boost at best.

Irrespective of whether one is a climate change science denier or accepter, surely all of us could agree that additional oil transported by the Keystone pipeline should stay in the United States and absent legal guarantees likely will not. With that, I yield back.

Thank you, Mr. Chairman.

Mr. ROYCE. We will turn now to Mr. Johnson of Ohio.

Mr. JOHNSON. Thank you, Mr. Chairman, and I would be happy to yield back 1 minute of my time to the chairman.

Mr. ROYCE. I appreciate the gentleman yielding. The difficulty here is that China has already invested $10 billion in Canada's oil sands. Canada's Prime Minister, as a result of this decision by our President, has already said the necessity of making sure that we are able to access Asian markets for our energy products is underscored by this delay.

The question is not if we bring these products to refineries here in the United States. The economics are such that—I am just going to quote from the Department of Energy. The Department of Energy says that gasoline prices in all markets served by these refineries, because we are talking about the Keystone pipeline project, would decrease. Gasoline prices would decrease in the Gulf Coast, gasoline prices would decrease in the East Coast, and gasoline prices would decrease here in the United States in Midwest. Not everybody agrees that having a falling price for gasoline is necessarily—you know, it depends upon your perspective on this. But I will tell you this, from a competitiveness standpoint, from a standpoint of creating jobs here as opposed as into China, this is a very important issue.

I yield back to Mr. Johnson.

Mr. JOHNSON. Well, thank you, Mr. Chairman. I also appreciate our witnesses being here today. You know, the lack of stability surrounding our energy markets today and the potential for even greater instability in the near future will not only continue to stunt the growth of our economy, it will jeopardize our national security. By importing oil from nations such as Saudi Arabia and Venezuela, the West is funding the spread of terrorism and foreign activism that stands in stark contrast to our foreign policy objectives.

But as the world increasingly looks to the West for its energy needs we have an opportunity to alter this course and spur growth in our struggling economy. Thanks in part to breakthroughs in

safety and technology, the United States is on track to become the top global oil and gas producer by 2020. In fact, the U.S. tops Russia, Saudia Arabia, and China in combined energy reserves, including oil, coal and natural gas.

More than 9.2 million U.S. jobs are dependent on the oil and gas industry. And shale is a huge part of our energy potential, particularly in my district of eastern and southeastern Ohio. Exploration of Marcellus and Utica shales in this part of the state is a game changer, not only for energy development independence but for job creation. More than 200,000 jobs are expected to come to Ohio in the next 4 years alone as a result of developing these deposits.

There is a major growth in development happening now in America's energy sector, something that can turn our economy around and bring hundreds of thousands of jobs to Americans in need of a paycheck. However, high tax rates and excessive government regulation have the very real potential to destroy these robust ambitions. We have seen this most recently in the administration's refusal to approve the Keystone XL pipeline. This project is a no-brainer for job creation that would also significantly decrease our dependence on hostile foreign sources of oil. There is no logic to the administration's insistence on refusing a permit for this project.

The United States doesn't have to be on the receiving end of OPEC's decisions. We have great potential and all the resources we require to secure our own energy needs. We can actually be the nation leading the global energy transition to the West. The question is will we have the leadership to take control of our future and make this a reality.

Thank you, Mr. Chairman, and I yield back.

Mr. ROYCE. Mr. Sherman.

Mr. SHERMAN. Thank you for holding these important hearings. The effect of energy on our national security cannot be overstated. I know that most of the comments here have been about the Keystone pipeline. I think these hearings are far, far broader and the impact of energy on our national security is far more significant than this one pipeline.

To address this pipeline, I think we have to take a look at the environmental concerns about how that pipeline should be built, the route it ought to take, and why it is bypassing the markets of the Midwest to go down to Texas, which is the one part of the United States that already has more oil than it can consume.

I realize that there are some in the environmental movement who believe that if this pipeline is built then the carbon atoms on the petroleum under the ground of Canada will not be burned, mixed with oxygen atoms and sent into our atmosphere. I think the other opening statements have made it clear that at some point Canada will find a way to exploit this resource whether it is through the United States or through the port of Vancouver into the world markets.

However, we shouldn't think that that is automatic or easy or that Keystone is going to go away next week. There are environmentalists in Canada. I have met them, and they are no more excited about the building of an east-west or pipeline through Canada than our American environmentalists for the Keystone pipeline.

Energy really comes down to two separate issues or somewhat separate issues, and that is how do we generate the electricity and how do we move our vehicles. This is sometimes lumped together as one issue as if we have a national security crisis, how are we going to generate electricity. No, we have a world environmental crisis and global warming when we burn coal, which we do to create about half of our electricity. So one energy market is for electricity and the other is for moving vehicles, and it is moving vehicles that has been the national security crisis because the world hasn't found a better system yet than petroleum and the petroleum for reasons that have not been explained to me is in all the wrong places, at least that which was exploitable by the technology existing heretofore.

Crude oil prices have almost quadrupled since the year 2000. They now stand at $94. OPEC's is now being headed by a senior commander of the Revolutionary Guard Corps of Iran. I think this illustrates the fact that we do are have a national security problem when it comes to vehicle propulsion.

I have been a strong supporter of international and domestic research. As to cooperation with other countries, we have as one model the U.S.-Israel Energy Cooperation Act, in which both countries put up the same amount of money for joint research projects and both countries have a strong incentive to wean the world from petroleum.

In contrast, the Subcommittee on Asia and the Pacific had hearings in a $4 million program to give foreign aid to China to help it with its energy problems and to help it meet its carbon emission objectives. I think Chinese carbon is a Chinese problem, and last I checked they have enough dollars to pay for any American technology that they think necessary to deal with the issue.

So I look forward to hearing from our witnesses chiefly as to how we are going to propel our vehicles without propelling to greater power the enemies of the United States, and finally I want to echo the gentleman from Virginia that a pipeline that bypasses America's Midwest markets and takes oil to ports in the United States for possible export may not be the best way to assure our national security.

I yield back.

Mr. ROYCE. I thank the gentleman. And we will go now to our panel. Mr. Neelesh Nerurkar is an energy specialist at the Congressional Research Service, where he helps members, and our staff understand the complexity of energy markets and energy security and international energy issues. And prior to being with CRS he analyzed global energy markets for a major energy company.

Mr. Robert McNally is the founder and the president of Rapidan Group, an independent energy consulting firm. He has served several positions in the energy industry, and in the previous administration, Mr. McNally served as senior director for International Energy on the National Security Council.

Mr. Martin Durbin is the executive vice president for government affairs at the American Petroleum Institute. He is responsible for their policy. They have 450 members, ranging from the largest oil and natural gas companies to small and independent companies.

He worked on the Hill as a staff member in both the Senate and the House.

Mr. Gal Luft is executive director of the Institute for Analysis of Global Security, a think tank focused on energy security, and he serves as an adviser to the United States Energy Security Council and is cofounder of the Set America Free Coalition.

We welcome all of the witnesses to the subcommittee. You all have 5 minutes to complete your written testimony, which we have for the record. We will start with Mr. Nerurkar.

STATEMENT OF MR. NEELESH NERURKAR, SPECIALIST IN ENERGY POLICY, CONGRESSIONAL RESEARCH SERVICE

Mr. NERURKAR. Thank you, Chairman Royce, Ranking Member Sherman, and distinguished members of the committee. My name is Neelesh Nerurkar. I am an energy specialist at Congressional Research Service. CRS appreciates the opportunity to testify about how energy markets are changing. Note that CRS takes no position on the policy questions posed by these developments.

I will discuss three main points from my written testimony: How markets are changing, how this affects oil concerns, and how this affects a broader set of issues.

First, rapid, energy-intensive economic growth in developing countries has raised global energy demand in recent years. Economic growth is the main driver of energy demand. Energy production has been unable to keep up with this demand at previously prevailing prices. This contributed to rising energy prices, particularly for oil, and gave rise to energy security and economic concerns.

Energy production is capital intensive. Projects have long lead times and can face policy and geopolitical constraints.

Oil prices fell with the global economic downturn in 2008 but has subsequently rebounded. Demand from developing countries has pushed global oil consumption to new highs in 2010 and 2011.

Higher prices in turn have motivated investment, technology development and policy incentives, which have contributed to increasing energy supplies particularly from new, complex or expensive resources around the world. A number of examples come from the United States and elsewhere in the Western Hemisphere; for instance, U.S. tight oil and shale gas production, U.S and Brazilian ethanol production, Brazil's offshore pre-salt resources and Canada's oil sands.

Turning to the oil market, the world consumes 88 million barrels a day of oil and related liquid fuels. Forty percent of that is met with oil from OPEC, which includes major oil producers in the Middle East, Africa and South America. The world's largest non-OPEC oil producers are Russia and the United States.

The United States is also the world's largest oil consumer and largest importer. Net imports meet 45 percent of U.S. oil consumption, but this is down from a peak of 60 percent in 2005. Net imports have declined by 4 million barrels a day in 6 years. Nearly half these declines can be attributed to lower consumption, a result of the economic downturn, and higher oil prices. The rest is due to higher domestic production of oil and other liquid fuels, particularly onshore crude oil and ethanol.

The largest crude oil production increases have taken place in North Dakota and Texas. Tight oil production in North Dakota's Bakken formation has rapidly increased in recent years, enabled by technology advances in horizontal drilling and hydraulic fracturing.Ethanol production has been supported by Federal policy and higher gasoline prices. Among the largest declines in U.S. production have been in Alaska and California.

Despite lower U.S. imports, U.S. imports from Canada have increased by 20 percent between 2005 and 2011 aided by growth in oil sands output. Accounting for about a quarter of U.S. imports, Canada is now our largest foreign source of oil. Meanwhile, though import volumes from OPEC have fallen, OPEC countries continue to account for half of U.S. net imports. Most of that, however, comes from OPEC members outside the Persian Gulf, such as Venezuela and Nigeria for example.

There are a broader set of issues to consider here. I will briefly cover three. First, the impact of high energy prices, investment, technology development and policy incentives aren't limited to oil. They are also driving, for instance, rapid growth in renewable electricity generation. Also, drilling technology innovations have increased unconventional natural gas supplies and helped keep U.S. natural gas prices low. Shale gas has dramatically changed the U.S. natural gas outlook, so much so that some companies considering new liquefied natural gas exports. Other countries are looking to see if they can replicate the U.S. shale gas experience.

Second, some energy sources involve environmental and fiscal tradeoffs. For example, the use of hydraulic fracturing to recover natural gas and oil has raised concerns about water resource risks, and some are concerned about the greenhouse gas emissions and ecosystem impacts from oil sands production and transport and refining. There are also fiscal tradeoffs where new energy resources require government support; for instance, the tax credit for ethanol.

Finally, the oil market is globally integrated and oil market events anywhere can affect prices everywhere. For example, even though the United States imported little oil from Libya, the crisis there contributed to higher oil costs here whether that oil was imported by ship, by pipeline or produced at home. Foreign oil market disruptions could continue to affect U.S. oil prices even if the U.S. were to produce as much it consumed.

In conclusion, rapid energy intensive economic growth from developing countries contributed to energy price increases, which in turn enabled new sources of energy supply growth. However, some of those sources have higher commercial, environmental and fiscal costs. Domestic oil supply growth is reducing our need for imports, but we remain connected to a global oil market where supply disruptions can continue to cause economic and energy security concerns.

I thank you for the opportunity to appear before the committee, and I am happy to address your questions.

[The prepared statement of Mr. Nerurkar follows:]

Testimony of Neelesh Nerurkar, Specialist in Energy Policy at the Congressional Research Service, on "Changing Energy Markets and U.S. National Security,"

House Committee on Foreign Affairs Subcommittee on Terrorism Nonproliferation and Trade

December 16, 2011

Good morning Chairman Royce, Ranking Member Sherman, and distinguished Members of the Committee. My name is Neelesh Nerurkar. I am a Specialist in Energy Policy at the Congressional Research Service (CRS). CRS appreciates the opportunity to testify about how energy markets are changing. I will provide context, with a focus on oil. Note, CRS takes no position on policy questions posed by these market developments.

Changing Global Energy Markets

I would like to highlight two related developments in global energy markets.

First, rapid, energy-intensive economic growth in developing countries raised global energy demand in recent years. Economic growth is the main driver of energy demand. In 2008, energy consumption in developing countries exceeded that of the world's advanced economies for the first time ever.[1] In 2009, China overtook the United States to be the world's largest energy consumer.

Energy supply was unable to keep up with demand at previously prevailing prices, which contributed to rising energy prices, particularly for oil, and gave rise to energy security and economic concerns.[2] Energy production is capital intensive, projects have long lead times, and face policy and geopolitical constraints in some places. Oil prices fell with the global economic downturn in 2008 but have subsequently rebounded. Demand from developing countries pushed global oil consumption to new highs in 2011.

A second, related development has been supply growth from new, complex, and/or relatively expensive sources of oil and related liquid fuels. High energy prices motivated investment, technology development, and policy incentives. This is contributing to energy supply growth from conventional, unconventional, and renewable sources around the world. A number of examples come from the United States and elsewhere in the Western Hemisphere. For instance, U.S. tight oil and shale gas production, U.S. and Brazilian ethanol production, Brazil's offshore pre-salt oil resources, and Canada's oil sands.

The Oil Market and U.S. Developments

The world consumes 88 million barrels a day of oil and related liquid fuels according to the Energy Information Administration.[3] About 40% of this demand is met with oil from the

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[1] "Developing country" here refers to countries that are not part of the Organization for Co-Operation and Development (OECD), a group of the world's advanced economies. From 1998 to 2008, non-OECD energy consumption grew at 4.6% per year on average versus 0.8% growth in the OECD. BP, *2011 Statistical Review of World Energy*, June 2011, www.bp.com/statisticalreview. Analysts expect non-OECD energy consumption growth to remain more rapid than that of the OECD in the foreseeable future.

[2] For background, see CRS Report R42024, *Oil Price Fluctuations*, by Neelesh Nerurkar and Mark Jickling.

[3] As per convention in oil market analysis, the "oil market" includes crude oil, natural gas liquids, and alternatives such

Organization for the Petroleum Producing Countries (OPEC), which includes major oil producers in the Middle East, Africa, and South America. The world's largest oil producing countries outside of OPEC are Russia and the United States.

The United States is the world's largest oil consumer, using 19 million barrels a day, and largest oil importer.[4] For context, oil provided 37% of 2010 primary energy consumption and 94% of the energy used for transportation. It is the only fuel for which we are a large net importer. Net imports meet about 45% of U.S. oil consumption, down from a peak of 60% in 2005.

Net U.S. imports are gross oil imports minus refined product exports.[5] They declined by 4 million barrels a day in six years. Nearly half this decline can be attributed to lower U.S. oil consumption, a result of the economic downturn and high oil prices. The remaining reduction is due to higher domestic production of oil and other liquid fuels, particularly onshore crude oil, ethanol, and natural gas liquids. The largest crude oil production increases have come from North Dakota and Texas. "Tight oil" production from North Dakota's Bakken formation has increased rapidly in recent years, enabled by technology advances in horizontal drilling and hydraulic fracturing.[6] Ethanol production has been supported by federal policy and higher gasoline prices.[7] Among the largest declines in U.S. production have been in Alaska and California.

Despite lower net imports, U.S. imports from Canada increased by 20% between 2005 to 2011 year to date,[8] aided in part by growth in oil sands output. Canada was and continues to be the largest source of U.S. imports. The next three largest sources of imports in 2005 were Saudi Arabia, Venezuela, and Mexico. Imports from each of them have fallen by between 20 and 50% since then. Though imports from OPEC have fallen by a million barrels a day, it remains the source of half of U.S. imports, with most of that coming from OPEC members outside the Persian Gulf, such as Venezuela, Nigeria, and Algeria.

Three Additional Energy Market Factors

Several factors to consider when looking at energy market changes include:

First, the impact of high energy prices, investment, technology, and policy incentives are not limited to oil. They are also driving rapid growth in renewable electricity generation in the United States, China, and elsewhere. Also, drilling technology innovations have increased unconventional natural gas supplies and helped keep U.S. natural gas prices low. Shale gas has dramatically changed the U.S. natural gas market, so much so that some companies are considering export of liquefied natural gas from the lower 48. Other countries are now moving to develop their own shale gas resources.

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as biofuels. This is all included in the 88 million barrel a day figure. Estimates for full year 2011 come from U.S. Energy Information Administration (EIA), *Short Term Energy Outlook;* December 6, 2011, http://www.eia.gov/forecasts/steo/report/.

[4] EIA, *Annual Energy Review 2010*, Tables 1.3, 2.1b-2.1f, 10.3, and 10.4, October 19, 2011.

[5] CRS Report R41765, *U.S. Oil Imports: Context and Considerations*, by Neelesh Nerurkar.

[6] Tight oil is oil contained in geologic formations with low porosity and permeability such as shales. Hydraulic fracturing is where pressurized fluid is used to expand fractures in rocks to allow oil and gas to flow through. The fluid is mostly water, and also includes proppant (such as sand or ceramic beads, which keeps open cracks in rocks), and chemicals.

[7] Federal support for ethanol includes the Volumetric Ethanol Excise Tax Credit, currently set to expire at the end of the year, the Renewable Fuels Standard, and other policies.

[8] 2011 data on imports from specific countries is the average available year-to-date (January- September, 2011) figures from EIA, *Petroleum and Other Liquids*, http://www.eia.gov/petroleum/, accessed December 12, 2011.

Second, some new energy sources involve environmental and fiscal trade offs. For example, the use of hydraulic fracturing to recover natural gas or oil has raised concerns about water resource risks,[9] and oil sands development has raised concerns about greenhouse gas emissions and ecosystem impacts. There are also fiscal trade offs where new energy sources require government support, for instance the excise tax credit for ethanol.

Finally, the oil market is globally integrated; oil market events anywhere in the world can affect oil prices everywhere. For example, even though the United States imported very small amounts of oil from Libya prior to the crisis there earlier this year, the crisis contributed to higher cost for oil imported in the United States whether it was imported by ship or pipeline, or produced at home.[10] The scarcity that supply disruptions create leave importers of that oil competing to secure supplies from other sources. Foreign oil market disruptions could likely affect the price for oil in the United States even if we produced as much oil as we consumed.

Conclusion

Rapid, energy intensive economic growth in developing countries has contributed to higher energy prices. Higher prices have enabled supply growth from new sources by incentivizing investment, technology development, and government support. However, some of these sources have higher commercial, environmental, and fiscal costs. Domestic supply growth and reduced consumption have decreased oil imports, but we do and will remain connected to a global market where supply disruptions can cause economic and energy security concerns, even if they occur in countries that we do not import oil from.

Thank you for the opportunity to appear before the committee. I will be happy to address your questions.

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[9] CRS Report R41760, *Hydraulic Fracturing and Safe Drinking Water Act Issues*, by Mary Tiemann and Adam Vann.

[10] CRS Report R41683, *Middle East and North Africa Unrest: Implications for Oil and Natural Gas Markets*, by Michael Ratner and Neelesh Nerurkar.

Mr. ROYCE. We thank you again. We go to Mr. McNally.

STATEMENT OF MR. ROBERT MCNALLY, PRESIDENT, THE RAPIDAN GROUP

Mr. MCNALLY. Chairman Royce, Ranking Member Sherman, members of the committee, thank you for allowing me to testify. I would also like to make three points, drawing on my testimony submitted to the record.

One, new energy supplies in our hemisphere will have real benefits if we allow them to be produced. Two, even if we produce more oil and gas here, we will still be connected to a global oil market and will have vital national security interests in and around the Persian Gulf.

Three, the risk of oil price spikes must not and need not be an excuse to avoid interrupting Iran's oil exports. The loss of Iran's exports can be offset by tapping strategic reserves and increasing production in Saudi Arabia. A nuclear Iran would pose far greater and longer lasting risks of oil price spikes.

To the first point, potential new and U.S.-Western Hemisphere oil and gas supplies could confer real benefits, but whether we realize them will depend on future regulatory and fiscal policies. Those benefits include lower import dependence, which would strengthen our economy's resilience to disruptions and reduce our need to borrow abroad. New supplies anywhere outside the Middle East reduce, all else equal, reduce our vulnerability to disruptions in that volatile part of the world. Down the road we may be able to use vast new shale gas deposits to displace oil imports, through fleet electrification, natural gas vehicles, to revitalize our domestic chemical sector, and via exports help reduce Russia's leverage over Western Europe.

But second, even if we sharply reduce our oil import dependence our economy and national security will remain tightly linked to the global oil market, especially the trends and events in the Persian Gulf. Oil is a fungible commodity that is widely traded in a global market. As my colleague said, a disruption or price shock anywhere means a price shock everywhere.

Lower oil import dependence improves our economic resilience, but will not insulate us from shocks. EIA projects our oil imports will fall to about 42 percent of demand by 2035. Oil imports were 36 percent of demand in 1973 when we had the first oil price shock.

The Persian Gulf now amounts to 16 percent of our crude oil imports and is expected to stay around that level through 2035. Even if we didn't import a drop from the Middle East, our vital national interest there would remain. The Middle East and the Persian Gulf is and will remain the world's most important energy region. As of 2009 it held 56 percent of global proven oil reserves, nearly all of those in the Persian Gulf. EIA projects Middle East share of global oil production will rise from 28–31 percent by 2035. With a higher market share and higher prices, Middle Eastern oil producers are going to earn trillions and trillions of dollars in revenues. We must remain engaged in that region partly to ensure that windfall is not spent to threaten us or our allies.

Another interest is to make sure that China and India's soaring dependence on Middle East oil flow, mentioned earlier, does not lead to strategic competition or conflict. The International Energy Agency sees China's import dependence headed over 84 percent and India's over 92 percent by 2035.

U.S. foreign policy can and should aim to share the costs, burdens and responsibilities of protecting the Gulf and sea lanes with other friendly and capable importers. Such cooperation exists to some extent already, such as with multi national anti-piracy patrols. But for the foreseeable future only the United States can play the role of guaranteeing the stability of the Persian Gulf.

And this brings me to my last point. The Iranian regime's pursuit of nuclear weapons poses a grave, clear and present danger to our national security, including the risk of economically damaging oil price spikes. We, especially you, face a dilemma. Only interrupting Iran's crude oil exports is likely to change Tehran's behavior, but that step could cause oil price spikes that could hurt importers of Iranian crude and even our motorists. Iran exports about 2.2 million barrels a day; total spare capacity in the world is about 3 million barrels a day. As my colleague said, earlier this year we found out what happens when we lost 1.7 million barrels a day—gasoline prices went up to $4 a gallon.

The alternative to biting oil sanctions, military options would also cause price spikes. And if biting oil sanctions or military options are not used, Iran will probably get nuclear weapons. This outcome poses the biggest and most enduring risk, not only to our national security, but also of oil price spikes. Some believe a nuclear armed Iran could be contained and deterred as the Soviet Union was during the Cold War. Even if containment worked, it is a costly and dangerous strategy. The early decades of the Cold War were violent and nearly catastrophic. I doubt oil prices will remain stable after Israel, Saudi Arabia and Iran test nuclear weapons and state their retaliatory doctrines, much less continue to fight proxy wars and conflicts arising from millennia of religious, ethnic and cultural hostility.

Iran's pursuit of nuclear weapons is likely to raise oil prices one way or the other. Officials could manage this oil price risk by adopting what I call a quarantine-and-release strategy. We would halt most, if not all, of Iranian's oil exports while offsetting the supply loss with a drawdown in strategic stocks and higher Saudi production.

Strategic stocks are large, secure and located in consuming regions. They are an important tool that can protect the economy while we raise the cost on the Iranian regime for its illegal and dangerous nuclear weapons quest. Short of a military action, quarantine-and-release may be the last option to avoid a nuclear Iran, which would pose the biggest risk to our national security as well as to oil prices.

Thank you.

[The prepared statement of Mr. McNally follows:]

Testimony of Robert McNally, President of the Rapidan Group, on Changing Energy Markets and US National Security

House Committee on Foreign Affairs, Subcommittee on Terrorism, Nonproliferation and Trade

December 16, 2011

Chairman Royce and Ranking Member Sherman, thank you for the opportunity to testify here today. I commend you on calling this hearing on the crucial topic of changing energy markets and US national security, and I am honored that you have asked me to share my perspective and views.

I approach this subject with twenty years of professional experience analyzing and participating in energy markets and policymaking. With the exception of two and a half years' service on the White House staff during President George W. Bush's first term, my responsibilities have entailed mainly helping investors and companies outside the Beltway understand energy markets and policymaking. The bulk of my career and current role is as an independent analyst. I do not represent any entity and the views expressed here are entirely my own.

Changing Energy Markets and U.S. National Security

Global energy markets have been undergoing tumultuous change in recent years and will likely continue to do so. These changes pose large and enduring risks and opportunities for U.S. energy security and foreign policy.

Some of these changes are positive and are getting much more attention. Specifically, Canadian oil sands, US tight oil and shale gas, and Brazilian deepwater offshore finds have dramatically increased current and prospective volumes of oil and natural gas supply. In the United States, the most promising development has been the enormous increase in production and reserves from the application of hydraulic fracturing and multi-stage, horizontal well drilling to shale gas, tight oil, and tight gas reservoirs. These "unconventional" energy sources are distinguished by the characteristic that they are located in impermeable, low-porosity rock, limestone, or shale formations and require stimulation and advanced completion techniques to commercially produce.

The Energy Information Administration (EIA) estimates US shale gas production has increased twelve-fold over the last decade, now amounting to 25% of total production. EIA projects shale gas will rise to 47% of total production by 2035. Whereas a few years ago we faced the prospect of importing increasing amounts of liquefied natural gas (LNG), we are now permitting export facilities. This new supply holds the potential to revitalize our chemical industry and economically depressed regions of our country, use more natural gas in electricity generation, and possibly fuel natural gas vehicles (though the cost of converting car and truck fleets and fueling infrastructure to natural gas would be very high and the transition would be long, making it impractical except in some centrally-fueled commercial fleets). If the "shale gas revolution" spreads at home and abroad, it could reduce the market and political clout of major gas exporters like Russia.

Oil is the only major energy commodity we import and lies at the center of our national security concerns. It will be the focus of my remarks. With oil prices high relative to natural gas, the drilling industry is shifting its focus to producing tight oil from shale deposits, particularly in the Texas/Eagle Ford and North Dakota/Bakken plays. The production surge in North Dakota has been especially remarkable. EIA reported North Dakota's oil production averaged over 460 thousand barrels per day (kb/d) in September 2011, more than four and one-half times its

September 2005 level. The state of North Dakota believes Bakken production will rise further to 750 kb/d by 2015.[1]

In addition to rising oil production, biofuels have made large inroads into US liquids consumption in recent years. Ethanol accounts for about 10% of gasoline, and EIA projects all biofuels will rise from 4% of liquids supply in 2009 to 11% by 2035.

EIA projects our production will rise faster than our demand in the coming decades, causing US import dependence to fall from 50% of total supply in 2011 to 42% in 2035. We will import more oil from Canada and Brazil, and less from OPEC and the Persian Gulf.

Beyond lowered imports, higher US and hemispheric oil and gas production is great news for our economy and energy markets. If the investment and regulatory climate allows industry to realize the full supply potential, it will mean more jobs, improved resilience to supply disruptions, and a lower current account deficit. Our companies and workers will have opportunities to take advantage of these same techniques and technology to unlock unconventional oil and gas resources abroad.

But the good news must be viewed in perspective. Our energy security is and will remain strongly linked to trends and developments in the global oil market, not just our import share. We are and will remain vulnerable to price shocks caused by tightening global supply-demand fundamentals and geopolitical disruptions anywhere in the global oil market. And the strategic importance of the Persian Gulf region and its enormous, low-cost hydrocarbon reserves is likely to grow in the coming decades as Asia taps them to fuel growth. Our geopolitical and homeland security interests will remain closely bound to the security of the Persian Gulf region, the sea-lanes to and from it, and the ability to prevent Gulf countries from spending their windfalls on threats to US and global security.

As leading oil expert Daniel Yergin wrote in a recent Washington Post editorial, "[t]here is only one world oil market, so the United States – like other countries – still will be vulnerable to disruptions, and the sheer size of the oil resources in the Persian Gulf will continue to make the region strategically important for the world economy."[2]

From the global perspective, new supply *anywhere* is good news. However, it must not be overlooked that the world urgently needs new productions just to offset declining production in mature fields. The global oil industry needs to find an amount equal to two-thirds of existing conventional production, or 47 mb/d, in coming decades just to offset declines in mature fields. This is in addition to the new oil needed to meet demand growth in Asia and the Middle East. While higher US and hemispheric production can and should help fill the gap, OPEC and the Persian Gulf producers hold the bulk of the world's low-cost, proved reserves (70% and 55%, respectively).

Based on current official projections, US production increases are substantial but far from a game changer. US liquids production will rise 32% by 2035, but our share of global supply will rise from only 11% to 12% by 2035. US crude oil imports from the Persian Gulf are projected to decline from 1.7 to 1.5 mb/d, but its share of total US crude imports will remain steady at around 15%. For historical comparison, the Persian Gulf represented 14% of US imports in 1973, when the first oil crisis struck.

It is certainly possible that current forecasts are too pessimistic about US and hemispheric production. But forecast revisions can go both ways. Forecasters may also be too optimistic about mature field decline rates, resource estimates, the future commercial viability of biofuels, and how welcoming the investment and regulatory climate will be in Canada, the United States, and

[1] http://www.eia.gov/todayinenergy/detail.cfm?id=4010

2. Daniel Yergin, "Oil's new world order," *Washington Post*, October 28, 2011.

Brazil. The recent federal decision to postpone on the Keystone XL pipeline could delay investment and has caused Canada to consider exporting its supply to Asia instead. In the US, industry faces uncertainty about how future federal air and water regulations could impact the profitability of tight oil and shale gas. Investors are also concerned that recent revisions to Brazilian oil investment laws could deter investment needed to produce Brazil's expensive and technologically challenging deepwater resources.

While hemispheric changes have been positive, foreign policy makers should take into account three global energy market changes that will pose large challenges to our energy and economic security.

The first is voracious growth in demand for energy, as well as for other natural resources, particularly from densely populated, fast-growing Asia, especially China and India. Achieving modern living standards in developing countries is impossible without consuming large amounts of dense, storable, reliable, and affordable energy. By these measures, fossil fuels are and will remain far superior to alternatives, especially in transportation. Unfortunately, no large scale, commercially viable alternatives to oil exist or are visible on the horizon. The US and other developed countries have made massive investments in oil fields, pipelines, terminals, refineries, tanks and dispensing stations in past decades. And rising Chinese, Indian and other Asian and Middle Eastern economies are starting to do the same.

EIA projects that total world energy demand will rise by 53% between 2008 and 2035, and world oil demand will increase by 26 mb/d or 63% by 2035. All of this increase will occur in the developing world. China will take over a third of world oil demand growth, and India will be next at 19%. Other Asian countries and the Middle East itself will take over 30% of global demand growth.

Second, China and India are going to become tremendously dependent on flows of oil from the Middle East. The International Energy Agency projects China's oil import dependence will rise from 54% in 2010 to 84% in 2035, and India's will rise from 73% to 92% over the same period.[3] The lion's share of these imports will come from the Middle East, whose share of the global oil market will rise from 28% to 31% according to EIA. This is going to make China and India extremely concerned about protecting their access to Gulf supplies and sea-lanes, which is already a strategic concern for the United States.

Third, oil prices are going to gyrate more wildly than in the past as Saudi Arabia and OPEC's ability to prevent price spikes erodes due to reduced spare capacity. This transition is overlooked but just as important as the first two noted above. The world oil market is leaving the relatively stable OPEC era and entering a new "Swing Era" in which large price swings rather than cartel production changes will balance global oil supply and demand. The Swing Era portends much higher oil price volatility, investment uncertainty in conventional and alternative energy and transportation technologies, and lower consensus estimates of global GDP growth. Ironically, Western governments and investors will miss OPEC, or at least the relative price stability OPEC tried to provide.

Taken together, soaring Asian energy demand, sharply increasing Asian dependence on the Persian Gulf, and wild oil price gyrations pose major challenges to US energy security and foreign policy.

Please allow me to elaborate on some of these points below, while responding specifically to questions I understand to be of interest to the committee.

3. International Energy Agency, World Energy Outlook, 2011 WEO, p. 92.

What is the future role of OPEC? What happens to price stability?

The changing role of OPEC, with its implications for oil price stability, is the most important, and so far overlooked, feature of global energy markets. It will have enormous consequences for US economic and foreign policy, especially in our bilateral relations with Saudi Arabia, as noted further below. In short, soaring global demand and constrained supply growth is causing OPEC to lose its spare capacity cushion and therefore its ability to stabilize oil prices. While intuitively OPEC losing control may seem like a good thing, it actually means global oil prices, and therefore our pump prices, are going to swing much more wildly in the future, at times high enough to contribute to recessions as they did in 2008.

As a commodity, oil exhibits what economists call a very low price elasticity of demand. In plain English, this means supply and demand are very slow to respond to price shifts. Oil is a must-have commodity with no exact substitutes; when pump prices rise, most consumers have little choice in the near term but to pay more rather than buy less. And on the supply side, it takes years to develop new resources, even when the price incentive to do so rises sharply.

Since the beginning of the modern oil market, producers have tried to mitigate the tendency of oil prices to swing wildly. Standard Oil, the Texas Railroad Commission and the "Seven Sisters" (major western oil companies) succeeded at stabilizing prices by controlling supply, most importantly by holding spare production capacity back from the market and using it to balance swings in supply and demand. The 1967 Arab oil embargo did not lead to a major oil disruption or price spike, partly because the United States had spare capacity in reserve and increased production to make up for lost Arab producer exports. The 1973 Arab oil embargo did lead to an oil price spike, mainly because the year before – in March 1972 to be exact – the United States ran out of spare capacity.

OPEC took over control of the global oil market from the US and the Seven Sisters in the early 1970s. Since the mid-1980s, OPEC's main tool to stabilize prices has been holding and using spare production capacity. If demand jumped unexpectedly or if supplies were suddenly disrupted, OPEC producers with spare capacity, especially Saudi Arabia, would release more oil, reducing the need for prices to swing in order to balance supply and demand.

But the years 2005-2008 marked the first time spare capacity ran out in peacetime since 1972. As in 1972, the reason was demand was racing faster than production. But today, no new cartel waited in the wings to satisfy global crude appetites. In 2008, market balance was achieved by sharply rising oil prices along with the financial crisis. While many in Washington, Paris, Riyadh, and Beijing publicly blamed speculators, energy experts and economists pointed instead to strong demand for a price inelastic commodity running up against a finite supply.

Going forward, OPEC will still be able to influence how and when oil prices bottom. It can and will likely still take oil off the market to keep prices from falling or to raise them, as it did in late 2008 and 2009.

But OPEC's ability – really, Saudi Arabia's ability – to prevent damaging price spikes has eroded. Therefore a replay of 2005-2008 is more a question of when than if. Global GDP growth remains oil intensive. When it picks up (and there are many macroeconomic risks currently, so the timing is uncertain), net non-OPEC supply growth is not expected to rise fast enough to meet incremental demand, requiring OPEC producers to increase production. OPEC is not investing enough in total production capacity to meet demand growth and still maintain the 4-5 mb/d spare capacity buffer needed to assure market participants it can respond to disruptions or tighter than expected fundamentals by adding supply. Saudi Arabia, the main spare capacity holder, says it

will hold only 1.5 to 2.0 mb/d of spare capacity, and most other OPEC countries hold little if any back in spare.

As OPEC falters, the price mechanism will return to balance the market through demand destruction, enforcing the iron law that consumption cannot exceed production. Even if our import dependence declines, we will still be vulnerable to price gyrations that are very harmful for consumers and producers and will bedevil economic and foreign policymaking.[4]

What role do/should energy markets play in U.S. national security policy? In U.S. defense posturing?

Even if our import dependence falls, the US will still have a vital national security interest in the Persian Gulf region. Instability or disruptions in the Gulf will be felt quickly and directly at the pump in the US. Gulf producers will earn billions of dollars in revenue, and the US has an interest in seeing that those dollars do not finance terrorism or other threats to our security. And the US will need to ensure no country can use oil as a weapon or threaten vital trade routes and chokepoints.

While the US must find ways to share the costs, burdens, and responsibilities for protecting the global energy commons, our interest in preventing a regional or external hegemon from dominating the Persian Gulf will remain as vital in the next thirty years as it was in the past. The Carter Doctrine and its Reagan corollary must remain cornerstones of our energy security doctrines. The Carter Doctrine states: "An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force." And its Reagan corollary extends the policy to include hegemonic threats to our Gulf allies by hostile regional powers, like Iran.

It will be especially important to repair and strengthen the fraying US relationship with Saudi Arabia. The relationship will likely loosen somewhat as Saudi Arabia and other Gulf producers see future sales growth and profits in Asia instead of the western hemisphere. But something bigger is at stake: The grand bargain whereby the US provides Saudi Arabia protection from regional and global adversaries in return for Riyadh ensuring stable oil supplies and prices. This grand bargain has served our national and economic interests, and mitigated occasional wars and disruptions in the region.

At present, each side is less certain the other can uphold his end of the bargain. If, as noted above, Saudi Arabia can no longer prevent oil price spikes from damaging the economy, it becomes less important in global affairs and US foreign policy. And if the US can no longer protect Saudi Arabia from a nuclear, belligerent Iran, then Riyadh's interest in cooperating with us in many areas, including counter-terrorism and regional security, could decline.

Even if Riyadh will be less able to prevent future oil price spikes, it will continue to remain the world's leading oil reserve holder, exporter, and an important Middle East power. And at times when the market is fundamentally soft, such as after recessions, as is the case now, Saudi Arabia will continue to have some amount of spare capacity and therefore ability to offset disruptions. Our countries' economic and political leaders share strong historical and commercial ties, and our governments have common security concerns. We will still have a strong interest in a robust bilateral defense as well as an economic and political relationship.

Vulnerability of current and future energy markets to terrorism

4. Michael Levi with Council on Foreign Relations and I elaborate on changing oil market and volatile oil prices and suggest policy responses in an essay in the July/August, 2011 issue of *Foreign Affairs* entitled "A Crude Predicament: The Era of Volatile Oil Prices."

Energy markets operate through a vast network of physical exploration, production, transportation, and distribution infrastructure that is unavoidably vulnerable to terrorist attack, either through physical or cyber or electronic means. Setting aside cyber vulnerabilities including threats to the electricity grid, which are not my area of expertise, it is fortunate that much of the global oil infrastructure is broadly distributed, redundant, and quickly reparable.

Refineries, pipelines, and ports are numerous and the commodity market is global and fungible. Isolated attacks can cause temporary disruptions and local or even global price spikes, but they are usually quickly reversed. The market has weathered terrorist attacks on pipelines and refineries in Iraq, Yemen, Nigeria, Egypt, and Colombia.

However, there is no ground for complacency. Terrorists understand the vulnerability of energy infrastructure. The most alarming incident in recent years was an Al Qaeda attack on Saudi Arabia's Abqaiq processing facility in February 2006. The security of southern Iraqi oil facilities and terminals is also a concern as the US completes its withdrawal.

One consequence of low spare capacity is that any disruption, even of a relatively small size, can lead to an oil price spike. We saw this earlier this year in Libya, when the world lost about 1.7 mb/d of supply, equal to about half of total OPEC spare capacity. Prices jumped about $15 per barrel, helping to push gasoline prices here up to $4.00 per gallon and thereby hurting family budgets and economic growth.

As with the general threat terrorists pose to our national security and economy, the biggest threat comes from states that sponsor terrorist actions. State sponsors give terrorists increased intelligence, organizational, and execution capabilities that can make attacks more damaging.

From the perspective of both terrorism and our broader energy security challenges, there is no greater threat or more pressing issue before us than the Iranian regime's pursuit of nuclear weapons capability. Given the urgency and topicality of this issue, I would like to elaborate on the risk Iran poses to US energy security and respectfully suggest how it might be managed.

Iran's Nuclear Ambitions and Oil Market Risk

As policymakers consider diplomatic options to convince Tehran to freeze its nuclear program, they worry that disrupting Iran's oil exports could cause an oil price spike, the last thing a teetering global economy needs. These worries are legitimate and stem from a vexing policy dilemma: Only the interruption of Iran's oil exports is likely to convince the regime to change behavior on nuclear weapons, but that step will necessarily entail crimping global oil supplies, hurting major importers of Iranian oil like China and Japan, and risking an oil price spike that could damage the economy.

While Saudi Arabia could offset some of Iran's exports by raising production, its spare capacity would fall to near zero. And as discussed earlier, when spare capacity last ran out in the summer of 2008, oil prices peaked above $140 per barrel. But fear should not cloud judgment: A hostile, nuclear-armed Iran poses much bigger and long-term risks of oil price spikes than tough sanctions aimed at preventing it.

It may be tempting to assume that after Iran obtained nuclear weapons, the region would settle into stable containment and mutual deterrence, with low risk of oil disruptions and price spikes. This is dangerous wishful thinking, for three reasons.

First, containment is no walk in the park: It requires harsh and dangerous policies to establish deterrence and impose penalties for breaches. The US and Soviet Union fought bloody proxy wars in Korea and Vietnam and went to the brink of nuclear war over Cuba. With a nuclear Iran, this risky and often violent process would play out mainly in the Persian Gulf, with all the attendant oil disruption and price spike risks.

Second, if Iran succeeds in obtaining nuclear weapons, rivals like Turkey, Saudi Arabia, and Egypt will also pursue them, and some will have them fast. Imagine how crude prices will react when Israel or Saudi Arabia test a nuclear weapon and declare its retaliatory doctrine, let alone when the next proxy or direct conflict breaks out.

Third, the Cold War containment paradigm probably will *not* work with Iran or in the Middle East. The Cold War involved a bilateral contest between ideologically hostile but domestically secure, rational, and risk-averse adversaries, each exercising unified control over its nuclear weapons, escalation dominance internally and over proxies, and restraint under the logic of mutually assured destruction. The insecure, divided, and reckless Iranian regime and a poly-nuclear Middle East differ in almost every respect.

The hard but unavoidable reality is that Iran's pursuit of nuclear weapons is increasing the risk of oil price spikes. A nuclear Tehran would be the worst outcome in terms of both the amount and duration of oil disruption risk. Instead of citing high oil prices as an excuse to avoid tough sanctions, the risk should be managed as part of maximally coercive diplomatic strategy.

As a second-to-last resort, officials should consider a quarantine-and-release strategy that halted Iran's oil exports while offsetting the supply loss with strategic stock releases and higher Saudi production. Quarantine-and-release may be the only remaining option to prevent the worst outcome, not only for regional security but also for oil prices and the economy.

What role does energy play in China's foreign policy? What can be done to check China's energy development in the western hemisphere?

China's leaders are preoccupied with finding resources to supply its voracious growth, including energy resources. As its oil imports increase rapidly, China has followed an energy strategy similar to our policies over recent decades. As the US did forty years ago, China is reacting to the prospect of high and rising dependence on imports by building strategic stocks and implementing fuel economy and other efficiency standards. China is also fostering the growth of globally competitive energy companies and diversifying its sources of energy. And it is developing political relationships and strategic capabilities to protect its investment and supply lines.

China's increasing investment in overseas energy resources, including in the western hemisphere, does not pose a direct threat to our national security per se. China's energy investments are largely as a minority shareholder, and even majority ownership does not mean control. In a conflict, Beijing cannot transport oil from Venezuela or Texas without our blessing. And China's capital is being used to finance investment in resources our citizens and businesses are consuming.

China's energy security policies could pose major indirect threats to our national security if Beijing concludes it can and should ignore our national security interests when engaging with foreign producers. This is of concern with Sudan, Venezuela, and especially Iran.

Energy security must be firmly integrated into the broader set of economic, political, and military aspects of our engagement with a rising China. We should insist China live up to its free trade obligations, guard national security secrets and technology, and prevent and vigorously enforce commercial property statutes.

But we should not seek to contain China or shut it out of the global oil market. That will make Beijing more paranoid about supply security, and therefore more likely to act belligerently in the South China Sea and unhelpfully with producers like Iran. US companies and workers can and should benefit from Chinese investment, and by selling pollution control and energy services and equipment needed to develop their own resources. China should be invited to cooperate in

collective energy security institutions like the International Energy Agency strategic stocks system.

China's thirst for energy will not abate and is growing sharply. Secure energy is as vital for them as it is for us. US foreign policy should encourage China to compete fairly and transparently in the global energy market on commercial terms, not military or political ones.

Is eliminating U.S. dependence on Middle Eastern oil possible? What impediments exist?

Oil is a fungible global commodity. Eliminating imports from the Middle East, which would require prohibitive tariffs or sanctions on national security grounds similar to those currently in place with Iran, would force our importers to buy replacements from elsewhere without reducing global oil demand. Oil companies and competitors to Middle East suppliers such as Russia and Venezuela would realize a windfall as demand for their crude grades rose.

Many of our refineries are configured to run on Middle Eastern crude grades, and modifying them to run on different crudes would be costly and inefficient. US consumers would face higher pump prices, especially if Middle Eastern producers responded by reducing production. If Middle East producers did not respond by reducing their production, then Chinese motorists would receive a windfall as Middle Eastern exports were diverted to the Asian market.

I do not believe banning or otherwise eliminating Middle East imports would be desirable from an economic or national security standpoint. Oil trade flows would be rearranged as noted above, but the Persian Gulf would still remain the world's most important energy region. Terrorist-sponsoring exporters like Iran would still be able to use oil earnings to threaten global peace and our homeland. China and India's dependence on the flow of oil from the Gulf would still rise strongly. Eliminating imports from the Middle East would not meaningfully lessen our vital interest as a global superpower in the stability of the Persian Gulf and the protection of sea-lanes between it and consuming regions. A Middle East import ban would sour relations with our Gulf allies, making force projection and political relations much more costly and difficult.

What challenges do energy companies face in developed Western countries?

Energy companies face major challenges when investing in western countries. They include regulatory delays and uncertainty, denial of access to resources, and fiscal policy changes that make investment uneconomic. An emerging risk in the United States, directly linked to recent reserve and production increases in shale gas and tight oil, is uncertainty about how hydraulic fracturing will be regulated.

Mr. ROYCE. Thank you. Mr. Durbin.

STATEMENT OF MR. MARTIN J. DURBIN, EXECUTIVE VICE PRESIDENT OF GOVERNMENT AFFAIRS, AMERICAN PETROLEUM INSTITUTE

Mr. DURBIN. Good morning, Mr. Chairman, Mr. Sherman, and members of the committee, and thank you for the invitation to testify this morning.

As the title of the hearing implies, there is no question that global energy markets are changing. While API members continue to operate and invest around the world, there is growing recognition that a rebalancing of the energy markets is occurring and that due to enormous new potential reserves, both onshore and in the deep water, and due to geopolitical stability, the Western Hemisphere is quickly becoming a much bigger player on the global energy stage. For today's purposes, however, I will limit my comments to opportunities we have to enhance our energy and national security right here in North America.

In some parts of the U.S., as has been noted already, oil and natural gas development is booming. While total U.S. crude oil production has remained constant since 2010, Gulf of Mexico, offshore and Alaskan production has dropped. This has been offset mainly by increased production onshore in North Dakota and Texas, almost exclusively on non-Federal land. This increase in domestic onshore production along with an overall drop in demand has allowed U.S. imports to decline during this period.

The fact is we are in an enormously energy rich nation, and we should be taking better advantage of those domestic energy resources. To highlight this point, the international energy consulting firm, Wood Mackenzie, calculated the benefits of expanded domestic development earlier this year in a study conducted for API. It concluded that America's oil and natural gas industry can create 1.4 million new jobs by 2030. One million of those could be created in just the next 7 years.

The same study showed that allowing greater production in the U.S. can generate an additional $800 billion to Federal and local treasuries by 2030. That won't erase our debt, but it is a nice down payment. It doesn't end there. In 2010, our industry directly contributed more than $470 billion to the U.S. economy in spending, capital investments, wages and dividends. That is more than half the size of the 2009 Federal stimulus bill. But this stimulus happens every year without an act of Congress and with no cost to the taxpayer.

The Keystone XL pipeline is a perfect example of an energy project that will also enhance our national security. Now in its fourth year of review, Keystone XL will create thousands of good paying jobs for American families. And as the labor unions, whose members will directly benefit from this project testified last week, it is more than a pipeline. It is a lifeline, and it is time to put the safest, most highly trained and productive workforce to work on this project.

It is also worth noting that the Keystone XL pipeline will not only be an outlet for the oil sands in Canada, but for the increased

production that we are seeing in the Upper Plain States in North Dakota and Montana.

But looking to Canada, it is about more than just one pipeline project. Eighty thousand Americans are currently employed because of Canadian oil sands. And according to the Canadian Energy Research Institute, we stand to create an additional 500,000 American jobs by 2035 and spur $775 billion in economic activity. Already there are at least 2,400 companies in 49 States involved in developing oil sands either by providing the supplies and services in Canada or expanding our pipeline and refinery systems here in the U.S.

Another fact, and I believe as the chairman noted, for every dollar the U.S. spends on Canadian products, including oil, Canada returns 90 cents through purchases of U.S. good and services. We simply don't see that level of return with other trading partners.

But we also have to think more broadly about our energy future. DOE's Energy Information Administration forecasts that worldwide consumption of energy is expected to grow nearly 50 percent by 2035 and the U.S. will require 20 percent more energy. They also project that renewables will meet only 13 percent of that energy demand while oil and natural gas will continue to supply about 55 percent.

But the choice is not between fossil fuels and renewable fuels. We are going to need all of it. In fact our industry and our member companies have invested more in zero and low carbon energy research than the Federal Government and nearly as much as all other industries combined. So growing renewables will continue to be important, but secure sources of oil and natural gas will be essential.

Canada is already our number one supplier of imported oil and with projects like Keystone we have the ability to significantly increase our Canadian imports, which is already making up for declines in imports from Mexico and Venezuela. Cambridge Energy Research Associates projects that Canada could supply 5 million barrels of oil a day to the United States in 2030, or one in four barrels Americans expect to consume. By expanding our access to domestic energy resources, strengthening our energy partnership with Canada, and increasing our domestic biofuels use, it is possible that we could produce all of America's liquid fuel needs by 2026.

So in closing, oil and natural gas will continue to be critical to meeting our energy needs. We can choose to safely and responsibly produce more North American energy, creating hundreds of thousands of jobs and generating billions of new revenue for our Government, or we can stand on the sidelines and watch as other countries produce those resources that we will then have to purchase.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Durbin follows:]

Testimony of Martin J. Durbin, Executive Vice President

American Petroleum Institute

Before the Subcommittee on Terrorism, Nonproliferation, and Trade

Of the House Committee on Foreign Affairs

December 16, 2011

Good morning. I am Marty Durbin, Executive Vice President of the American Petroleum Institute, which represents nearly 500 companies, both large and small, from America's oil and natural gas industry. Thank you for the invitation to discuss "Changing Energy Markets and U.S. National Security."

America's oil and natural gas currently provide most of our nation's energy, contributes to 7.7 percent of our GDP, supports more than nine million U.S. jobs and delivers to the federal government more revenue, $86 million every day, than any other industrial sector.

In some parts of the United States, oil and natural gas development is going gang busters. While total U.S. crude oil production has remained constant at 5.6 million barrels per day since early 2010, Gulf of Mexico offshore and Alaskan production have dropped by a combined 500,000 barrels per day. This has been offset mainly by increased production onshore in North Dakota and Texas, almost exclusively on non-federal land and through the use of hydraulic fracturing. This increase in domestic onshore production, along with an overall drop in demand, has allowed U.S. imports to decline during this period.

However, we still fall short of Canada's and Brazil's focus on fully developing their oil and gas resources. We are an energy-rich nation and should be taking better advantage of our own country's potential. The commitment to energy development in Brazil and Canada has been observed by some to be part of a rebalancing of the world's oil and gas power centers. If we join them with a similar commitment to developing more of our own energy, we will accelerate this shift and help build an unprecedented security of supply across our hemisphere. No longer will we have to rely so much on energy from unstable parts of the world. Abundant reserves of oil and natural gas remain to be produced in America, and our industry is willing to make the investments to produce them – and spread the success stories we've seen in some states across the nation.

To highlight this point, the energy consulting firm Wood Mackenzie calculated the benefits of expanded domestic development earlier this year in a study conducted for API. It concluded that by increasing onshore and offshore access to U.S. oil and natural gas resources, avoiding unnecessary new regulations on shale energy development, returning the pace of permitting approvals in the Gulf of Mexico, and bringing in more Canadian energy, the U.S. oil and natural gas industry could create as many as 1.4 million jobs by 2030. One million of those jobs can be created in the next seven years. This pro-development path would also generate $800 billion in additional cumulative government revenue by 2030, with $127 billion of that generated by 2020.

Regarding the Keystone XL pipeline, this project will create jobs, and bring economic growth and revenue both to the communities through which it will traverse as well as to the nation at large, and will enhance our energy security. Now in its fourth year of review – longer than any other pipeline project and longer than it will take to build the 1,700 mile pipeline – Keystone XL will create thousands of good-paying jobs for American families who are waiting on the sidelines for a decision. Another House committee heard last week from the labor unions whose members will directly benefit from this project's approval, and I can't say it any better than they did: this is more than a pipeline; it's a lifeline. It's time to put the safest, most highly trained and productive work force to work on this project.

80,000 Americans are currently employed because of Canadian oil sands, and according to the Canadian Energy Research Institute (CERI), we stand to create an additional 500,000 American jobs by 2035 while spurring $775 billion in economic activity. So, for approximately every two Canadian jobs supported by oil sands development, one job will be created here in the U.S. (1.2 million new Canadian jobs – 520,000 new U.S. jobs). Already, there are at least 2,400 companies in 49 states involved in developing oil sands either by providing the supplies and services in Canada or for expanding our pipeline and refinery system here in the US. These are companies like Caterpillar and Michelin but small companies as well. Another fact, for every dollar the U.S. spends on Canadian products – including oil -- Canada returns 90 cents through purchases of U.S. goods and services. You simply don't see that level of return with other trading partners.

But we also have to think more broadly about our energy future – in terms of our US-Canadian trade relationship and all the benefits that come with it. The Energy Information Administration forecasts that U.S. energy demand will grow by 20 percent between 2009 and 2035, with more than half of the energy demand being met by oil and natural gas, as is the case today. Meanwhile, just 8 percent of the nation's

energy needs are supplied by renewables today, and projections are that will increase to only 13 percent by 2035.

Canada is already our number one supplier of imported oil. With projects like Keystone XL we have the ability to significantly increase our Canadian imports – which is already making up for declines in imports from Mexico and Venezuela. With the Keystone XL pipeline, our crude imports from Canada could reach 4 million barrels a day by 2020, twice what we currently import from the Persian Gulf. Cambridge Energy Research Associates projects Canada could supply five million barrels of oil a day to the United States in 2030 – or one in every four barrels Americans expect to consume. In fact, with increased U.S. production along with increased Canadian resources and continued increases in domestic biofuels, we could produce all our liquid fuel needs in North America by 2026.

According to IHS CERA:

- In the realm of US energy security, one of the biggest achievements of the past decade has been the growing use of Canadian oil sands production to supply the US market.
- US pipeline infrastructure needs to catch up with changing supply trends and expanding supply—namely, rising output from Canada, as well as the rapidly growing output from the Bakken Formation in North Dakota and Montana.
- Expanding pipeline capacity from Canada to the US Gulf Coast via the proposed Keystone XL project would provide more flexibility to the US supply system, allow infrastructure to begin to catch up with oil supply trends (namely the growing flow of Canadian oil), and enable increased US domestic production in the upper Midwest.
- A larger, more dynamic pipeline system benefits consumers, compared with a more constricted system that is less able to handle shifts in demand and supply.
- Economic logic dictates that more supply lowers prices for a given level of demand.
- If increased oil sands access to the US market is derailed, apart from the loss to consumers of a more dynamic pipeline network, Canadian oil sands producers would likely turn to Asia as a new export market.

- In the absence of oil sands supply, Gulf Coast refiners are expected to demand similar volumes of heavy crude oils, but from more distant sources of supply.

In closing, the U.S. will require 20 percent more energy in 2035 than in 2009, the Energy Information Administration projects, while world demand will increase by 53 percent. To meet this demand, we will need all forms of energy, including substantial amounts of oil and natural gas. Therefore, we have a simple choice before us. We can choose to safely and responsibly produce more North American energy, creating hundreds of thousands of new jobs and generating billions in new revenue for our government, or we can stand on the sidelines and watch as other countries produce the resources that we will then have to purchase.

Mr. ROYCE. Thank you. Mr. Luft.

STATEMENT OF GAL LUFT, PH.D., EXECUTIVE DIRECTOR, INSTITUTE FOR THE ANALYSIS OF GLOBAL SECURITY

Mr. LUFT. Morning, Mr. Chairman, members of the committee. I am honored to represent here the United States Energy Security Council, which includes former Secretaries of Defense, State, Interior, Transportation, Homeland Security, Agriculture, Navy and Air Force, former Chairman of the Fed, Alan Greenspan, three former National Security Advisers, Directors of CIA, flag officers, and former retired executives from Lockheed Martin, Shell Oil and Kraft Foods. All of them are concerned about our growing dependence on petroleum and the impact on our national security and economic well-being.

As was mentioned before, earlier this year the Department of Energy announced that U.S. imports of petroleum declined from 12.5 million barrels a day in 2005 to 8.6 million barrels of oil this year. U.S. import dependency dropped from 60 percent to 46 percent. Now this 31 percent reduction in our level of imports in just 7 years is a remarkable achievement. Some of this is due to the recession, but most is due to, as mentioned, fuel efficiency and even more importantly significant ramp-up in domestic production enabled by technology.

So far so good, but here is the rub, when America's oil imports dropped our foreign oil expenditures climbed by almost 50 percent, from $247 billion in 2005 to $367 billion this year. The share of oil imports in the overall trade deficit grew from 32 percent in 2005 to 51 percent this year. Worst of all, the price of gallon of gasoline increased by 65 percent. So despite the lower demand, U.S. drivers spent this year on gasoline more than in any other year before.

So, yes, we have become more self-sufficient and more efficient, but at the same we became poorer and deeper in debt. We are becoming more so-called energy independent, but less prosperous.

What is wrong with this picture? Clearly something is wrong with our method. Being self sufficient in oil does not shield an economy from oil shocks. When the price of oil spikes, it spikes for everyone. Only 9 percent of our oil use comes from the Persian Gulf, yet the economy is always very vulnerable when things happen there. As long as oil remains the only source of energy to participate in the transportation fuel market, those who control the lion's share of production and reserves will rule the day. I am particularly referring to OPEC, which despite the control of 79 percent of global conventional oil reserves produces today almost the same number of barrels they did 30 years ago, even though the world economy more than doubled since.

The Arab Spring created a situation in which the GCC government have gone into major liabilities to the tune of about $150 billion keeping the people happy so they don't end up like Mubarak and the other leaders.

Who is paying for this? We pay for this. And I find it to be sad that while we have this conversation in the United States about reducing entitlement programs to hard working Americans, we are funding entitlement programs in Saudi Arabia, Kuwait, and the United Arab Emirates.

What is wrong with our method is that we fail to address the root of our energy vulnerability, and that is oil's virtual monopoly over transportation fuels. This monopoly is enabled by the fact that for the most part our automobiles are blocked to fuels not made from oil. Since 2005 roughly 100 million new petroleum only vehicles roll over U.S. roads, each with an average lifecycle of 15 years. But allowing this to happen we effectively locked ourself to petroleum for the next 2 decades with all the implications.

Congress can break this virtual monopoly with a stroke of a pen by enacting the Open Fuel Standard Act introduced earlier this year. This 2-page bill would ensure that cars sold in the United States are open to fuel competition so that drivers can compare prices per mile and on-the-fly choices between gasoline or diesel and a whole variety of non-petroleum fuels.

As I indicated in my written testimony, the Open Fuel Standard would also open the door to methanol, which is an alcohol fuel that provides the most economic way to introduce our abundant natural gas resources as an alternative to petroleum in the transportation sector.

Mr. Chairman, this time 200 years ago Napoleon was preparing his army to march into Russia. At the time salt was the most important strategic commodity by virtue of its monopoly over food preservation. Salt deposits conferred national power and wars were even fought over the salt. Salt was the Achilles heel of Napoleon's war machine. Its status as a strategic commodity ended with the invention of alternative ways to preserve food, like canning and refrigeration. Napoleon's disastrous Russia campaign was the last time in history that salt played a role in world politics.

Today we consume and import more salt than ever. Yet I doubt that anybody in this room is concerned about our salt dependence or where our salt is coming from. Petroleum today occupies the same strategic ground that salt did. With a simple legislative fix, at a zero cost to taxpayers, the U.S. Congress can deliver to oil the same fate that humanity delivered to salt. So let's get it done.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Luft follows:]

TESTIMONY BY DR. GAL LUFT
EXECUTIVE DIRECTOR, INSTITUTE FOR THE ANALYSIS OF GLOBAL SECURITY (IAGS)
ADVISER, UNITED STATES ENERGY SECURITY COUNCIL

Presented before

HOUSE COMMITTEE ON FOREIGN AFFAIRS

Subcommittee on Terrorism, Nonproliferation, and Trade

Changing Energy Markets and U.S. National Security

December 16, 2011

Mr. Chairman, members of the Committee, I'm honored to represent a group of 25 distinguished Americans called the United States Energy Security Council. The group includes former Secretaries of Defense, State, Interior, Transportation, Homeland Security, Agriculture, Navy and Air Force, Former Chairman of the Fed, three former National Security Advisors, Directors of Central Intelligence and National Reconnaissance Office, U.S. Senators, flag officers, prominent CEOs and a Nobel Laureate all of them concerned about the toxic influence oil's status as a strategic commodity has on U.S. national security and economic well-being. The Council holds that the current changes in energy markets present great challenges to the U.S. but at the same time open unique opportunities that, if correctly exploited, could significantly strengthen America's strategic posture and bring about a fundamental and favorable shift in the world's economic balance of power.

Three major factors frame our current energy security environment:

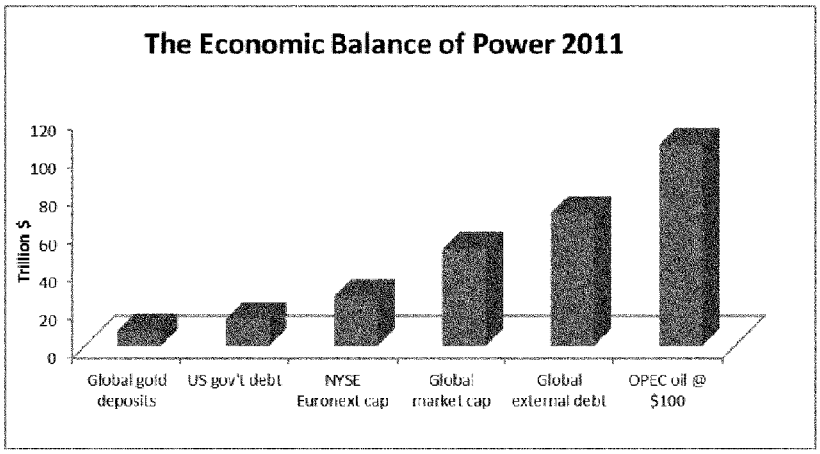
1. Oil's inordinate strategic importance

The vulnerabilities associated with oil dependency do not stem from the magnitude of petroleum imports or consumption but rather from oil's status as a strategic commodity. Oil's strategic status does not stem from the electricity sector – today only 1% of U.S. electricity is generated from oil and only 1% of U.S. oil demand is due to electricity generation – but from its virtual monopoly over transportation fuel. Transportation underlies the global economy and for the most part, our automobiles are blocked to fuels not made from oil. As long as this remains the case, those who control oil will enjoy inordinate power over global commerce and by extension the global economy. Petroleum today occupies the strategic ground that salt did many years ago when it dominated food preservation. Salt deposits conferred national power and wars were even fought over their control. Salt's status as a strategic commodity ended with the invention of alternative ways to preserve food like canning and refrigeration.

Being self-sufficient in oil does not shield an economy from oil shocks and supply disruptions. When the price of oil spikes, it spikes for everyone. In 2008, when oil prices reached a historical high, the UK produced most of the oil it needed, yet the price spike affected all consumers, including those in the UK, where it resulted in protests by frustrated truckers. Contrary to popular belief, only 9% of U.S. oil supply comes from the Persian Gulf. Yet, the U.S. economy has always been - and will continue to be - affected by spikes in oil prices when the Persian Gulf destabilizes.

2. The lion's share of global oil reserves are controlled by a cartel

Seventy-nine percent of global conventional oil reserves are controlled by the OPEC cartel which by its very nature as a cartel is engaged in a deliberate effort to manipulate production in order to maximize the revenue of its member regimes. In terms of control over assets, OPEC is second to none. At $100 a barrel the value of its proven reserves is more than double the market capitalization of all the world's publically traded companies combined.



Incredibly, despite its control over the lion share of the world's conventional reserves and even though since 1980 the global GDP has more than doubled and non-OPEC production has grown 65%, OPEC's current production has increased by merely 19% and its share of world petroleum production has dropped from 43% to 36%. In other words, OPEC deliberately keeps production capacity much less than its reserves allow, creating a shortage designed to keep prices artificially high. OPEC's flush-with-petrodollars members seem unconcerned by the pain inflicted on the global economy by oil's meteoric price rises. All they have to do is adjust their definition of what is a "fair" price. According to the International Monetary Fund, OPEC's oil revenues in 2011 will exceed $1 trillion.

The world economy grows, OPEC production barely

	1980	2011	Difference
World population	4.5 billion	7 billion	55%
Number of automobiles	400 million	1000 million	150%
World GDP	22 trillion	51 trillion	130%
Global oil demand	60 mbd	87 mbd	45%
OPEC production	**26 mbd**	**31 mbd**	**19%**
Non-OPEC production	**34mbd**	**56 mbd**	**65%**
Share of global supply	**43%**	**36%**	

The Arab Spring has exacerbated the situation. Hoping to avoid the fate of Egypt and Tunisia, Persian Gulf regimes of Saudi Arabia, Kuwait and the UAE showered their subjects with gifts and subsidies which increased their budget obligations significantly. Saudi Arabia alone almost doubled its $154 billion 2011 budget, committing $129 billion in salary hikes, subsidies and increase in pensions. Given that the primary income of these regimes is petrodollars, the bill for keeping the Persian Gulf monarchies in power is now being footed by every American. According to the Institute of International Finance, before the recent handouts were announced Saudi Arabia needed oil to sell for $68.50 a barrel to keep its budget balanced. The expensive response to the protests increased the breakeven price the Saudis need in order to balance their budget to at least $110 in 2015. The premium on the price of oil exacted by the increase in Gulf social spending has already added in 2011 about 35 cents to the price of a gallon of gasoline Americans had to pay at the pump or roughly $6 per fill up. Since oil price affects everything we buy from food to plastics, saving the House of Saud added roughly $1,500 annually to the expenditures of the average American family. At the very same time Americans are engaged in a heated debate about cutting entitlement programs at home, we are forced to fund more and more social programs aimed at keeping Middle Eastern dictators in power.

The need for high oil prices is not unique to Saudi Arabia. As Russia's population dwindles, and the output of its newer fields fails to offset fast decline at mature deposits, Russia's economy will growingly depend on high prices to meet its budgetary obligations. Contrary to popular belief, Russia is much more of an oil exporter than a gas exporter. In 2010, Russia produced 10.2 million barrels a day (mbd) of oil, while consuming only 3.2 mbd. This means that 70% of its crude production was exported or processed into petroleum products, half of which were sent abroad. By contrast, when it comes to natural gas, most of Russia's production remains at home. In 2010, Russia consumed 414 billion cubic meters (bcm) of the 588 bcm it produced, leaving only 30% of total production for exports. This means that Russia will strengthen its engagement and coordination with OPEC with the aim of keeping prices sufficiently high.

Iran, Iraq, Kuwait, Venezuela and Nigeria will all need a higher per barrel oil price as they move toward a rocky future. With a population of 73 million in Iran and 30 million in Iraq and vast governmental sectors and social expenditures, the two countries need today a breakeven price of $125. By 2025 their populations will stand at 88 million and 45 million respectively. Where will the money come from? There is a limit to the amount of money to be made from exporting carpets, dates and pistachio nuts. There is no limit to the amount of revenues to be made from oil exports.

3. Massive growth in demand emanating from developing Asia

This month seventy years ago a surprise attack against the U.S. Naval base in Pearl Harbor plunged America into a horrific war against Imperial Japan. In focusing on the intelligence failure that enabled the attack, we have ignored the root cause of the calamity: the strategic importance of oil. Oil has always been the bottleneck of Japan's industrialization. To satisfy its needs, Japan adopted an expansionist policy, attacking China in 1937 and French Indochina in 1940. The U.S., source of 80 percent of Japan's imported oil, responded with a total oil embargo. Japan decided to up the ante and seize the petroleum-rich Dutch East Indies. To do so it was necessary to neutralize the U.S. Pacific fleet and this paved the way to Pearl Harbor. One lesson from the war in the Pacific is that when countries become oil starved they tend to miscalculate and resort to assertive foreign policy. This is something worth remembering today as another Asian power, China, thirsts for oil.

China's economic growth is currently the life support mechanism of the world economy. Without it we would all be mired in a deep global recession. But this blistering growth creates challenges that need to be confronted head on today. China's annual vehicle sales jumped about 10-fold in the past decade making it the world's largest auto market. It is the world's second largest oil consumer, and according to the recently published 2011 outlook of the International Energy Agency, it is projected to surpass the U.S. as the world's number one importer by the end of the decade.

Beijing's commitment to "peaceful rise" may be genuine, but in a world competing over resources such good intentions might not be kept. Today, energy is already the main driver of China's international behavior. Its energy needs have brought Beijing to turn a blind eye to human rights violations in Sudan, Myanmar and Uzbekistan. China's pursuit of oil and gas resources in the East China Sea and the South China Sea has created tension in its relations with Japan and the members of the Association of East Asian Nations. In the energy rich Caspian Basin, China is strengthening its energy bonds with Turkmenistan, Uzbekistan and Kazakhstan while curbing U.S. influence in the region. In Africa and Latin America, the Sino-American relations may be heading toward a Fashoda moment as China's neo-colonialism takes root. Last but not least, in the tumultuous Persian Gulf, the U.S. and China are increasingly likely to step on each other toes as the 21st century progresses. China's energy deals with Iran have already brought Beijing to block U.S. attempts to get the UN Security Council to impose crippling sanctions against Tehran for continuing to develop nuclear weapons.

An oil thirsty China is likely to be one of America's most pressing international security concerns in the decades to come, and in all likelihood the next president of the U.S. may be called to lead the country during an international crisis sparked by China's oil pursuits.

Even if the scramble for resources can remain peaceful, the impact on energy markets would be profound. According to U.S. Energy Security Council member John Hofmeister, former President of Shell Oil North America, China's oil demand is projected to grow from 9 mbd today to 15 mbd by 2015. India's demand will grow from 4 to 7 mbd and the rest of the developing world would need another one mbd. In total, 10 million new barrels per day, equivalent to another Saudi Arabia, would have to come online in just a few years. No one can convincingly point out where this oil might come from.

U.S. response thus far: More self-sufficiency, less prosperity

Historically, the U.S. has focused on policies that increase either the availability of petroleum or the efficiency of its use. These approaches, while useful, are tactical rather than strategic. Reducing oil demand through fuel economy absent competitive markets in transportation fuels serves to reduce the trade deficit but it is insufficient to change the strategic status of oil. When oil-consuming countries increase their domestic production or reduce net demand, OPEC responds by throttling down supply to drive prices back up. This is essentially what has happened in recent years.

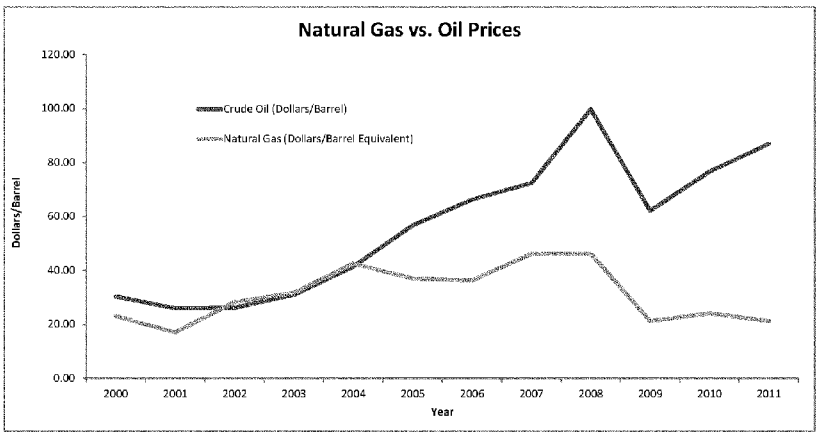
Since President George W. Bush's second term, the U.S. response to the undergoing changes has been mainly in the realm of increasing the fuel efficiency of cars and trucks as well as supply side solutions. Technologies to recover non-conventional oil and natural gas in various areas of the continental U.S. have not only matured but are also more economically feasible than ever due to the permanently high oil prices. Tight oil and shale oil have added an amount of oil production almost equivalent to Libya's oil output. Hydrofracking and horizontal drilling technologies have created a glut in the domestic natural gas market. As a result of these efforts, in May 2011 the Department of Energy announced that U.S. imports of petroleum and its products declined from 12.5mbd in 2005 to 8.6mbd in 2011. U.S. import dependency dropped to 46% of America's consumption down from 60% in 2005. A 31% reduction in our level of imports in just seven years is a non-trivial achievement. But the bottom line is that while during 2005-2011 America's oil imports dropped, its foreign oil expenditures climbed from $247 billion in 2005 to $367 billion in 2011. The share of oil imports in the overall trade deficit grew from 32% in 2005 to 51% in 2011. The price of a gallon of regular gasoline in 2005 was $2.30; in 2011 it hovered around $4. Despite the slowdown in demand, in 2011 American motorists paid more for fuel than in any other year.

	2005	2011	Difference
Oil demand (mbd)	20.8	18.9	-9%
Number of barrels imported (mbd)	12.5	8.6	-31%
Import dependence	60%	46%	-14%
Cost of imports	$247 billion	$367 billion	48%
Price of gallon of gasoline	$2.30	$3.80	65%
Oil imports' share of trade deficit	32%	51%	60%

In other words, we learned how to become more efficient, and we have increased domestic production, but from an economic standpoint our efforts have proven futile: our national oil import bill grew by 48%, the cost per gallon at the pump increased by 65% and U.S. trade deficit grew by 60%. Clearly something is wrong with our method. Oil's strategic importance was not reduced by the increase in efficiency or by the expansion of domestic production. During the 2005-2011 period, nearly 100 million new petroleum-only vehicles rolled onto U.S. roads, each with a lifespan of nearly 15 years. In doing so, we extended oil's virtual monopoly over transportation fuel by nearly two decades.

Immediate goal: opening the fuel market to natural gas

Historically, natural gas prices have always tracked oil prices. But the recent shale gas revolution has disconnected prices of the two energy commodities. Since the collapse of the financial markets in 2008, oil prices have rebounded more or less to their pre-2009 level whereas natural gas prices remained suppressed. The price of natural gas has declined by about 70% between 2008 and 2011. The result: we are awash with cheap natural gas, and the utility and chemical industries, the two primary natural gas users, are unable to absorb much more of it. Shale gas is currently 34% of U.S. natural gas production and will reach 43% in 2015 and double by 2035 to 60%. But if prices remain low, the natural gas industry will have little incentive to invest in further growth and the gap between the price of oil and natural gas will rapidly close. However, sending a market signal that our vehicles are open to fuels made from natural gas would give the industry the certainty it needs to continue and grow this sector to the benefit of our economy.



A number of automotive technologies allow us to take advantage of natural gas' low cost. One obvious way to use natural gas in automobiles is to turn it into electricity and use it as stored electrons on board battery operated vehicles. Plug-in-hybrid and pure electric vehicles are entering the market slowly. They are clean, cheap to operate and quiet and in

many respects their performance is superior to that of gasoline cars. Furthermore, vehicle electrification offers great flexibility. If natural gas prices were to spike, there is always coal, nuclear or renewable power to rely upon for power generation. But due to the high cost of the automotive batteries, mass market penetration of plug-in-hybrid-electric vehicles and pure electric vehicles will take a very long time. For this reason, parallel to advancing the electrification of transportation, the U.S. needs to open the transportation fuel market to competition from a variety of fuels that are commercial and economic today.

Projections for battery powered vehicles market penetration

Study	Projection
U.S. National Academy of Sciences (2010)	3% of sales by 2015 and 15% by 2035
Credit Suisse (2009)	7.9% of sales by 2030
U.S. Energy Information Administration (2011)	1.8% of sales in 2020 and 3.8% by 2035
IHS Global Insight (2010)	20% of sales in 2030
Roland Berger Strategy Consultants (2011)	8-10% of sales by 2020
The Boston Consulting Group, (2010)	5% of sales by 2020
Deloitte, (2010)	3.1% of sales by 2020

Another way to run cars on natural gas is to convert them to run on compressed natural gas (CNG). CNG vehicles have a dedicated fuel line and a large gas canister in the trunk. Ready-made CNG cars are barely manufactured by the OEMs. The cost of converting a light-duty vehicle to CNG is expensive - roughly $10,000-$15,000. At such a high incremental cost, the payback period for most Americans, even with current low natural gas prices, would be longer than the expected lifetime of the car. Payback period would only be reasonable in high mileage users (over 35,000 miles per year) such as taxis, buses, garbage trucks, etc.

This leaves one realistic way of opening cars to natural gas without adding thousands of dollars to the cost of the vehicle. A recent Massachusetts Institute of Technology study entitled *The Future of Natural Gas* determined the most economic way to utilize natural gas in transportation is to convert it to the liquid fuel methanol (wood alcohol) due to low cost, mature production and vehicle technology. Our transportation system is based on liquid fuels. A flex fuel vehicle that can run on methanol (and ethanol) in addition to gasoline costs automakers about $100 more to make than a gasoline-only car. Today about 90% of the worldwide production of methanol is derived from natural gas. The wholesale price for natural gas-derived methanol is $1.13 a gallon — without any subsidies. As methanol packs less energy per gallon than gasoline, a consumer would pay about $3 including taxes, distribution, and retail markup to travel the same distance on methanol as on a gallon of gasoline, well below the current national average for gasoline. The MIT report points out that the production cost of natural gas conversion to methanol is 30 percent cheaper on an energy equivalent basis than conversion to diesel fuel. China is already blending 15% methanol – in China primarily made from coal – in its automotive fuel, and 26 of its mainland 30 provinces have carried out testing and demonstrations of methanol fuel and methanol fuel vehicles. Methanol is so economically attractive that illegal blending is rampant in China.

The Open Fuel Standard

The only way to reduce the strategic importance of oil is to eliminate its monopoly status. For this to happen, the market must have viable choices that enable consumers to respond quickly to changes in oil prices by substituting for oil. Drivers can't rapidly change the fuel economy of their vehicles, but, with vehicles that enable fuel competition they could quickly change what fuel their vehicles use. This cannot be done as long as the new cars rolling onto our roads can run on nothing but petroleum. If we allow all those cars to block fuel competition, we are locking our future to petroleum for decades to come. I cannot think of something more detrimental to America's security than Congress allowing this to happen. Congress can break oil's virtual monopoly over transportation fuel by enacting an Open Fuel Standard, ensuring that every new car put on the road is open to some sort of fuel competition. The cheapest way to enable fuel competition is the flex fuel car, which looks and operates exactly like a gasoline car but has a $100 feature which enables it to run on any combination of gasoline and a variety of alcohol fuels made from natural gas, coal and biomass.

The bipartisan Open Fuel Standard Act (HR 1687), introduced in the 112th Congress by Reps. John Shimkus, Eliot Engel, Roscoe Bartlett and Steve Israel, would ensure that cars sold in the U.S. are open to fuel competition so drivers can compare prices per mile and make on-the-fly choices between gasoline or diesel and non-petroleum fuels. This in my view is the most important piece of legislation that could knock oil off its strategic pedestal. The technology neutral Open Fuel Standard would ensure that 50% of new automobiles in 2014, 80% in 2016, and 95% in 2017, would be warranted to operate on at least some non-petroleum fuels in addition to or instead of petroleum based fuels. The Open Fuel Standard would provide certainty to investors to expand non-petroleum fuel production capacity and fueling stations to install pumps supplying economically competitive non-petroleum fuels.

Mr. Chairman, a new economic and geopolitical order is shaping up right before our eyes increasingly invalidating much of the strategic paradigm to which we have been accustomed. For America, a continuation of the petroleum standard guarantees economic decline and perpetual economic and political enslavement to the OPEC cartel and its associates. To bring down the price of oil before it hits a critical point beyond which economic collapse and sovereignty loss become inevitable, we must replace the petroleum standard with an open and competition transportation fuel market. Without such action, if prices of oil were to climb to well over $200 a barrel due to the fall of the House of Saud, war in the Persian Gulf or a civil war in Algeria or Nigeria – all of those are not unlikely scenarios – the petroleum-only vehicle would force us to pay exorbitant fuel prices in order to get to our workplace - if we still have one.

Failure to strip oil of its strategic status would seriously jeopardize America's ability to remain the great power of the 21st century and could expose Americans to an economic crisis which would make the current one a fond memory.

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FORMER SECRETARY OF STATE; FORMER SECRETARY OF TREASURY

HON. R. JAMES WOOLSEY
FORMER DIRECTOR OF CENTRAL INTELLIGENCE

Mr. ROYCE. Thank you very much, Dr. Luft.

Let me open with a few questions for our panel. In the near future, China is going to make up a third of the world's oil demand growth, and that need has driven their foreign policy around the world. We have seen that whether it is in Sudan or in Burma or in Central Asia. We have seen some of the consequences because it is all about resources for Beijing. And I would add where China goes corruption often follows in terms of their attempts to have access to this.

Now they are in our hemisphere. Now China is here. They have established a working group on energy, and Chinese companies have invested $10 billion in Canada's oil sands. Now this is my perspective on this, but it seems to me that the Obama administration has laid out a welcome mat for China with respect to the Keystone pipeline project and the decision not to go forward. I base that partly on the reaction in Canada, or if any of the members of the press would like to talk to the Canadian Embassy about this, this really pained the Canadian Government.

Just days after the Obama administration announced the Keystone delay, Canadian Prime Minister, Stephen Harper, met with China's Hu Jintao. Harper was painfully blunt. What he said was, "This does underscore the necessity of Canada making sure that we are able to access Asia markets for our energy products." That was his quote. And those remarks spurred headlines around the world. Reuters said, "Asia a priority for Canada after U.S. delays Keystone." And the Wall Street Journal: "Canada shops oil after pipeline halt." And it is a halt.

I had a press conference not long ago with the representative of the pipeline company, the company that is making that pipeline. He said last week they laid off 60 of their employees and there are more layoffs coming as a consequence of this decision. And indeed there are now Canadian proposals to dramatically increase the capacity for oil from Alberta to reach the Canadian West Coast in order to be shipped to China.

These plans are being set with a view toward diversifying away from an unreliable partner, the United States. And instead they are looking at China. And this is all being planned with a long-term focus on the Chinese market in mind.

Now, Mr. Durbin, Canada is not waiting around. I wonder if you share my concerns and I would ask how accessible is Canada's Alberta oil market to the Chinese market?

Mr. DURBIN. Mr. Chairman, thanks for the question. I am not sure I can give you a clear answer on accessibility of China to the Canadian market other than to say, as you pointed out, they made significant investments in the oil sands. I don't think that is any surprise. It has been pointed out that Canada has an enormous resource that they are sitting on top of. They are going to find a way to get this to market.

I think our focus, and certainly at API we shared disappointment with the decision to delay the pipeline, but we are today utilizing oil sands and Canadian energy resources to a great extent, and I think it is in our national interest, our energy interest, our security interest to enhance that even more. And so there is no question that Canada is going to find outlets for the oil sands crude. And

we believe there are just too many benefits from a job creation, economic growth, energy security, and national security to bypass that opportunity.

Mr. ROYCE. Well, let me follow up with a quote from the U.S. Department of Energy, a study that they commissioned, and this was their conclusion. "If pipeline projects to the [British Columbia] coast are built, they are likely to be utilized. This is because of the relatively short marine distances to major Northeast Asia markets and future economic growth there." And because of "increasing ownership interest by Chinese companies, especially in oil sands production. Such increased capacity would alter global crude trade patterns. [Canadian crudes] would be 'lost' from the USA, going instead to Asia. There they would displace the world's balancing crude oils, Middle Eastern and African predominantly OPEC grades, which would in turn move to the USA. The net effect would be substantially higher U.S. dependency on crude oils from those sources versus scenarios where capacity to move [Canadian] crudes to Asia was limited."

So we have a choice, and I would ask you, do you share this analysis that Canadian oil in these words could be "lost" to China?

Mr. DURBIN. The DOE report is a concern. Again, our broader concern has got to be can we better control our energy future. And the resources we have available to us from Canada is one of the critical paths we have to take going forward to again retain that control.

Mr. ROYCE. Well, you said in your testimony we have a simple choice before us. I think it is a pretty straightforward one.

I will go to Mr. Sherman now. Thank you.

Mr. SHERMAN. Thank you. Mr. Durbin, would Keystone be willing to build the pipeline if American law prohibited the export of the petroleum that was brought to us through that pipeline?

Mr. DURBIN. Mr. Chairman, I obviously can't speak for TransCanada. I know they testified to some of this last week as well, they only move the product. They are——

Mr. SHERMAN. Would the American Petroleum Institute support a statute that provided the pipeline could be built, perhaps with some additional environmental safeguards, but prohibited the export of the oil carried by that pipeline?

Mr. DURBIN. No, sir, I don't think API would support that.

Mr. SHERMAN. So basically you are not here to give us energy security, you are here to try to let some oil companies make some money by building a pipeline.

Mr. DURBIN. No, sir, I don't think that is right.

Mr. SHERMAN. Well, you don't create energy security by having Canadian oil exported to Europe as opposed to exported to Japan through the United States.

Mr. DURBIN. But I disagree with your premise.

Mr. SHERMAN. Well, the fact is if the proponents of the pipeline and the industry itself insists on the right to export, if the plan is to build a pipeline bypassing our interior markets in the Middle West and bringing it to a port well equipped for export, it sure looks like export.

Mr. DURBIN. If you look at the refineries in the Gulf Coast that have invested billions of dollars to be able to process crude oil here in the United States——

Mr. SHERMAN. I am sure that it won't be refined and exported.

Mr. DURBIN. The United States continues to be the largest market for gasoline and diesel. So all of the incentive is to have the jobs here, the investment here, but again it is a global market.

Mr. SHERMAN. I would like to have the gasoline here.

Mr. DURBIN. I believe you will.

Mr. SHERMAN. That doesn't seem to be the plan. If the pipeline was to U.S. markets in the Middle West we wouldn't have this issue. We wouldn't be talking about aquifers in Nebraska and there wouldn't be the risk of export.

Mr. DURBIN. Mr. Chairman, it was defined already——

Mr. SHERMAN. Reclaiming my time, I want to turn to—first, I need to put a few things in the record. Without objection, I would like to put in the record material provided by the Sierra Club, the Wilderness Society, a statement by Dr. Albersworth of the Wilderness Society and a report from Oil Change International concerning the pipeline.

Back when I was chairman I would say without objection, so ordered.

Mr. ROYCE. Without objection.

Mr. SHERMAN. I would also like to put on the pipeline an excellent article by Dr. Luft, who is here, in Foreign Policy Magazine dealing with how the anti-Russia vestige of our State Department has caused it to embrace pipelines designed to get natural gas to Europe and that natural gas may eventually come from Iran. It is a fascinating article about how Iran's economic situation will be perhaps dramatically improved over the next decade or so as they are able to export this natural gas to Europe as a direct result of U.S. policy. And if I have time I would like to ask you some questions about that, but I want to shift to something else and that is the open fuel standards.

When open fuel standards means ethanol, I am not all that excited. Turning corn into fuel is one of the reasons we have such high food prices around the world, and it hasn't really been an alternative. But we have huge natural gas deposits in North America. What would be the—first of all, how much more would an open fuels standards car cost to manufacture? And second, what is the technology to fuel such a vehicle with natural gas?

Mr. LUFT. The open fuel standards is not a fuels bill. It does not support or endorse any fuel. It is a bill that is designed to deal with the fact that cars today are blocked to competition, okay?

Mr. SHERMAN. It is an automobile standards bill.

Mr. LUFT. Exactly.

Mr. SHERMAN. So how much more would the auto companies charge us for the cars?

Mr. LUFT. It depends on the technology. If they choose to do electric vehicles, it will be $10,000. If they do choose to do flex fuel vehicles, it will be something in the order of $100 or less. So for $100 or less your car will be able to run on gasoline, but also a variety of alcohols. Now ethanol is only one of them, but what we do see the potential it is for methanol. Methanol, as MIT just concluded

in its report, is the most economic use of natural gas is if you convert it into liquid fuel called methanol. The spot price of methanol today is about $1.13 a gallon. If you convert it to gasoline on energy equivalence, it would be significantly cheaper than gasoline at the pump. So if there is a fuel that can compete against gasoline and it is made from domestic natural gas, why not allow it to compete, why block it from the market.

Now, interestingly, it is the oil and gas industry that I think could benefit a lot from this bill because natural gas prices are very low today. And the reason they are very low is that there is no demand. We are producing more and more, but there is no way that we can absorb it because our utilities just don't absorb it fast enough.

Mr. SHERMAN. And so if basically this could very much help domestic oil and gas industry producers, it would be competition for the international oil industry. Mr. Durbin, where are you on open fuel standards?

Mr. DURBIN. I haven't had a chance to even look at it. It is the first I have heard of the idea. It sounds interesting.

Mr. SHERMAN. I commend you for proposing the idea, but is the idea of requiring this E85—I forget what the logo was of General Motors—there are a lot of flexible fuel standards automobiles on our roads. And I look forward to getting Mr. Durbin's organization to comment on them. And I yield back all the time I don't have.

Mr. ROYCE. Mr. Johnson, please.

Mr. JOHNSON. Thank you, Mr. Chairman. Let's see. Mr. McNally, this week the House passed two bills to strengthen sanctions on Iran, House Resolution 2105 and 1905. In addition, the House passed the defense authorization bill, H.R. 1540, which included a provision to sanction entities that do business with the Central Bank of Iran.

What has been the effect of sanctions imposed thus far in Iran's oil industry and what else can we do to prevent a nuclear weapons armed Iran without disrupting oil markets?

Mr. MCNALLY. Thank you for the question. The Obama administration should be commended for strengthening sanctions against Iran, including on the oil industry, and urging other countries to do so. As a result, Iran has had to work harder to sell its oil. It has had to circumvent banks and find go-betweens and give easier credit, and we have made life a little more difficult for Iran to sell its oil. However, it is still doing so. It still exports about 2.2 million barrels a day.

In my view, the legislation that has been worked on here is still too weak. It gives the President two easy outs to avoid sanctions that would crimp Iran's oil exports significantly. It gives a national security out and it also gives an out where if the President says there is not sufficient supply to offset the loss of Iran there would be a waiver.

My message to you is with tight spare production capacity in the world, at most 3 million barrels a day. That is the EIA estimate. It is probably very high, many folks in the private sector are much lower. But at 3 million barrels a day and expected to stay fairly low in the coming years, the market will always be too tight to risk crimping Iran's oil exports.

In my view, that is why we must neuter that argument and look to welcoming the President's decision to use the strategic stocks to offset the supply loss from Iran. So in my view, in short, I think sanctions so far have been too weak. We have been playing patty-cake and we need to start playing hardball.

Mr. JOHNSON. Thank you for that. The United States has long banned Iranian oil imports, and there have been calls for the EU to do the same. What would be the impact, in your opinion, of a European Union ban on Iranian oil products—or imports, I am sorry?

Mr. MCNALLY. In my view, that would, because Europe only accounts for over 450,000 barrels a day of Iran's total 2.2 million barrels a day of exports, I think that if Europe were to ban the imports you would see a rearranging of flows. It would be a great day for Russia because those Greek refiners who have been taking in Iranian crude would look to Russian exports to replace those barrels. So there would be a rearranging of flows. And it would probably lead to some higher costs for European consumers, although again, the Europeans could lower their strategic stocks to have a stock draw to offset that.

The Iranians would have to sell their oil cheaper into Asia. The Chinese are hard bargainers, and when the Iranians showed up with these stranded barrels that they had been selling to the Greeks but now no longer could, Iran would have to probably accept a discount. So Iran would lose some of the revenue that it currently earns on its exports because it would sell it into a smaller market that was aware that those barrels were sort of blocked from Europe. So it would crimp Iran, it would make life a little more difficult, it would cut into revenues somewhat.

Mr. JOHNSON. What was the effect of our ban on global markets?

Mr. MCNALLY. Our ban of Iranian imports?

Mr. JOHNSON. Yes.

Mr. MCNALLY. No effect that I am aware of.

Mr. JOHNSON. No effect?

Mr. MCNALLY. Yes.

Mr. JOHNSON. Okay. With that, I think I will yield back the remainder of my time to the chairman.

Mr. ROYCE. Thank you. I just would follow up on that question to Mr. Durbin. Again, we had the study from the Department of Energy that said gasoline prices in all markets served by the Gulf Coast and the East Coast refineries would decrease, including the Midwest. I am perplexed on the question of the Midwest. I assume that part of the answer is that the excess refining capacity must be in the Gulf.

Mr. DURBIN. Correct.

Mr. ROYCE. And the Midwest must be running at full throttle. So if you dictated that all the Alberta oil capacity go to the Midwest refineries they wouldn't be able to handle the excess; is that the issue here?

Mr. DURBIN. Well, and again, the Midwest refineries are currently processing oil sands crude oil. So yes, this does provide greater flexibility and greater diversity of supply in the Gulf Coast refineries to serve our domestic market.

Mr. ROYCE. So the problem is that you have got limited refinery capacity around the United States. I know that is the problem in California. And we won't—the government will not allow new refineries to be built easily, past experience. So the question is getting it to the refineries with excess capacity here in the United States to serve the domestic market.

Mr. DURBIN. Correct.

Mr. ROYCE. I see. Well, let me go to Mr. Connolly.

Mr. CONNOLLY. Thank you, Mr. Chairman.

Mr. Durbin, I found myself mostly in agreement with your opening statement. And I think, to be intellectually honest, I think you are right. If the goal is to lessen our reliance on foreign oil, especially from areas of the world that are problematic for lots of different reasons, frankly everything has got to be on the table. That doesn't mean we have to approve everything, but it does mean, intellectually to be honest, everything has got to be examined forthrightly on its merits. And so I applaud you for that principle because I think that ought to guide what we do. And frankly with respect to me anyhow on the Keystone pipeline, it is not an ideological issue for me.

But in the spirit of being intellectually honest a couple of points. Does TransCanada now have a terminus in Vancouver?

Mr. DURBIN. In Vancouver?

Mr. CONNOLLY. Yes. Is there not a pipeline that ends in Vancouver?

Mr. DURBIN. I don't know whether TransCanada has a line.

Mr. CONNOLLY. Well, are not tar sands product in fact transshipped to the port of Vancouver?

Mr. DURBIN. I don't know. I don't know.

Mr. CONNOLLY. Mr. Nerurkar. I have a map here that says there is.

Mr. NERURKAR. There is one pipeline that runs to the Canadian West Coast from the Alberta oil sands right now. I believe it has around 300,000 barrels a day of capacity.

Mr. ROYCE. I know that California gets some capacity.

Mr. DURBIN. Okay. And there are proposals for expansion.

Mr. CONNOLLY. Exactly. And is the purpose of that Vancouver terminus at least in part for the purpose of export and is not a domestic threat?

Mr. DURBIN. Correct.

Mr. CONNOLLY. And some of that export goes to Asia, is that not correct?

Mr. DURBIN. I don't know that. I don't know the flow.

Mr. NERURKAR. There is some going to China and other places.

Mr. CONNOLLY. Yes. So the idea is that because of the delay Canada is now looking at the Chinese market, that is not true. As a matter of fact, they have been in the China market, and the reason to look at the China market has nothing to do with the delay; it has to do with the fact that China is the fastest growing market in the world and has enormous potential. And if you are an oil exporter, if you are in that business, that is certainly a market you are going to look at, isn't it?

Mr. DURBIN. Yes. And I believe I have said that as well.

Mr. CONNOLLY. Of course. Thank you. Well, you didn't assert that, the chairman did in his poster.

Mr. ROYCE. If the gentleman would yield.

Mr. CONNOLLY. Yes.

Mr. ROYCE. It was not me asserting it, it was the Prime Minister of Canada asserting it and it was the employees at the Canadian Embassy who asserted. But I would be happy—let's put back up the quote of the——

Mr. CONNOLLY. Reclaiming my time, Mr. Chairman.

Mr. ROYCE. You can have your time back. I am just going to put the quote up from the Prime Minister of Canada.

Mr. CONNOLLY. Reclaiming my time, Mr. Chairman. The Canadian Government knows how to communicate with the United States Government, and frankly that is not through a hearing of this subcommittee. So if they want to formally communicate to the United States Government their concerns about the pipeline or the Chinese market they know how to do that.

But I thank the chairman and was happy to yield.

The proposed terminus at Port Arthur, Texas, this is what I am stuck on, Mr. Durbin, in the spirit of being intellectually honest. TransCanada has a different business model where it has actually limited contracts to long-term contracts, including with two major exporters. And the retrofitting or building of new refineries clearly seems to be for export, not for the domestic market. Why would we build new refineries in Port Arthur, Texas if the purpose was solely for domestic consumption? Why not do it in the Midwest, where we already have pipelines and product is already coming into the United States such that we have a glut in that area. And Keystone itself has pointed out that if we don't do something to alleviate that glut, prices will fall. If we do do something to alleviate that glut like the pipeline, they actually say in their application papers prices, unlike what the chairman indicated, will actually rise per barrel of heavy crude.

Why would we have a terminus at Port Arthur, Texas if the purpose weren't clearly for export? Maybe not exclusively, but just like the Vancouver terminus it is for export.

Mr. DURBIN. Because the refining capacity in the Port Arthur area and the contracts they are putting in place with refineries throughout that area and continuing to do so, that is where the capacity is. The idea is we should be siting new refineries.

Mr. CONNOLLY. But Mr. Durbin, in the spirit of your testimony, which I commend, of intellectual honesty, don't we have to concede that the purpose of putting the terminus at Port Arthur is inter alia for export?

Mr. DURBIN. I just want to say it is not the purpose.

Mr. CONNOLLY. I said among other purposes, inter alia, it is for export.

Mr. DURBIN. And I acknowledge that we are dealing with a global market.

Mr. CONNOLLY. Yes, you did.

Mr. DURBIN. And right now we are exporting.

Mr. CONNOLLY. But Mr. Durbin——

Mr. DURBIN. We are exporting some refined products now.

Mr. CONNOLLY. Mr. Durbin, you will also concede, will you not, that the arguments used in favor of the pipeline have exclusively been about enhancing the domestic supply here in the United States? No one has talked in favor of the pipeline in the Congress about global market and we have to do our share by building a pipeline and expanding refinery capacity to enhance exports to other countries.

Mr. ROYCE. The time has expired. Mr. Duncan.

Mr. CONNOLLY. I thank the chair.

Mr. DUNCAN. Thank you, Mr. Chairman, and thanks for having this hearing. I think it is very timely. And I will go back to what we heard earlier in the year from one of the defense leaders of the country when he said that there can be no national security without energy security. I believe that energy is a segue to job creation, and that is what this Congress needs to be talking about, and that is what we hear the other side trying to talk about a lot is jobs, creation of jobs. The Keystone XL pipeline is a job creator. It creates refining jobs and it creates construction jobs. And I am not too young to remember an impact that the Alaska pipeline had on employment in this country as we developed the Alaska pipeline to meet our energy needs. It is a prime example of what we can do with XL, Keystone XL pipeline and produce jobs.

All Canadian oil, whether it is used in this country or shipped around the world, is exported oil from Canada. It is exported to the United States from our largest trading partner, someone we should be trading with every opportunity we get. We should be utilizing hemispheric resources. The American public is frustrated when they are paying over $3 a gallon at the pump knowing that we have got the resources in this country and in the Western Hemisphere with friendly countries like Canada that can supply the resources that we need. They are frustrated when they see this government standing in the way.

Mr. ROYCE. One minute remains in the vote.

Mr. DUNCAN. Just I want to give Mr. Durbin an opportunity to respond to Mr. Sherman if you didn't with the balance of my time.

Mr. DURBIN. Thank you, Mr. Duncan. And again, we said from the beginning we are exporting product now. So certainly the addition of Canadian crude into our market, into our refineries, is simply providing more supply diversity, and allowing us to produce the fuels that we need here, and when it makes sense we are certainly going to be able to export products as well. We import and export. But more importantly, the Canadian crude coming into the Gulf Coast refineries is replacing crude oil that we had been bringing in from Venezuela and Mexico. Venezuela is sending more of its product overseas to Asia and elsewhere and Mexico's production is simply on the decline. And we need to replace that, and this not only replaces it, we will end up being able to get even more. And it does improve our overall energy and national security.

Mr. ROYCE. As we adjourn, let me just close with the comment again of the Prime Minister of Canada. This was several days after the Obama administration announced the Keystone delay. The Prime Minister, Stephen Harper, had had a face-to-face meeting with China's Hu Jintao and afterwards to the press these were his words: The decision by the United States, "This does underscore

the necessity of Canada making sure that we are able to access Asia markets for our energy products." I think that is pretty straightforward.

We stand adjourned. Thank you.

[Whereupon, at 11:20 a.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.

Subcommittee on Terrorism, Nonproliferation, and Trade
Edward R. Royce (R-CA), Chairman

December 14, 2011

You are respectfully requested to attend an OPEN hearing of the Subcommittee on Terrorism, Nonproliferation, and Trade, to be held in room **2200 of the Rayburn House Office Building (and available live, via the WEBCAST link on the Committee website at http://www.hcfa.house.gov):**

DATE: Friday, December 16, 2011

TIME: 10:00 a.m.

SUBJECT: Changing Energy Markets and U.S. National Security

WITNESSES: Mr. Neelesh Nerurkar
Specialist in Energy Policy
Congressional Research Service

Mr. Robert McNally
President
The Rapidan Group

Gal Luft, Ph.D.
Executive Director
Institute for the Analysis of Global Security

Mr. Martin J. Durbin
Executive Vice President of Government Affairs
American Petroleum Institute

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 *Terrorism, Nonproliferation, and Trade* HEARING

Day *Friday* **Date** *December 16, 2011* **Room** *2200*

Starting Time *10:05 a.m.* **Ending Time** *11:19 a.m.*

Recesses [ ] (____ to ____) (____ to ____) (____ to ____) (____ to ____) (____ to ____) (____ to ____)

Presiding Member(s)

Rep. Ed Royce

Check all of the following that apply:

Open Session [✓]
Executive (closed) Session [ ]
Televised [✓]
Electronically Recorded (taped) [✓]
Stenographic Record [✓]

TITLE OF HEARING:

Changing Energy Markets and U.S. National Security

SUBCOMMITTEE MEMBERS PRESENT:

Reps. Royce, Connolly, Sherman, Bill Johnson, Jeff Duncan

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

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.)*

None

TIME SCHEDULED TO RECONVENE _____
or
TIME ADJOURNED _____

_____
Subcommittee Staff Director

Terrorism, Nonproliferation, and Trade Subcommittee

Member Attendance

Republicans

- ☑ Rep. Edward Royce (Chair)
- ☐ Rep. Ted Poe
- ☑ Rep. Jeff Duncan
- ☑ Rep. Bill Johnson
- ☐ Rep. Tim Griffin
- ☐ Rep. Ann Marie Buerkle
- ☐ Rep. Renee Ellmers

Democrats

- ☑ Rep. Brad Sherman (Ranking Member)
- ☐ Rep. David Cicilline
- ☑ Rep. Gerry Connolly
- ☐ Rep. Brian Higgins
- ☐ Rep. Allyson Schwartz

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

Keystone pipeline jobs claims: a bipartisan fumble

By Glenn Kessler, Published: December 13 | Updated: Wednesday, December 14, 6:02 AM

Alex Wong/GETTY IMAGES

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

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

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

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

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

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

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

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

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

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

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

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

What's going on here?

The Facts

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

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

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

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

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

People can reasonably disagree whether one should look at the overall size of the construction force — as the State Department did — or whether one should look at jobs per-person-per-year. Obviously, the second method can greatly increase the number of "jobs," depending on the length of the project. TransCanada officials also

argue that the State Department estimate was made before binding labor contracts were signed, which they suggest means the estimate could increase.

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

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

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

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

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

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

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

The Pinocchio Test

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

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

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

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

Two Pinocchios

MATERIAL SUBMITTED FOR THE RECORD BY THE HONORABLE BRAD SHERMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Sierra Club, National Wildlife Federation, Natural Resources Defense Council and Pipeline Safety Trust: "Tar Sands Pipeline Safety Risks."

http://www.sierraclub.org/dirtyfuels/downloads/2011-02-safety.pdf

Oil Change International: "Exporting Energy Security: Keystone XL Exposed"

http://priceofoil.org/wp-content/uploads/2011/09/OCIkeystoneXL_2011R.pdf

Statement of

David Alberswerth, Senior Policy Advisor on behalf of

The Wilderness Society

Submitted to the

House Subcommittee on Terrorism, Non-Proliferation, and Trade

On the Subject of

"Changing Energy Markets and U.S. National Security"

December 16, 2011

Mr. Chairman and Members of the Subcommittee, The Wilderness Society requests the opportunity to submit this statement for the Subcommittee on Terrorism, Non-proliferation, and Trade's December 16, 2011, oversight hearing record on the subject of "Changing Energy Markets and U.S. National Security." The Wilderness Society works on behalf of its 500,000 members and supporters to protect wilderness and other environmental values on our federal public lands and waters. Because energy development including oil and gas development can have significant adverse impacts on America's lands and waters, as well as on the health of Americans living in proximity to energy development projects, it is important that the regulatory framework governing the extraction of fossil fuel resources assures that these activities are done safely and only in appropriate places.

Though the oil and gas industry persistently and insistently argues that federal policies protecting the health of our citizens and the quality of our environment are inhibiting oil and gas development, the facts outlined below belie these arguments. In fact, the oil and gas industry is thriving in America today, with tens of thousands of new wells being drilled on both federal and non-federal lands and waters each year. In addition, the industry has acquired literally tens of millions of acres of leases on federal lands and waters that it is not utilizing, and is in possession of thousands of federal drilling permits that it is not currently utilizing. The facts below should help inform the Subcommittee's consideration of this issue:

More oil and gas drilling occurs in America every year than anywhere else in the world.
Since 1950, 2.6 million oil and natural gas wells have been drilled in the U.S.[i] By the end of 2009 there were a combined total of 824,847 producing oil and gas wells in the United States.[ii] As of October 21, 2111, there were 2,013 rotary drilling rigs operating in U.S. lands and waters, a 20-year high.[iii]

America ranks #2 in natural gas production, and #3 in oil production.
The U.S. is the second largest natural gas producer in the world[iv] and the third-largest producer of oil.[v] Yet, we have only 3.8% of the world's natural gas reserves, and less than 2% of proven oil reserves.[vi]

Tens of thousands of wells are drilled every year in the U.S.
At the beginning of the decade 27,000 oil and gas wells were drilled in the U.S. in one year. But last year over 40,000 wells were drilled on American lands and waters.[vii]

The West's public lands are already extensively drilled.
There are tens of thousands of oil and natural gas wells on federal public lands, with thousands more currently approved for drilling and tens of thousands more planned for the future.[viii] Such intense, localized development makes other uses of the land—hunting, fishing, recreating—difficult if not impossible.

Tens of millions of acres of onshore and offshore federal lands are already under lease to oil and gas companies – much of it unused.
According to Bureau of Land Management (BLM) data, as of the end of FY 2010, 41,000,000 acres of federal public lands were leased for oil and gas development, an area larger than the State of Florida.[ix] However, 29,000,000 acres of these leases were sitting idle. In addition, over 34 million acres of offshore federal lands are under lease in the Gulf of Mexico alone, where roughly 4,000 platforms produce oil and/or gas.[x]

The oil and gas industry is sitting on over 6,500 unused but approved federal drilling permits.
Though the industry and their political allies loudly complain about "restrictive" policies that allegedly are thwarting U.S. oil and gas development, the BLM reported in June, 2011, that over 6,500 approved federal drilling permits for western public lands were sitting idle, unused by oil and gas operators who have received them[xi]. Moreover, BLM data indicates that over 4,000 drilling permits last year, of which approximately 2,500 were not used by the end of FY 2010.[xii] In other words, the oil and gas industry controls thousands of federal drilling permits that it is not using.

Weakening or eliminating health and environmental safeguards to accommodate "more drilling" will not solve America's energy problems.
America consumes 22.8% of the oil produced in the world each year, and 20.9% of the world's natural gas production. But we have only 1.6% of the world's "proved oil

reserves",[xiii] and only 3.8% of its "proved gas reserves".[xiv] *No amount of drilling – and as demonstrated above we do more of it by far than any other country – will change these basic facts.* Because drilling is already occurring at a furious pace on both federal and non-federal lands and waters, and because our share of the world's oil and gas reserves is so small, "more drilling" is not the answer to our future energy needs. Rather, policies to encourage energy efficiency and conservation coupled with the development of clean renewable energy resources are the keys to a sustainable energy future.

The U.S. is now a net exporter of refined petroleum products like gasoline and kerosene—exporting over 690,000 barrels per day.[xv] In addition, during the first quarter of 2011, the U.S. exported more than 26 million short tons of coal, a 50% increase from the same time a year ago.

The Department of Energy has recently approved two liquefied natural gas (LNG) export licenses, and is poised to approve several more. For years the natural gas industry and their political allies have repeated their "drill here drill now" mantra to open more areas to natural gas drilling with fewer environmental requirements, on the theory that this will make the U.S. "energy independent". However, now that the unprecedented drilling boom the U.S. has experienced has opened up new gas deposits, the industry is pressing to export natural gas to foreign countries where they will get better prices than in the U.S.

Representatives of the oil and gas industry will no doubt issue warnings about the dire consequences for our nation's "energy security" if we maintain America's regulatory safety net to assure the protection of our air, lands, and waters from irresponsible development practices. But it is important to keep in mind that not only is the domestic oil and gas industry not just thriving, it is in the midst of an unprecedented development boom – a boom of such magnitude that we are now exporting refined petroleum products at a magnitude not seen in decades. Moreover, we are on the cusp of seeing an unprecedented increase in the exportation of domestically produced liquefied natural gas. A question the subcommittee should perhaps be raising is, "Does it serve our nation's national security interest to export domestically produced refined petroleum products, and liquefied natural gas?"

In conclusion, oil and gas development is an important component of America's domestic energy supply mix. But "more drilling" should not come at the expense of our citizens' health and safety, nor at the expense of achieving our goals of clean air and water, and the protection of sensitive environments.

Thank you for the opportunity to submit this statement.

The Pipeline Paradox

Why is the United States helping Iran sell natural gas?

BY GAL LUFT | APRIL 12, 2011

Despite the harsh sanctions imposed on it by the United States and United Nations, Iran continues to steadily accumulate geopolitical clout. Many commentators point to the fact that the cascading series of revolutions in the Middle East has given the region's Shiite communities, which are allied with Iran, greater influence. But even more important is Tehran's recent success in strengthening its role as an indispensable international energy supplier. By focusing on financial sanctions rather than the Islamic Republic's plans to become a global energy superpower, Washington policymakers have enabled Iran's rise.

Hundreds of millions of people are dependent on Iran for their energy. But while the West tends to associate Iran with oil, of which it is the world's fourth-largest producer, Iran's real power derives from its vast natural gas reserves, which are second only to Russia's. Driven by technological breakthroughs in the United States and demand in China and elsewhere, natural gas is already ascendant as a source of energy for power generation that is substantially cleaner than the old standby coal; in a post-Fukushima world, it is likely to be second to none.

The international natural gas trade is different from those in oil and coal in that natural gas is for the most part delivered by an expensive pipeline infrastructure, rather than by more malleable sea routes or rail lines. This means that once an importer enters a long-term contract with an exporter, the relationship becomes all but unbreakable -- if Western Europe gets sick of dealing with Russia, for instance, it can't just pick up its pipeline and drag it over to North Africa. This is a big advantage for politically unpopular exporters, which explains why in recent months Iran inked gas deals with all of its seven neighbors, except Afghanistan. In doing so, it hopes not only to become a critical transit country for Central Asia's energy, but also to ensure that Europe and South Asia are beholden to its gas for many years to come.

In June 2010, Iran and Pakistan signed the final deal for a connecting pipeline that would carry 21.5 million cubic meters per day of natural gas. Both countries hope to extend the pipeline into either India or China, enticed by the prospect of millions of dollars in transit fees. If this happens, Iran would gain an economic lifeline -- and enjoy diplomatic protection from three Asian giants. If New Delhi refuses to extend the Iran-Pakistan pipeline into its territory, Tehran has a backup passage to India, via Oman. In 2008, Iran and Oman agreed to develop jointly Iran's offshore Kish field. Meanwhile, Oman and India are negotiating a deep-water pipeline that would bring Persian Gulf gas to India across the Arabian Sea. Should this project come to fruition, Iran's gas will undoubtedly provide the lion's share of the piped product.

No less important for Iran is the European market. Here, Iran is trying to position itself as an alternative to Russia -- which supplies a quarter of Europe's natural gas -- as a major exporter to the European Union. Europeans have been acutely aware of their vulnerability: Five years ago, a spat between Russia and Ukraine -- through which 80 percent of Russia's natural gas exports to

Europe travel -- disrupted supplies to Hungary and Poland. Ever since, they have tried to establish a range of Plan Bs for gas delivery. Chief among them is Nabucco, a pipeline that aims to bring gas from the Caspian Sea to the heart of Europe by way of Turkey, Bulgaria, Romania, and Hungary. Iran wants to ensure that no matter which new corridor to Europe is chosen, its gas will be fed into it. For this, Iran needs to be fully integrated into the gas pipelines of its relevant neighbors: Azerbaijan, Syria, Turkey, and Turkmenistan.

This is exactly what Tehran is doing. In January, Iran and Syria signed an agreement to build the so-called Islamic pipeline, which would carry gas from Iran to Europe via Iraq, Syria, Lebanon, and the Mediterranean basin. That same month, Iran signed a long-term contract with Azerbaijan to import Azerbaijani gas to Iran in exchange for exporting Iranian gas to the Nakhchivan Autonomous Republic, the Azerbaijani exclave between Iran and Armenia. Iran has also built a pipeline to Armenia itself, which opened in 2008. In February, Iran and Turkey announced that they are planning to increase the amount of gas flowing through the Tabriz-Ankara pipeline from 18 million to 23 million cubic meters per day. Last November, Iran inaugurated a new pipeline with Turkmenistan, the world's fourth-largest gas reserve.

These deals will determine the contours of the new geopolitics of energy -- and it is Iran, not the United States or its allies, that is drawing them. In fact, U.S. President Barack Obama's administration, like George W. Bush's before him, is holding the easel for Tehran.

For example, Washington has long believed that for the sake of European energy security, Europe needs an alternative to Russian gas, and accordingly it has been extremely supportive of the idea of a southern natural gas corridor. U.S. policymakers have reassured themselves that such a corridor would exclude Iranian gas and were gratified by Turkmenistan's announcement in November that the country would commit 40 billion cubic meters of gas annually to Europe through the pipeline. But this wishful thinking ignores market realities. Once Nabucco, or any other southern corridor, is constructed, who will prevent Iranian gas from flowing into Europe?

Fortunately, there is a regional alternative. U.S. interests would be better served if Turkmenistan's gas were instead directed south to the Turkmenistan-Afghanistan-Pakistan-India pipeline (TAPI) which would -- if built -- extend from Turkmenistan, through Herat and Kandahar in Afghanistan, to Quetta in Pakistan, and on to India. TAPI, which is also supported by the United States, would contribute to the economies of all four countries, particularly Afghanistan's, which desperately needs it. More importantly, TAPI would effectively kill the Iran-Pakistan-India pipeline as it would allow India to meet its energy needs without Iran. But the pipeline faces many challenges, mostly to do with lack of security in Afghanistan. If Washington is serious in its support for TAPI, it should help secure the funding for the pipeline and work with the Afghan government on creating a safe environment for the project -- as the U.S. military did in recent years in Iraq and Colombia, two similarly war-torn countries. It should also encourage Turkmenistan to direct its gas southward rather than westward.

Instead, by supporting Nabucco and by giving a nod to Turkmenistan to divert its gas to Europe, the United States is not only facilitating the creation of two new economic lifelines for Iran, but also compromising its relations with Russia -- outcomes that run contrary to Washington's declared positions toward both Tehran and Moscow. Alternatively, by joining forces with

Russia, which has expressed interest in financing TAPI, the United States can help shape the geopolitics of energy in South and Central Asia in a way that helps the economic development of its allies in the region while undermining Iran. Washington's current course, however, will only make Tehran richer and more geopolitically indispensable.

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