

**THE CRUDE TRUTH:
EVALUATING U.S. ENERGY TRADE POLICY**

HEARING

BEFORE THE

SUBCOMMITTEE ON TERRORISM,
NONPROLIFERATION, AND TRADE

OF THE

COMMITTEE ON FOREIGN AFFAIRS

HOUSE OF REPRESENTATIVES

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THE CRUDE TRUTH: EVALUATING U.S. ENERGY TRADE POLICY

WEDNESDAY, APRIL 2, 2014

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

The committee met, pursuant to notice, at 2 o'clock p.m., in room 2172 Rayburn House Office Building, Hon. Ted Poe (chairman of the subcommittee) presiding.

Mr. POE. Subcommittee will come to order. Without objection, all members may have 5 days to submit statements, questions and extraneous materials for the record subject to the length limitation in the rules.

Until recently, United States crude production had been on a steady decline. In 1970, domestic production peaked at 9.6 million barrels a day. By 2008, we were producing almost half. Only 5 million barrels were being pumped per day.

Then America did what America does best, and innovated. New technologies of horizontal drilling and hydraulic fracturing ushered in an American energy revolution. Because of drilling in places like the Bakken and Eagle Ford, U.S. crude production has increased 56 percent since 2008.

Some experts even believe that the United States will become the largest crude producer in the world by next year. But not all is good news. The oil being found in these places is light sweet crude.

Unfortunately, the majority of the refineries connected to the production sites are built to handle heavy sour crude. We need new refineries, new pipelines to be built to process the light crude but, of course, that will take years.

In the meantime, we should sell our light crude abroad to those who want to buy it. That would bring billions of dollars and thousands of jobs into the economy of the United States. It is an obvious solution for a simple problem.

Unfortunately, the Federal Government seems to be in the way again. In 1975, the Energy Policy and Conservation Act was passed, making it illegal to export United States crude. It was at the height of the Arab oil embargo.

Congress wanted to insulate Americans from global price shocks and conserve domestic oil reserves. In reality, this ban achieved neither of those goals. The ban has not insulated United States consumers from the world market.

Domestic gasoline prices are largely set by the global crude price, not domestic price, since crude is a globally traded commodity. The United States still has to import about 46 percent of our crude.

These imports face market uncertainty just like every other traded good. Lifting the ban is what would actually protect domestic consumers. U.S. crude on the world market decreases the market share of bad actors like Iran and unstable countries like Algeria.

U.S. crude exports could also lower the price at the pump. More supply with the same amount of demand means a lower price. A recent study by ICF International found that lifting the ban would lower gas prices 2.3 cents per gallon.

That may not sound like a lot but remember Americans consume 133 billion gallons a year. So put it all together and Americans would save about \$3 billion a year. Banning crude exports has not protected domestic reserves. It has stifled them.

For producers to want to drill they have to have a profit or make a profit. The crude export ban has driven the domestic price of crude so low that producers will not be able to make money off the drilling.

If something isn't done, economists predict the drilling will slow in the next 18 to 36 months. Perfectly good oil will sit in the ground because the government restrictions are in the way.

If domestic production companies are forced to cut back on drilling they are going to also be forced to lay off American workers.

On the other hand, if we promote a smart energy policy we will increase production and grow these valuable jobs. So today we are going to examine the crude oil export ban and its implications for the United States economy, and the real question before us is lifting the ban, one, help the United States economy, two, lower gasoline prices, three, have a positive impact on American consumers.

We have differences of opinion on the answers to these questions and that is why we are having the hearing. So I now recognize our ranking member from California, Mr. Sherman, for 5 minutes.

Mr. SHERMAN. Thank you, Mr. Chairman, for having these hearings. We have had several hearings on the export of natural gas both in the subcommittee and at the full committee. I believe this is the first to focus on the export of petroleum.

These are dramatically different economic situations. That is because you can ship a barrel of oil most of the way around the world for maybe 1 percent of its value whereas natural gas, to liquefy, transport and then regasify you are talking about 40 percent of its value.

There are some bottlenecks because every barrel of oil produced in the United States with the exception of some on the Alaska North Slope and 25,000 barrels of heavy crude oil from California has to find its way to the U.S. market and so there could be problems of a short-term nature and you could see 1 percent wasted effort as we transport Alaskan crude to U.S. markets when it might be more efficient to transport Alaskan crude to Asian markets and import more from Africa or the Middle East.

As we focus on the possibility of exports, I think a number of questions arise. First, what it will do to jobs, particularly in the shipping industry. We now have a requirement that domestically

shipped oil has to be shipped on U.S. flagged, U.S. crewed—that is to say U.S. staffed ships but not necessarily ships built in the United States.

Do we want to go further and require that the ships be built here and how important is that for our national security to have the infrastructure of U.S. shipbuilding and a merchant marine? We also have to look at whether we can require U.S. ships be used for the export of oil to Asian markets. Another issue that comes up is the federal—is the possibility of free trade agreements.

We already see that free trade agreements with regard to natural gas indicate that it is automatically considered in the national interest to allow exports of natural gas to countries that we have free trade agreements with. Will the same apply to petroleum?

Will the same apply to the Trans Pacific Partnership currently under negotiation? And under those trade agreements will we be able to require U.S. flagged ships, ships with U.S. crews, and U.S.-built ships?

To me, the most important thing in allowing export is what will happen if there is a worldwide shortage or a market disruption. Why do we ban the export of U.S. crude? We did it in 1975 because we lived through 1973, and I think that we want to be in a situation where it is both legal and practical to require that U.S. crude be used only in the United States during a period that resembles 1973—when there is a shortage, a market disruption, a boycott or gas lines from some other source.

We can put that in law so it is legal and if the President declares a disruption of world petroleum markets but it also has to be practical. What will be the effect on our foreign relationships if in the middle of a worldwide shortage we stop oil tankers in the middle of the Pacific and require them to return to U.S. ports?

What will be the practical effect of bringing that oil back, knowing that we will have built infrastructure on the idea that the U.S. will both export and import petroleum and now all of a sudden we are hoarding our own production for our own purposes?

So I look forward to trying to resolve these problems because it is bad for our economy and bad for the environment to transport oil further than it would otherwise need to go or to mismatch produced oil with the refinery capacity, and I think it is in the interests of the environment not to have to transport oil further than it would otherwise have to go. Every ship is producing greenhouse gases.

So I look forward to learning, especially from the U.S. Senator who has come to educate us, and look forward to the opening statements of others.

Mr. POE. I will now turn to the chairman of the full committee, Mr. Royce from California, for his opening comments.

Mr. ROYCE. Well, thank you, Chairman Poe.

I think you are holding a very important hearing at a very important time here as we start to think strategically about what it means in a world in which the United States increasingly has the capacity to ship oil to allies that are really under a great deal of pressure and how that could be used as part of our diplomatic efforts. As part of our efforts, for example, with Iran to maintain sanctions.

One of the things that I think should give us pause is that in our efforts to deny the regime in Tehran nuclear weapons capability the United States and our European allies levied devastating sanctions against Iran by doing one thing primarily in the original bill and that was targeting their ability to export oil and that severely limited their crude oil sales and denied them the ability to repatriate hard currency from those sales.

Now, the sanctions against Iranian crude are often described as Iran's Achilles heel, yet we are imposing the same kinds of sanctions on our own country if you—if you think through what we have done because we are—we are basically at a point where without the crude export relief valve oil companies will pull back on what will be increasingly uneconomic production.

And the relief valve here is one that we could have used more effectively with respect to our allies because there were five of our allies that were still taking oil shipments from Iran. We could have supplied that differential.

We could have brought additional pressure to bear, and should again this situation in Iran not be—not be solved in ensuing months or years, my hope is that we will have the capacity to think about what we could do in order to step in.

The same time—at the same time, the Russian annexation of the Crimean Peninsula was made easier by its energy grip over Eastern Europe and especially over Ukraine.

Russia has large oil and gas reserves, not as large as ours. They don't produce as much as we do but they do—but almost as much, and it accounts for 70 percent of their trade and 52 percent of the budget for Russia that goes to support their military and their government.

The crisis in Crimea has done little to dampen Russian oil sales and Putin is freely selling oil and gas around the world and especially in Eastern Europe at monopoly prices and thus has unfortunately a tremendous amount of influence there.

As we look at our strategies for the future, and I am going to quote General Martin Dempsey here, Chairman of the Joint Chiefs of Staff, he says,

“As we look at our strategies for the future I think we have got to pay more and particular attention to energy as an instrument of national power, and I think that has to be factored in to the equation here.

“If we increase our supply of oil, especially into Eastern Europe, we will dent Russia's leverage on other countries and reduce the revenues that fund Russia's aggression.”

So, in addition, I think there is another point here and it is a wider point and it has to do with our domestic manufacturing and making certain that when practical we take oil from our allies such as Canada because we are less—we are less susceptible to risk—political risk—than to the extent that we are reliant upon others.

That is reason one, and reason two is because if we don't have that pipeline built from Canada that pipeline will be built but it will be built west to Vancouver and that oil will be shipped to our economic competitor.

So I believe the President should also stop blocking that long-delayed Keystone XL pipeline which would create, I think all of us agree, at least 20,000 direct jobs. There may be a disagreement on the number of indirect jobs.

We think it is several hundred thousand. And it would enhance our energy security and partnership with Canada, our closest ally, one of our most reliable allies, and this is an opportunity not to be missed—an opportunity to reduce our vulnerability to political decisions and events in unfriendly countries that are also unstable.

Yet, our Secretary of State is conducting yet another review and this one on the national security impacts of the pipeline, which will only further delay the project. So the time is now to end our self-imposed sanctions on energy exports to our allies.

America leads the world with our dynamic and innovative energy sector. It is time we let it benefit our economy and our global security interests and, frankly, do something to benefit our—decrease our deficits and, frankly, increase the Russian deficit right now.

So thank you.

Mr. POE. I thank the chairman.

The chair recognizes Mr. Vargas from California for 1 minute in his opening statement.

Mr. VARGAS. Thank you very much, your Honor. I appreciate the opportunity to speak.

My question really is how does this affect the consumers in the United States. My understanding is that we have about, I believe, 17 million barrels a day in refining capacity. Obviously, we are not producing that much oil.

There is a difference between sweet and the stuff you get here and from other places. But why can't we figure out a way to refine that here? That is my question.

I did read the information here and it seems to—some say that if we do ship a lot of this oil abroad that our prices will go up and, obviously, that will affect our consumers.

But I think that the general question is, you know, we are producing it here. Why can't we refine it here? I mean, we figured out how to get it out of the ground. Isn't there a simple way to refine this stuff?

Those are my questions. Thank you, Mr. Chair.

Mr. POE. I thank the gentleman.

Without objection, all of the witnesses' prepared statements will be made part of the record. I ask that all of the witnesses keep their presentation to no more than 5 minutes.

Senator Lisa Murkowski is Alaska's senior senator. Elected to the Senate in 2002, she is now the senior Republican member of the Senate Energy and Natural Resources Committee and also serves on the Senate Appropriations Committee where she is the ranking Republican of the Interior and Environment Subcommittee.

Senator Murkowski, thank you for being with us today. We know you have a busy schedule and as soon as you have finished your statements there will be no questions from members of the panel, and thank you for being with us.

We will hear what you have to say.

STATEMENT OF THE HONORABLE LISA MURKOWSKI, UNITED STATES SENATE

Ms. MURKOWSKI. Thank you, Mr. Chairman. Thank you for the opportunity to be with you today as you develop the record on an issue that I think is extraordinarily timely for our nation and that is the issue of energy exports.

And today, my comments will focus specifically on the export of oil—of crude. Again, I appreciate the invitation to kind of walk across the lawn here and share my perspective.

I think it is fitting for both our chambers to be working together on issues, particularly issues such as energy exports that are so important to our nation and increasingly the world.

I noted to you, Mr. Chairman, that in the Energy Committee we held a hearing on this issue several weeks ago. It was the first time in 25 years that there has been a hearing in the United States Senate on the issue of oil export.

And put that into perspective. We haven't had the opportunity to talk about it because we have been evaluating our energy portfolio truly from one of scarcity rather than one of abundance and how the landscape has changed.

So this debate—this dialogue that you are beginning here in your committee is greatly appreciated and, again, very, very timely. Let there be no mistake that today's issue—the ban on crude oil exports—is truly one in the national interest.

In an area of doubt—of debt and deficits, the North American energy renaissance presents us with an opportunity to strengthen our position and resolve on the global stage while generating wealth, creating jobs, reducing our deficits and enhancing our national security.

Lifting the ban will boost U.S. production and open our nation to global markets. The American consumer, the American people are the ones that will ultimately benefit and I appreciate Mr. Vargas' comment on the sensitivity to price.

I come from a state where while we are producers we also face some of the highest energy costs to consumers in the country. I have no interest in doing anything that will increase the price that Alaskans and others around the country pay.

So I have been looking at this issue very, very critically. Existing regulations provide us some possibilities here. For example, a swap program with Canada was instituted by the Ford administration, continued by President Carter and carried through to completion by President Reagan.

There has been some discussion about similar opportunities with Mexico. That is something that I could support. But I think we have recognized that it is a somewhat cumbersome vehicle. So how would you deal with that?

Last month, I proposed a roadmap for the way forward. I introduced a white paper on the broader issue of energy exports. I outlined in that white paper, as well is a speech to CERAWEEK, how I think we might be able to advance.

First, I believe that the Commerce Department retains the authority to modernize its regulations and update its 30-year-old definition of crude oil in such a way as to facilitate the export of condensate.

Commerce has taken similar measures in the past. My committee staff has sketched out a report released earlier this week and I would like to be able to provide that to the committee, if I may.

Among the many examples let me highlight a couple here. During the era of price and allocation controls, California started to shut in production for a variety of competitive and regulatory reasons.

Commerce authorized a temporary export program of residual fuel oil to protect the production.

So when you had an oversupply of butane, a glut was effectively created in the Gulf Coast. Additional exports were authorized by Commerce.

So we do have in place existing authorities. Now, I have asked the Energy Information Administration—the EIA—to conduct an ongoing dynamic analysis of the crude oil export situation.

What I don't want to see is a standalone static study that would be out of date by the time that it is published. I suggested in my speech in Houston that this might be the year of the reports. 2014 would be the year that we do this assessment, the analysis, the real in-depth—get an in-depth understanding as to where we are with oil exports.

Finally, Mr. Chairman, the President retains the authority to approve limited crude oil exports. We know this because Presidents from both parties have done so in the past. Now, one objection I have heard is that this approach cedes too much authority to the President.

How, it is asked, can one both criticize the administration for misusing executive power in some areas but ask it to take action here. The answer is pretty simple. The answer is that Congress has already given explicit authority to the President to address oil exports for the national interests.

So at the end of the day, I am prepared to introduce legislation if necessary, but because legislation takes time that we may not need to spend I am hopeful that we may have a willing partner within the administration.

I thank you, Mr. Chairman, I have exceeded my time. I do have, again, information that my staff on the Energy Committee has gone into great detail in laying out what we think might be a reasonable path forward. It also outlines the authorities that are currently in law for the administration.

But I do think it is part of the initial discussion as we take on this very important and very timely issue.

[The prepared statement of Ms. Murkowski follows:]

Testimony to Subcommittee on Terrorism, Nonproliferation, and Trade
House Foreign Affairs Committee
Hearing: "The Crude Truth: Evaluating U.S. Energy Trade Policy"
April 2, 2014

Mr. Chairman, thank you very much for the invitation to be part of the record you are developing here today. It is always fitting for members of both chambers to work together on issues such as energy exports that are so important for our nation,, and, increasingly the world..

And let there be no mistake that today's specific issue – the ban on crude oil exports – is truly one of the national interest. In an era of doubt and deficits, the North American energy renaissance presents us with an opportunity to strengthen our position and resolve on the global stage, while generating wealth, creating jobs, reducing our deficits, and enhancing our national security.

Lifting the ban will boost U.S. production and open our nation to global markets. The American consumer – *the American people* – will ultimately benefit.

Existing regulations provide some possibilities here. For example, a swap program with Canada was instituted by the Ford administration, continued by President Carter, and carried through to completion by Ronald Reagan. Mexico may be an opportunity here that I would support, but this is a cumbersome vehicle.

Last month, I proposed a "roadmap" for the way forward. First, I believe the Commerce Department retains the authority to modernize its regulations and update its 30-year-old definition of "crude oil" in such a way as to facilitate exports of condensate. Commerce has taken similar measures in the past, as my committee staff sketched out in a report released earlier this week.

Among the many examples, I will highlight a couple. During the era of price and allocation controls, California started to shut-in production for a variety of competitive and regulatory reasons. Commerce authorized a temporary export program of residual fuel oil to protect this production. When an oversupply of butane – a glut – was created in the Gulf Coast, additional exports were also authorized by Commerce.

I have also sent a letter to the Energy Information Administration requesting ongoing, dynamic analysis of the crude oil export situation. I am not requesting a stand-alone, static study that would be out of date by the time it was published.

Finally, the president retains the authority to approve limited crude oil exports. We know this because presidents from both parties have done so in the past.

One objection I have heard is that this approach cedes too much authority to the president. How, it is asked, can one at once both criticize the Administration for misusing executive power in some areas but ask it to take action here? The answer is simple: Congress has already given explicit authority to the President to address oil exports – *for the national interest*.

At the end of the day, I am fully prepared to introduce legislation if necessary – but because legislation takes time we may not need to spend, I remain hopeful that we may have a willing partner in the administration.

Thank you, Mr. Chairman. I apologize that I am not able to stay for questions, but I look forward to future engagement. Thank you again for this opportunity and for your leadership.

Mr. POE. Thank you, Senator, and we will make the information you give to the subcommittee a part of the record.

Ms. MURKOWSKI. I appreciate it, and I appreciate the opportunity to be with you today. Thank you.

Mr. POE. Thank you.

We will have our next panel seated at the table.

[Pause.]

Mr. POE. I want to welcome our second panel to this hearing. I will give an introduction of each of you and then you will be given 5 minutes. We have your written statements as part of the record so don't exceed 5 minutes or I will gavel you.

Mr. Mike Jennings is chairman and president chief executive officer of HollyFrontier Corporation, a major U.S. refinery. He is also director of HollyFrontier and Holly Logistics Services.

Mr. Jennings served as chairman, president and chief executive officer of Frontier Oil Corporation until its merger with Holly Corporation in 2011. From 2005 to 2009, he was executive vice president and chief financial officer at Frontier Oil.

Mr. Erik Milito is the director of Upstream and Industry Operations for the American Petroleum Institute, a national trade association representing more than 500 companies involved in all aspects of the oil and gas industry.

Prior to his current position, he served as managing counsel for API and he has testified before the House and the Senate multiple times.

Dr. Kenneth Medlock III is the James A. Baker and Susan G. Baker fellow in energy and resource economics at Rice University. He is also the senior director of the Center for Energy Studies, adjunct professor and lecturer in the department of economics. He is also vice president for the Conferences for the United States Association for Energy Economics.

Ms. Deborah Gordon is senior associate at the Carnegie Endowment for International Peace in their energy and climate program. Her policy research focuses on oil, climate change, energy and transportation issues in North America and globally.

Previously, she managed an active energy and environment consulting practice and served as co-director of the Yale School of Forestry in environmental studies, transportation and environment programs from 1996 to 2000.

I want to welcome all of you here. Mr. Jennings, you have 5 minutes.

STATEMENT OF MR. MICHAEL JENNINGS, CHIEF EXECUTIVE OFFICER AND PRESIDENT, HOLLYFRONTIER CORPORATION

Mr. JENNINGS. Thank you, Mr. Chairman.

I would like to introduce myself. My name is Mike Jennings and I represent HollyFrontier Corporation. We are a domestic independent refining company. We operate five petroleum refineries in the Central and Rocky Mountain states.

We employ about 2,600 people directly and indirectly, a number that is probably 10 times that many associated with our contracted maintenance work. Our company is a merchant refining company. That means that we buy crude oil from those that produce it.

We also have a wholesale marketing strategy so our products are distributed through convenience stores and big box retailers, none of which bear our name. But our products go out to a market that is in the center of the United States. We produce about 2.5 percent of the nation's gasoline, diesel and related petroleum products through our plants each day.

As a merchant refiner, the key messages that I hope to convey to the committee today are as follows. Crude oil exports by the United States are likely to raise domestic crude prices and increase retail gasoline prices in the markets that our company serves by an estimated 10 to 15 cents per gallon of gasoline.

Crude exports on the part of a country that imports nearly half of its crude oil requirements are, in our view, very unlikely to improve energy security or advance national interest as we will simply make ourselves more dependent upon crude oil imports as we export our own crude, and we need to be thoughtful about the nations from whom we would be importing that crude. Those with surplus are the OPEC producers and Russia.

Third, the U.S. refining and petrochemical sector is a major employer and is making hundreds of billions of dollars of new investments over the next 10 years to increase manufacturing processing capacity along the Gulf Coast and in other places in order to manufacture and convert this wealth of new raw material that is being produced in the upstream.

And finally, there are many elements of the U.S. energy policy that conflict with free trade objectives including the renewable fuel standard, presidential approvals for key import infrastructure, the Jones Act shipping requirements and particularly the RFS.

These should be considered alongside any consideration of opening trade to crude oil exports in an effort to make free trade more possible within the U.S. petroleum and product sector. As a merchant refiner, we are intensely aware of the impact of increased production of crude in the United States.

We believe that this expanded production has helped in terms of our nation's energy security. But though great strides have been made, the United States remains very dependent upon imported crude. This is not my opinion or the opinion of our company, simply a statement of the facts.

Current refining requirements are approximately 17 million barrels a day while domestic crude production was about 7.5 million barrels per day in 2013. That is projected to increase by a million barrels per day in 2014 but we are still importing at about 50 percent of our requirements.

Supporters of lifting the ban on the crude exports argue that such a decision would make a move toward a freer global supply function, and certainly our company supports the development of freer energy markets.

However, we have to be conscious of the fact that the global crude market is not occupied by free trade. It is dominated by OPEC, which is a cartel, and the country of Russia. Neither of these entities have free trade at their hearts. They are protecting their own domestic interests in cartel-setting volume requirements and other behavior.

So though American crude production has increased dramatically, it has not yet matured to the point where we believe it would significantly impact the global price of crude were it to be available to be exported.

In addition, the non-free trade elements of renewable fuel standards, the Jones Act and other limitations on import infrastructure are still very significant impediments to free trade within the energy sector.

I spoke earlier about the impact of pricing on U.S. gasoline in the face of potential crude oil exports, and our company's view of that is there is probably a 10 to 20 cent per gallon uplift in the cost of gasoline, again, in the markets that we serve which would result from this policy decision.

We take that by observing markets that are served by waterborne crude, principally New York Harbor, southern California and northwest Europe, and if we look at those gasoline prices wholesale pretaxed against the prices that are traded in our markets supplied by domestic crude, we are seeing a 10 to 20 cent differential, with customers in Kansas, Oklahoma and Texas paying the lower number. We think that is something that the committee should take into consideration.

I have exceeded my time and I appreciate the opportunity to speak to your committee. Thank you.

[The prepared statement of Mr. Jennings follows:]

"The Crude Truth: Evaluating U.S. Energy Trade Policy"

United States House of Representatives

Committee on Foreign Affairs

Subcommittee on Terrorism, Nonproliferation, and Trade

April 2, 2014

Statement of Michael C. Jennings

Chairman of the Board, Chief Executive Officer and President

HollyFrontier Corporation

Chairman Poe, Ranking Member Sherman, Members of the Subcommittee, thank you for the opportunity to testify on the important topic of crude oil exports.

My name is Mike Jennings and I serve as Chairman, CEO and President of HollyFrontier Corporation. HollyFrontier is an independent petroleum refiner in the United States that produces and markets gasoline, diesel, jet fuel, asphalt, heavy products and specialty lubricants. The Company is headquartered in Dallas, Texas and operates five refineries with nearly half a million barrels per day of crude oil processing capacity, producing over 18.5 million gallons of petroleum transportation fuels per day. Our company produces approximately 2.5% of the United States' daily gasoline and diesel requirements. Our refining operations are located in Cheyenne, Wyoming; El Dorado, Kansas; Artesia, New Mexico; Tulsa, Oklahoma and Woods Cross, Utah. We directly employ above 2600 people and indirectly employ a contractor base that is many times this number. The success and growth of our business has been a function of purchasing and investing in refining assets no longer viewed as being "core" to their prior owners, typically large integrated oil companies.

HollyFrontier is a merchant refiner, meaning the company does not produce its own crude or market refined products in the retail market. We are manufacturers who buy crude on the open market from producers and sell wholesale refined products to a broad variety of customer across the mid-continent, Rockies and Southwest regions. Our company sits in a unique position, drawing feedstock for our refineries from some of the most dynamic and growing energy sources in North America and providing refined products to some of the fastest growing metropolitan areas in the US.

As a merchant refiner in this position, we are intensely aware of the impact of increased production of crude in the United States and its positive impact on American consumers. We believe the expansion of domestic crude production has been a driving force in economic growth nationally, and has improved

the nation's energy security. For decades, this country has worked to become energy secure or even energy independent, and now just recently, the expansion of production from both traditional and nontraditional sources, has allowed the country to make great progress towards that goal. It has also lowered the cost of refined products for consumers at the pump; for airlines, railroads, trucking and air freight companies; and for manufacturers and construction firms. We believe the increased energy independence recently achieved has also mitigated price volatility or spikes that historically resulted from significant geo-political events. Given the great progress made in the last several years and the continued uncertainty in the global marketplace, HollyFrontier does not believe that lifting the historic ban on crude oil exports is in the best interest of our citizens or our national security.

The crude oil export ban has been a fundamental component of U.S. energy security for decades. With narrow exceptions, the law requires that oil drilled here must be refined here – helping insulate American consumers from disruptions in the oil fields and refineries of the Middle East and elsewhere. Indeed, the ongoing turmoil in Ukraine, given oil production in that part of the world, is the most recent example of how world events outside the Middle East can threaten energy security. Though great strides have been made, the United States has not yet demonstrated its independence from foreign crude. This is not my opinion or the opinion of our company; this is simply a statement of the facts based on the current supply of domestic crude and the demand created by American refiners. Today, the current total US refining capacity is just above 17 million barrels per day. U.S. domestic crude production was 7.5 million barrels per day in 2013. The US Energy Information Agency projects domestic crude production of 8.5 million barrels per day in 2014. Though this jump is a sizable one, U.S. crude production still only accounts for half of the domestic refining capacity. 50% of US refining is still being fed by imported crudes.

Supporters of a lifting of the ban on crude exports argue that such a decision would simply reflect a move toward a freer market in global supply. HollyFrontier supports the development of freer energy markets, however, it is hard to conclude that the international market for crude oil qualifies as a free market given that a large portion of this market is dominated by a volume setting cartel and key arteries to import crude freely into the United States are currently held up by the Administration. Government-run national oil companies control approximately 85% of the world's crude oil and 58% of production. In addition to these figures, and equally important to global prices, oil exports by the Organization for Petroleum Exporting Countries, or OPEC, constitute approximately 60% of the total petroleum traded internationally. EIA notes: "Due to the diverse situations and objectives of the governments of their countries, these national oil companies pursue a wide variety of objectives that are not necessarily market-oriented." The level of control of the global crude oil market by national governments and a global cartel belies any claim that the market is free and open. With its market power, OPEC effectively influences crude oil production, supplies and pricing throughout the world through quotas and other controls. The facts make clear that OPEC controls supply to maintain prices where the member countries (including Iran, Iraq, Saudi Arabia and Venezuela) want them to be. OPEC is a cartel, and its existence is designed to control crude oil prices and preserve its members' own domestic economies. Though American production has increased dramatically, it has not yet matured to the point at which it could significantly impact the price of crude in the global market. Lifting the crude export ban without dramatically revising other impediments to free trade which include the Renewable Fuels standards, the Jones Act and fiat-style exclusions on import-oriented infrastructure will come at the detriment of the American consumer, and American jobs.

The increase in American crude production has, however had the dual impact of improving our domestic energy security and lowering prices for American consumers. This phenomenon is uniquely apparent in areas served by HollyFrontier. Our consumers today pay less at the pump because the ban on crude exports results in less expensive crude available to users here in the United States. The difference can be seen when one compares the price of Mid-Continent wholesale gasoline with that of Northwest European wholesale gasoline prices, which are essentially the international market price. Mid-Continent wholesale gasoline was priced at an average \$2.72 per gallon in 2013. The North West Europe equivalent priced at \$2.89 per gallon. This is before taxes and other distortions. MidCon gasoline was \$0.17 per gallon cheaper in 2013 than the International market price, a difference mostly attributable to lower-priced crude oil available in the region. The MidCon gasoline discount to comparable North West European prices widened 30% vs 2010 levels, reflecting the new presence of discounted crude oil in the United States, partly attributable to policies limiting crude oil export. The bottom line is that cheaper domestic crude means cheaper gasoline for consumers. This differential in pricing also means that consumers pay less for heating oil, propane and other critical petroleum products.

As I have already stated, there exists a robust domestic demand for gasoline and other refined products in the region in which our company does business. 26 of the nation's 139 refineries are located in the Midwestern and Plains states. These plants process 3.7 million barrels per day of crude oil and produce 78 million gallons per day of gasoline and provide stable and high paying jobs for our workers. In this same region, gasoline demand is approximately 100 million gallons per day, a demand that is not readily shifted to other fuels or transportation sources given the predominantly rural and agricultural geography that comprises our market place. Exports could potentially raise costs and slow growth in an area of the country that is driving the American economy.

In closing, we believe that any discussion of crude oil exports must be had in the broader context of developing a comprehensive 21st century energy policy for our nation. Though the expansion of production of crude oil in the United States has positively impacted consumers and our overall energy security, it does not tell the whole story. A meaningful discussion requires not only consideration of crude oil exports; but a consideration of the mandates created by the renewable fuel standard, completion of the Keystone XL pipeline and other infrastructure to support free flow of petroleum and products, a review of the EPA's onerous Tier 3 gasoline rule, and a robust discussion on the future of domestic energy infrastructure. A holistic view is necessary in making decisions that will both shape energy policy, and help drive economic growth for decades to come.

HollyFrontier acknowledges that free trade generally increases prosperity. Therefore, should Congress determine that the United States now has sufficient oil resources to export unprocessed commodities; it must do so in concert with reconsideration of other policies related to crude and refining. A specific area of focus must be the renewable fuel standard. Insofar as our country has reached a point of security and independence in our crude supply to lift the export restrictions, it would be clear that we have no further need for the costly and inefficient crop-based fuel mandates created by the RFS to promote energy security. These bio-fuel mandates have and continue to drive up prices at the pump for American consumers and distort the price of refined petroleum products. Accordingly, I would encourage Congress to keep the RFS in mind as it debates issues associated with potential export of domestic crude.

Thank you for allowing me to appear today, and I look forward to answering any questions the Committee may have.

Mr. POE. Thank you, Mr. Jennings.
Mr. Milito, you have 5 minutes.

**STATEMENT OF MR. ERIK MILITO, DIRECTOR, UPSTREAM AND
INDUSTRY OPERATIONS, AMERICAN PETROLEUM INSTITUTE**

Mr. MILITO. Good afternoon, Chairman Poe, Ranking Member Sherman and members of the committee. I am Erik Milito, Upstream director at the American Petroleum Institute.

API has 600 members at this point. You mentioned 500 and got news today that we are now over 600. We represent the full supply chain from exploration and production to pipeline and midstream as well as the refining sector.

Today, America is producing nearly 50 percent more oil than we did in 2008. By 2015, the International Energy Agency predicts the U.S. will surpass Saudi Arabia and Russia to be the world's top crude oil producer.

Development of resources from unconventional formations through the use of hydraulic fracturing now supports more than 2 million jobs, and this is projected to rise to nearly 4 million jobs by 2025.

This is, clearly, a new era for American energy but our energy trade policies are stuck in the 1970s. It is time to unlock the benefits of trade for U.S. consumers and further strengthen our position as a global energy superpower.

This week, API released a new study, submitted for the record today, on the economic implications of lifting the trade restrictions that prevent exports of U.S. crude oil to global markets. This is the most detailed analysis on a wide range of economic benefits and it paints a compelling picture.

Consumers are among the first to benefit from free trade and crude oil is no exception. Gasoline costs are tied to a global market and this study shows that additional exports could help increase supplies, put downward pressure on the prices at the pump here in the U.S. and bring more jobs to America.

The ICF analysis reaches several key conclusions, which are important to understanding the benefits that lifting the restrictions on crude exports will have on our nation. Among other things, the cost of gasoline, heating oil and diesel fuel is projected to fall, saving American consumers up to \$5.8 billion per year on average between 2015 and 2035.

The U.S. economy could gain up to 300,000 additional jobs in 2020. U.S. oil production could increase by as much as 500,000 barrels per day in 2020 and U.S. refiners could process on average an additional 100,000 barrels of oil per day due to more efficient distribution of heavy and light crudes over the 2015 to 2035 period.

Harnessing these benefits, however, will require lawmakers and regulators to reexamine policies that were enacted long before the U.S. transition from a period of energy scarcity to our current position—one of energy abundance.

Our industry also believes it is important that we work holistically to modernize America's energy infrastructure and facilitate the efficient flow of resources from producer to refiner and to customer.

This study corrects some of the misperceptions about the energy market that are often repeated by critics of free trade. Chief among those is the impact on consumers. Consumers don't buy crude oil. They buy fuel, and the prices of refined products like gasoline are set by a global market.

A temporary glut of oil in one region doesn't significantly lower consumer costs because gasoline is eligible for trade after the oil is refined. If oil can flow to the global market this study shows, then you begin to see higher global supplies, more production and consumer level benefits as well as more American jobs.

Of course, there are also the strategic reasons to increase U.S. energy exports. Mr. Royce alluded to this quote but I think it is worth repeating. It is from General Martin Dempsey, chairman of the Joint Chiefs of Staff, when he recently said,

“An energy independent and net exporter of energy as a nation has the potential to change the security environment around the world, notably in Europe and in the Middle East. And so, as we look at our strategies for the future, I think we have got to pay more and particular attention to energy as an instrument of national power.”

General Dempsey then added that energy could become one of our more prominent tools for national security. If we grow as an exporter, U.S. energy leadership has the potential to bolster America's allies, expand our geopolitical influence and strengthen the global energy market against future disruptions.

However, the first step is lifting our own self-imposed restrictions and, as we can see in today's study, the benefits will flow to consumers and workers here in the U.S. where the argument in favor of free trade is undeniable.

Thank you again to the chairman and to the committee. I look forward to your questions.

[The prepared statement of Mr. Milito follows:]

Testimony
House Committee on Foreign Affairs
Terrorism, Nonproliferation, and Trade Subcommittee
The Crude Truth: Evaluating U.S. Energy Trade Policy

Erik Milito
Group Director, Upstream and Industry Operations, API
April 2, 2014

Good afternoon Chairman Poe, Ranking Member Sherman, and members of the committee. I am Erik Milito, Upstream Director at the American Petroleum Institute.

API has more than 580 member companies, which represent all sectors of America's oil and natural gas industry. Our industry supports 9.2 million American jobs and 7.7 percent of the U.S. economy. The industry also provides most of the energy we need to power our economy and way of life and delivers more than \$85 billion a day in revenue to the federal government.

Today, America is producing nearly 50 percent more oil than we did in 2008. By 2015, International Energy Agency predicts the U.S. will surpass Saudi Arabia and Russia to be the world's top crude oil producer. This is a new era for American energy, but our energy trade policies are stuck in the 1970s. The U.S. and China are the only major oil producers in the world that don't export a significant amount of crude. It's time to unlock the benefits of trade for U.S. consumers and further strengthen our position as a global energy superpower.

This week, API released a new study, submitted for the record today, on the economic implications of lifting the trade restrictions that prevent exports of U.S. crude oil to global markets. To date, this is the most detailed analysis available on the specific employment, GDP, trade, revenue, and consumer impacts of crude exports. And it paints a compelling picture. Consumers are among the first to benefit from free trade, and crude oil is no exception. Gasoline costs are tied to a global market, and this study shows that additional exports could

help increase supplies, put downward pressure on the prices at the pump, and bring more jobs to America.

For economists, the results will come as no surprise. The analysis -- conducted by ICF International and EnSys Energy on behalf of API -- confirms the benefits that have already been suggested by a number of other reports.

The ICF analysis reaches several key conclusions which are important to understanding the benefits lifting the restrictions on crude exports will have on our nation. For example:

- The cost of gasoline, heating oil and diesel fuel is projected to fall, saving American consumers up to \$5.8 billion per year, on average, between 2015 and 2035. Prices could decline as much as 3.8 cents per gallon in 2017, dropping as much as 2.3 cents per gallon, on average, from 2015 to 2035.
- The U.S. economy could gain up to 300,000 additional jobs in 2020.
- America's trade deficit could fall by \$22 billion in 2020.
- The economy could grow by as much as \$38 billion in 2020, with an average GDP increase of up to \$27 billion annually through 2035.
- U.S. federal, state, and local government revenues could rise by as much as \$13.5 billion in 2020.
- U.S. oil production could increase by as much as 500,000 barrels per day in 2020.
- Up to an additional \$70 billion is projected to be invested in U.S. exploration, development, and production between 2015 and 2020.
- U.S. refiners could process, on average, an additional 100,000 barrels of oil per day due to more efficient distribution of heavy and light crudes over the 2015 to 2035 period.

Harnessing these benefits, however, will require lawmakers and regulators to reexamine policies that were enacted long before the U.S. transitioned from a period of energy scarcity to our current position: one of energy abundance.

Our industry also believes it's important that we work holistically to modernize America's energy infrastructure and facilitate the efficient flow of resources from producer, to refiner, and to customer. As Energy Secretary Moniz noted last year, America's energy policies "deserve some new analysis and examination in the context of what is now an energy world that is no longer like the 1970s."

The study is part of that analysis. And it corrects some of the misperceptions about the energy market that are often repeated by critics of free trade. Chief among those is the impact on consumers. Consumers don't buy crude oil. They buy fuel. And the prices of refined products – like gasoline – are set by a global market. A temporary glut of oil in one region doesn't significantly lower consumer costs, because gasoline is eligible for trade after the oil is refined. And, in the long-run, any oversupply of unrefined crude may create a disincentive to produce more energy here at home. But if oil can flow to the global market, this study shows that then you begin to see higher global supplies, more production, and consumer-level benefits – as well as more American jobs.

Trade also increases efficiency. For example, the U.S. is a growing producer of light, sweet crude. Often, it makes sense to export a surplus of expensive, light oil from one region and import cheaper, heavy oil in another – rather than ship more expensive oil cross-country. This is especially true in the absence of sufficient infrastructure to efficiently transport crude to the refineries that could use it. But export restrictions effectively insulate consumers from the positive benefits of efficient markets.

Of course, there also are strategic reasons to increase U.S. energy exports. As General Martin Dempsey, Chairman of the Joint Chiefs of Staff, recently said, "An energy independent and net exporter of energy as a nation has the potential to change the security environment around the world – notably in Europe and in the Middle East." As we grow as an exporter, U.S. energy leadership has the potential to bolster America's allies, expand our geopolitical influence, and strengthen the global energy market against future disruptions. However, the first step is lifting

our own self-imposed restrictions. And, as we can see in today's study, the benefits will flow first to consumers and workers here in the U.S., where the argument in favor of free trade is undeniable.

Thank you again to the Chairman and the Committee and I look forward to your questions.

Mr. POE. Thank you.
Dr. Medlock, 5 minutes.

STATEMENT OF KENNETH B. MEDLOCK III, PH.D., SENIOR DIRECTOR, CENTER FOR ENERGY STUDIES, JAMES A BAKER III INSTITUTE FOR PUBLIC POLICY

Mr. MEDLOCK. Thank you, Mr. Chairman.

Well, a lot of what Mr. Milito said is actually supported to a certain extent by some work that we have been involved with. We recently launched a study looking at the broader impacts of allowing oil exports from the United States and that is actually a smaller part of a broader study that we are looking at to evaluate North American energy security prospects.

So this is the idea of, you know, regional trade being allowed to flow freely between the U.S., Mexico and Canada and what sort of benefits that could actually convey.

In general, when you look at commodity trade, you are talking about—when you talk about oil in particular and this will address gasoline prices, a market between oil and gasoline that is vertically integrated, effectively.

We use oil to produce gasoline so if you pinch one market or constrain one market the arbitrage opportunity moves downstream to the next one. And so what this means is if you constrain the flow of exports of crude oil what we will see is a discount domestically and that is exactly what we have seen.

But as long as the product price is arbitrated internationally then you will see that price fluctuate according to international supply-demand fundamentals. That is exactly what we have seen. If you look at PADD level data for gasoline prices in the United States and other petroleum product prices, you do see that disconnect is not transmitted. Now inasmuch as we have seen, for example, an inability to move crude away from WTI and, of course, historically over the last few years this has not been an export-driven issue. This has been an infrastructure-driven issue.

But that disconnect nevertheless has led to a discount of WTI relative to Brent, and you do not see that disconnect or that discount being conveyed from WTI into product prices. And so what that means is the product prices are not falling, coincidentally, with WTI.

So what that tells you is that refiners in fact are not passing the price discount along. Now, that sounds like a really sort of almost negative statement but in point of fact what we are talking about is we have a downstream market that is internationally fungible and that is a really critical point.

What that means is that the price movements internationally will affect the product price movements here, not the domestic crude price. And, again, this is just a, you know, standard sort of protocol when you start to look at how commodity prices are influenced by different market behaviors and market constraints.

Now, when we move beyond understanding what might happen to gasoline prices and, importantly, it is, you know, it is sort of logical to follow with the next step; well, what happens if we lift the ban on crude oil exports, and the next logical step would be what? You are actually pushing more light tight or light sweet crude into

the global marketplace and presumably that could actually put downward pressure on the price of light sweet crude, which is, you know, the—that is the barrel at the margin.

So that is the barrel that is helping determine the price of products. The problem with making a just sort of grand statement like that is that while that is true, quantitatively it is difficult to assess because there will be market responses by the participants. In particular, you can't predict exactly what OPEC will do.

The one thing we can say for certain, though, because there really is no paradigm in any sort of economic principles or economic framework that I can think of in which allowing exports of crude oil in the international market will actually raise the price of crude oil. That simply won't happen. But pulling estimates on declines, that is a difficult thing to do.

With regard to energy security, because this is another really major sort of broader issue that kind of fits into the overall context of something I mentioned a minute ago about North American energy security, it is—you know, go back to the 1970s.

You mentioned in your opening statements about the acts that were actually passed to sort of ban the export of crude oil. Well, when you do this you quickly begin to realize that, you know, while well intentioned, those policies didn't necessarily convey the benefits that they were meant to convey.

In particular, when you look at a very deep literature on this issue and why we think about energy security in the context of oil prices, well, because every recession except for one since World War II has been preceded by a run-up in the price of crude oil.

It is just a very standard simple correlation. Now, it doesn't convey causation but the idea is you want to shield consumers domestically from macro economic shocks that would be related to run-ups in the price of crude.

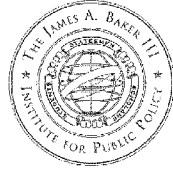
Well, one of the things that actually falls out of the literature is a number of different potential channels through which prices transmit to the macroeconomy and one of these is through trade balance.

And so if you actually allow for exports of light sweet crude, which is a higher valued crude than the heavy sour that we typically import into the Gulf Coast, for example, you are actually giving a net positive benefit to the trade balance and actually conveys an energy security benefit, not necessarily an energy security cost.

So these sorts of things have to be brought into the discussion. These are the kinds of things that we are actually actively looking at right now in order to try to really understand what changing the existing paradigm, or the status quo, will mean longer term not only for gasoline prices but more broadly for U.S. energy security.

Thank you.

[The prepared statement of Mr. Medlock follows:]

JAMES A. BAKER III INSTITUTE FOR PUBLIC POLICY
RICE UNIVERSITY

Testimony of
Kenneth B. Medlock III
James A. Baker, III, and Susan G. Baker Fellow in Energy and Resource Economics, and
Senior Director, Center for Energy Studies
James A. Baker III Institute for Public Policy
Rice University

To the
Subcommittee of Terrorism, Nonproliferation and Trade
Committee on Foreign Affairs
U.S. House of Representatives
Washington, D.C.

April 2, 2014

During the past decade, innovative new techniques involving the use of horizontal drilling with hydraulic fracturing have resulted in the rapid growth in production of natural gas, crude oil and natural gas liquids from shale formations in the United States. This has transformed the North American gas market, generating ripple effects around the world and setting the stage for a period of global market transition. It has also contributed to the benchmark US domestic crude oil price – West Texas Intermediate (WTI) – becoming substantially discounted to global benchmark crudes. While this discount arose largely due to constraints on the ability to move crude oil away from Cushing, OK, it has triggered concerns that it is a harbinger of broader discounts of US crude oil prices relative to global market prices. Specifically, if a constraint on the ability to arbitrage a price differential drove the discount of WTI, then it stands to reason that a constraint on the ability to arbitrage US crude will more broadly emerge as the existing constraint banning US oil exports becomes binding. As a result, there has been significant interest in changing the long-standing laws banning oil exports.

Due to existing regulatory and market institutions, the US will remain a preferred area for upstream development, as long as the price-cost balance is favorable relative to other regions of the world; so, the US stands to contribute greatly to global supply growth over the foreseeable future. Indeed, the type of well-documented transformational change that has been set in motion

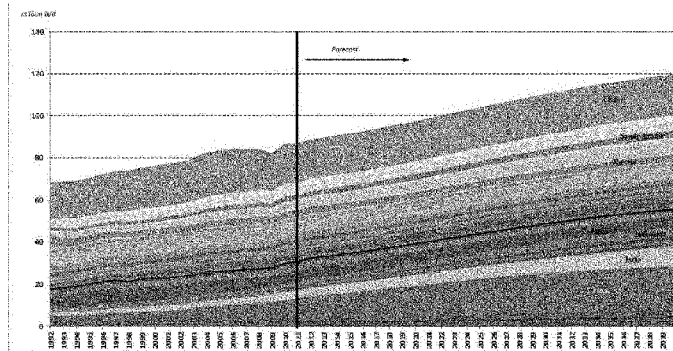
in global *gas* markets is becoming more and more visible in the global *oil* market. Rapid growth in US light tight oil (LTO) production has contributed to a decline in US oil imports and to the US becoming a net exporter of petroleum products. Nevertheless, the impact on global crude oil market may be muted by current regulation in the US.

In January 2014, the Center for Energy Studies at Rice University’s Baker Institute launched a study, jointly with Columbia University’s Center for Global Energy Policy, into the consequences of allowing crude oil exports from the U.S. The first phase of the study involves applying established economic principles to understand how existing laws that prohibit the export of crude oil from the U.S. impact gasoline prices (and petroleum product prices more generally) and U.S. energy security. The second phase of the study takes a more in depth view of the downstream and upstream oil and gas sectors in order to understand how existing laws will impact opportunities in each as time passes. The comments herein focus on phase one.

A Demand-Supply Motivation

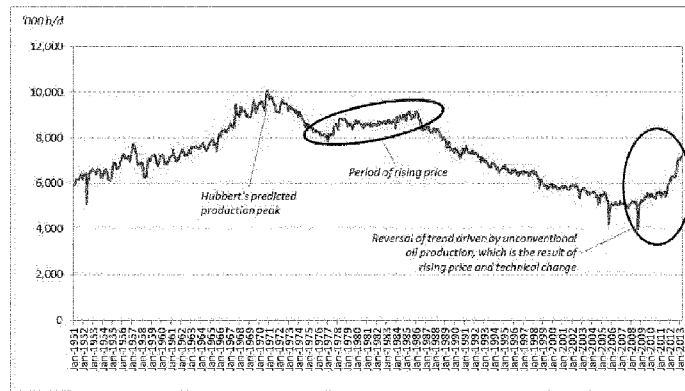
As seen in Figure 1, global crude oil demand is projected to increase to just short of 120 million barrels per day by 2040. The majority of the projected growth will come from developing Asian economies, particularly China and India, but also several other Asia-Pacific countries. Importantly, demand in the countries of the Middle East is projected to grow among the fastest in the world, attributed to economic growth as well as heavily subsidized domestic energy prices. Of course, a lifting of subsidies would abate the projected growth, but absent a significant shift in domestic energy pricing policy, these countries will be challenged to maintain, much less grow, exports. This, in turn, signals a need for new sources of supply, and could move the geopolitical compass toward new supply growth areas, particularly those with abundant, accessible unconventional resources such as Canada and the US.

Figure 1. Baker Institute CES Global Oil Demand Outlook by Country, 1992-2040



Already, we have seen crude oil production in the US rise dramatically year-over-year since 2008, primarily due to shale oil prospects. This represents a reversal of over three decades of production declines, and has turned the US from an ever-expanding sink for global crude oil into a viable global supply province in less than a decade. Of course, the global crude oil production anthology is still being written, but we have seen real supply-side responses to high prices in the last decade in the form of deep water and unconventional sources of oil. In fact, US production growth in the last 5 years, due in large part to new production from unconventional resources, has been the highest seen in many decades (see Figure 2).

Figure 2. US Crude Oil Production (Monthly, Jan 1951 – Mar 2013)



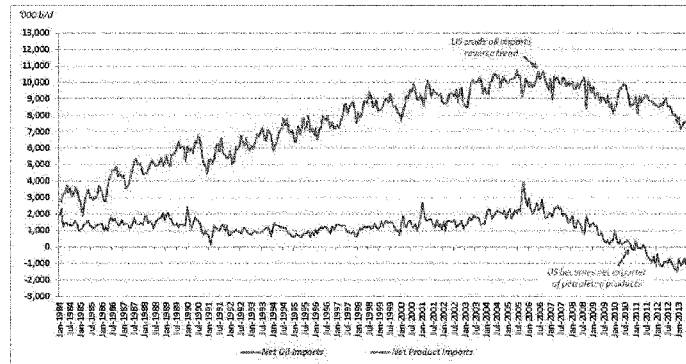
Source: US Energy Information Administration

Analysis of Figure 2 stimulates interest to gain a better understanding of the long term prospects for US oil production growth along the lines of what has been witnessed since 2008. To date, growth in domestic production has been driven by LTO developments in the Bakken and Eagleford shale plays. With other opportunities – such as in the Permian basin – receiving increasing attention, the prospects for continued growth look promising. Already, we have seen declining US crude oil imports (see Figure 3).

Of course, declining demand since 2008 has played a major part as well. This is particularly salient for petroleum product markets, as the US now exports (net) upwards of 3.5 million barrels per day of petroleum products (see Figure 3). In fact, the combination of discounted crude oil, low cost natural gas, lower demand, and no policy-directed constraint on exporting

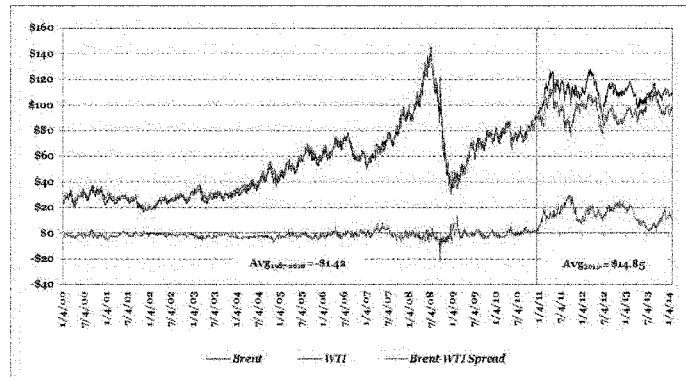
refined products has allowed the U.S. to effectively become a refining hub over the past few years, providing petroleum products to the global market place.

Figure 3. Shifts in US crude oil and petroleum product trade, Jan 1984-Mar 2013



Source: US Energy Information Administration

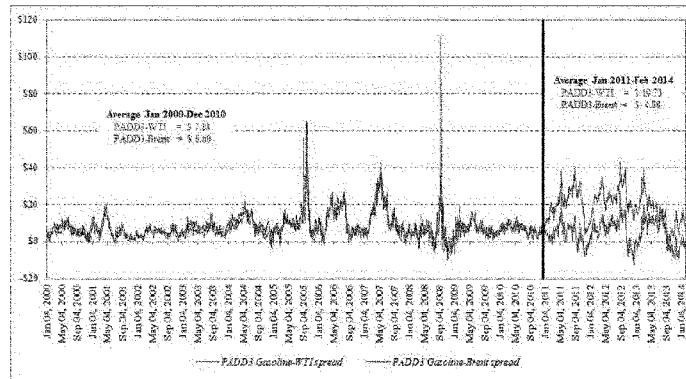
Figure 4. US Crude Price Discounts



Source: US Energy Information Administration

Strong domestic production growth coupled with a physical constraint on moving crude oil away from Cushing has resulted in a discount in the WTI price relative to the price at Brent (see Figure 4). In fact, the discount has average almost \$15 per barrel since the end of 2010, which is especially remarkable given WTI priced at a *premium* of almost \$1.50 (on average) the decade prior. There is mounting concern that the observed discount at WTI will spread to be more broadly representative of all US crude oil prices. This concern owes to the fact that current US policy explicitly prohibits exports of crude oil, thereby limiting arbitrage of growing domestic supply into the global market. The commercial implications are that lower domestic crude oil prices could trigger stronger profit opportunity for refineries in the near term, and may even encourage investment in the downstream in the longer term, should the discount persist. But, a persistent discount may also negatively impact US production, which has implications for the economic activity associated with upstream production and, of course, the impact that US shale will ultimately have on the global oil market. So, there are trade-offs that must be evaluated in the context of current law versus lifting the ban on crude oil exports.

Figure 5. US Gasoline Price Discounts?

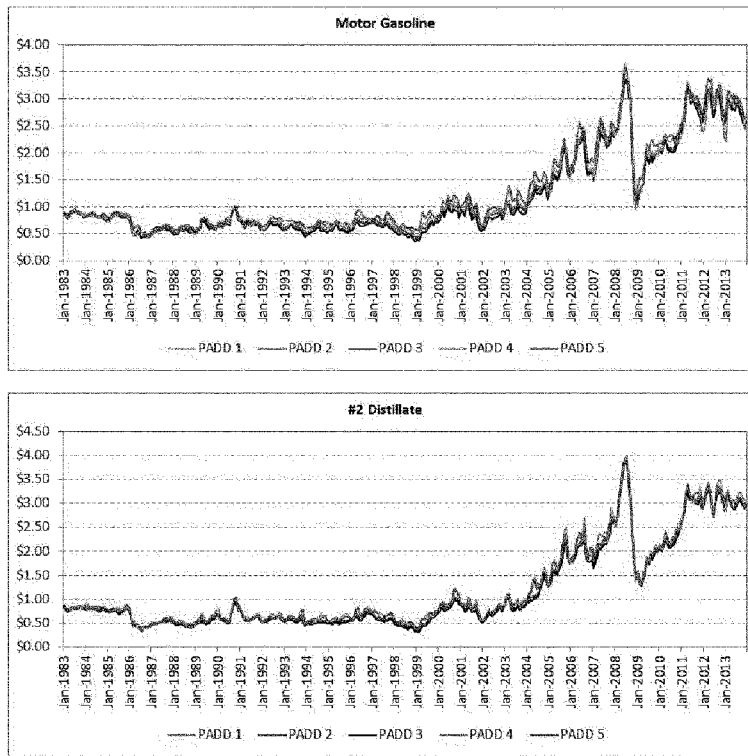


Source: US Energy Information Administration

In order to understand what current law means relative to the alternative of lifting the ban on crude oil exports, we must first understand how current law is affecting the arbitrage opportunity. Consider the case where we have two markets – for example, a crude oil market and a petroleum product market – where one provides the feedstock for the other. If we place a constraint on the physical ability to trade in the feedstock market, but there are no such constraints on the final product market, then the global arbitrage opportunity moves into the final product market. In other words, since there is no constraint on trade in the final product market, it can fully adjust to

capture any arbitrage opportunity that opens due to regional price differentials that may emerge in the feedstock market. Indeed, in Figure 5 we see the relative price of PADD 3 gasoline to Brent crude – an international benchmark crude – remained reasonably stable when compared to the relative price of PADD 3 gasoline to WTI. This indicates that although WTI became discounted relative to Brent due to physical constraints on trade away from Cushing, that discount did not matriculate into the price of domestic gasoline.

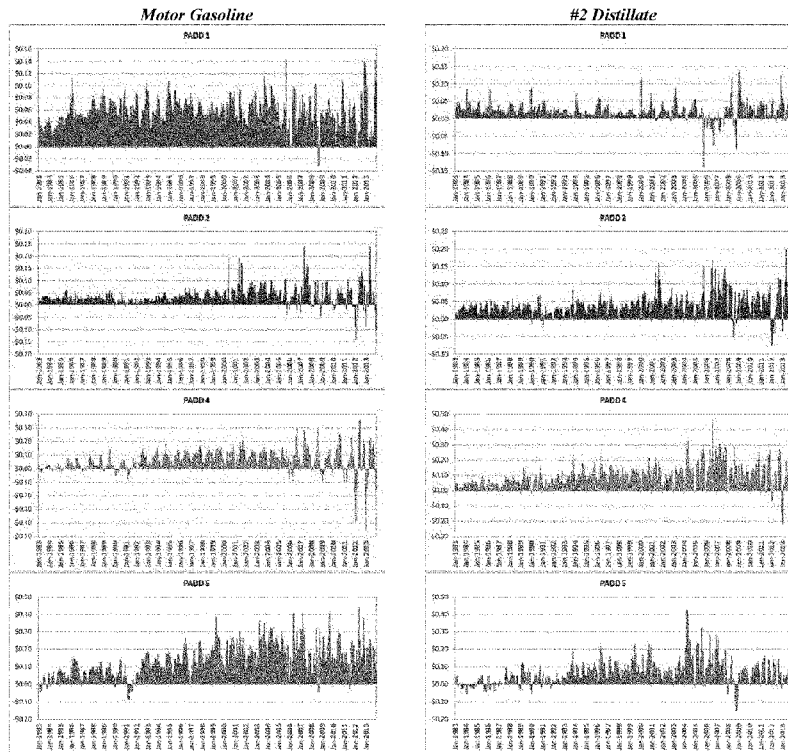
Figure 6. US Petroleum Product Prices Continue to Move Together



Source: US Energy Information Administration

We expand on the above claim in a moment, but taking the thesis as given we should see the spread between WTI and petroleum product prices also widen. This follows because with no constraint on physical trade in the product market, its clearing price will be set by the cost of supply – or the crude barrel – at the margin. This barrel will distinctly *not* be the price of the discounted barrel of domestic crude oil. Such a pricing mechanism requires, of course, that there be no constraint on trade in the product market. As can generally be seen in Figure 6, wholesale US petroleum product prices continue to move very closely together, as they have since the early 1980s. This is indicative of a petroleum product market in which there is no binding physical constraint to arbitrage price movements across regions.

Figure 7. US Petroleum Product Prices – Evidence of Discounts Relative to PADD 3?



Source: US Energy Information Administration

We also see that there is no apparent constraint on wholesale trade across regions in the U.S. As seen in Figure 7, the prices of motor gasoline and #2 distillate in PADDs 1, 2, 4, and 5 remain, for the most part, above the price in PADD 3. There are noticeable points of departure in the motor gasoline price spreads in PADDs 2 and 4, particularly later in the time horizon, but these should not be interpreted as the result of crude oil price discount in these regions yielding a lower gasoline price. Indeed, if that were true we would see the same effect arising in the market for #2 distillate. Hence, it points to other issues related to gasoline specifically – such as seasonal pressures and costs for other feedstock – that are not as prevalent in the distillate market.

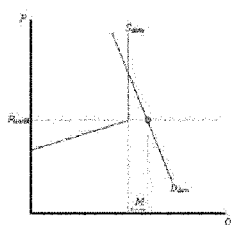
A Framework for Analysis

Is there a justification for the paradigm discussed above in economic theory? Yes. To begin, the US domestic crude oil supply curve shifts out, a result generated by technological advances in producing crude oil from shale. The ultimate outcome for price will be determined by the extent to which new sources of demand are allowed to be realized.

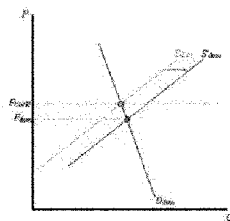
Under the status quo of no US crude oil exports Figures 8-10 depict why the price of petroleum products will rise relative to the domestic crude oil price but not the international crude oil price. The constraint on crude oil exports pushes the arbitrage opportunity downstream into the product market where there is no constraint on trade.

Figures 11 and 12 present the alternative to the status quo summarized in Figure 8-10. Specifically, we see in Figures 11 and 12 the effect of lifting the ban on crude oil exports. In this case, the arbitrage opportunity that exists in the crude oil market can be captured by domestic producers. This results in greater trade in the crude oil market, but less trade from the US in the product market. Relaxing the constraint allows the gains from trade in oil to be captured.

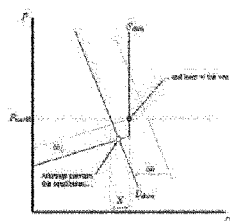
Figure 8. The US as net petroleum product importer (prior to 2011)



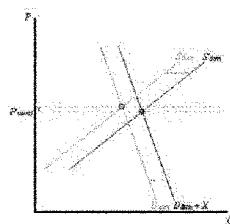
- The price of crude oil to domestic refiners determines the cost of supplying petroleum products (i.e. – the height of the domestic supply curve.)
- Domestic refining capacity falls short of demand at world price.
- The result is that the U.S. is a net importer, M , of refined products.

Figure 9. The domestic crude oil market – initial impact of LTO production growth

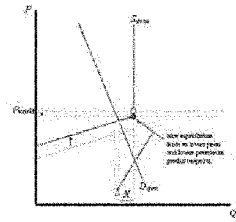
- Domestic supply increases due to innovations in production of light tight oil from shale.
- Without an additional source of demand, the domestic price falls relative to international price.
- A lack of physical arbitrage ability drives the price discount.

Figure 10. Implications for petroleum product price and trade

- The crude oil price discount lowers the cost to domestic refiners (see (i)). *Not all refiners benefit – this is a simplification.*
- Demand reductions (see (ii)) relative to domestic refining capacity have created an excess.
- Refined product exports grow.
- The spread between domestic crude oil price and petroleum product price widens.

Figure 11. Lifting the crude oil export ban – impact on crude oil price

- Opening up trade opportunities raises the demand for U.S. produced crude oil.
- Allowing exports of crude oil may lower the price of crude oil, all else equal, as it introduces new supply to the global market.
- Arbitrage capability returns U.S. crude price to international parity.

Figure 12. Lifting the crude oil export ban – impact on petroleum product price

- The *crude oil* price discount disappears due to the arbitrage occurring in the crude market.
- The domestic refined products supply curve shifts up, reflecting a higher domestic crude oil price.
- Lower global crude oil price will ultimately lower gasoline price.
- Refined product exports fall, but do not disappear. Lower natural gas costs advantage US refineries.

It is important to recognize that lifting the ban on exports results in additional demand for US produced crude oil, effectively shifting the demand curve out (see Figure 11). This facilitates more production from the US, which is why such a policy will exert some downward pressure on the global price. The degree to which this occurs is highly dependent on a variety of factors – such as OPEC response and the relative elasticity of supply and demand both domestically and internationally – but, qualitatively, the pressure is for price to move down, not up. The bottom line is that the implications of US LTO production on the global oil market are highly dependent on US policy with regard to oil exports. Specifically, the impacts are larger in the case where the US market is more fully integrated via trade with the global market, meaning greater fungibility enhances the impacts of US LTO production.

Bringing it All Together

First, the wholesale price of gasoline is set by the crude barrel at the margin. Since there are no restrictions on gasoline exports, this means the barrel at the margin is an internationally traded barrel. As such, the price of gasoline domestically will converge to a value reflecting a fully arbitrated international price, correcting for the cost of trade.

Effectively, the constraint on crude oil exports moves the arbitrage opportunity downstream. This is not a groundbreaking result. Rather, it is exactly what constraints do. They secure rents in certain parts of the value chain by limiting market responsiveness.

So, is there evidence of a binding constraint? Yes, the spread between WTI and Brent is on critical piece of evidence. While this was not driven by the export ban, it does indicate exactly what will happen in the event of a physical constraint on the ability to trade. As that constraint is relaxed, the export restriction will become binding, especially as domestic LTO production backs

out all the imported light crude volumes it can. We will see evidence of this as spreads emerge between the Louisiana Light Sweet (LLS) crude oil price and international crude oil prices.

Another point of evidence of a binding constraint can be seen in the higher volatility of the spread between US gasoline price and WTI. This volatility emerges because once the binding constraint is realized then any movement in demand is revealed through an exacerbated price movement for oil but not for petroleum products.

If exports reduce the price of crude internationally, then domestic gasoline price should fall. The question then becomes, is the current ban on oil exports worth it?

A Comment on Energy Security

The concept of energy security really began to take hold as a matter of national interest following the oil price shocks of the 1970s. In fact, every recession since World War II, except one, has been preceded by a run up in the price of oil. This strong correlation has prompted many policies aimed at mitigating the impacts of rising oil prices. As such, “energy security” generally refers to policies that aim to ensure adequate supplies of energy at a reasonable price in order to avoid the macroeconomic dislocations associated with energy price spikes or supply disruptions.

So, how exactly do high oil prices negatively impact the economy? The literature on this matter is fairly deep, and there have been many proposed channels to convey the correlation, some of which carry a causal overtone. These channels can be summarized into

... inflationary effects

- Increases in the price of oil (energy) lead to inflation which lowers the quantity of real balances in an economy thereby reducing consumption of all goods and services.
- Counter-inflationary monetary policy responses to the inflationary pressures generated by oil (energy) price increases result in a decline in investment and net exports, and consumption to a lesser extent.

... trade balance effects

- Oil (energy) price increases result in income transfers from oil (energy) importing countries to oil (energy) exporting countries. This, in turn, causes rational agents in the oil (energy) importing countries to reduce consumption thereby depressing output.

... industrial influences

- If oil (energy) and capital are compliments in the production process, then oil (energy) price increases will induce a reduction in the utilization of capital as energy use is reduced. This, in turn, suppresses output.

- If it is costly to shift specialized labor and capital between sectors, then oil (energy) price increases can decrease output by decreasing factor employment. If a recession is not unreasonably long, the high costs of training will cause specialized labor to wait until conditions improve rather than seek employment in another sector.

... and investment impacts

- In the face of high uncertainty about future price, which may arise when a price shift is unexpected, it is optimal for firms to postpone irreversible investment expenditures. Investments are irreversible when they are firm or industry specific.

While all of these channels of transmission matter to some extent, it is important to recognize that the oil prices – and, more importantly, oil product prices – are determined in the international market. So, regardless of policy on crude oil exports, as long as product markets remain fully fungible, the above proposed mechanisms for transmission of rising prices to negatively impact economic activity generally remain in play.

The one channel of transmission that is distinctly different with regard to US export policy is the “balance of trade” channel. Here, oil importers do worse when price rise, while exporters do better. It then follows that if the US becomes a larger exporter of light crude oil, while importing heavier crudes to match current refinery configurations, the net impact on the US trade balance is overall positive. Moreover, if prices rise, the export of light crudes provides an “exporter benefit”. In effect, it shields the economy from increases in prices in a way that is not otherwise present.

Importantly, the theoretical framework here is fairly well established, so qualitatively this can be stated with a fair degree of certainty. However, the degree to which any energy security benefit would be conveyed has yet to be determined. That is a matter of ongoing research.

Mr. POE. Thank you, Mr. Medlock.
Ms. Gordon.

**STATEMENT OF MS. DEBORAH GORDON, SENIOR ASSOCIATE,
ENERGY AND CLIMATE PROGRAM, CARNEGIE ENDOWMENT
FOR INTERNATIONAL PEACE**

Ms. GORDON. Chairman Poe, Ranking Member Sherman and distinguished members of the subcommittee, thank you so much for allowing me to testify today.

In my remarks, I want to talk about three key points—the changing conditions influencing today’s oil market, the divide among stakeholders on whether to export crude or whether the ban should be lifted, and the need to deal with environmental consequences from oil exports.

I explore these issues in greater detail in my written comments submitted for the record.

The bottom line is that managing the U.S.’ newfound oil abundance will require careful analysis and strategy. Many opportunities and challenges lay ahead. As U.S. oil production ramps up to peaks not seen since 1970, the key policy question is whether to reverse a 40-year oil decision to ban U.S. crude oil exports.

In my judgment, the right answer is not yes or no. The situation is far more complex than those in favor or those against lifting the U.S. crude oil ban suggest, and as policy makers debate this ban and whether it should be lifted it is important to address three questions.

The first question is given that the U.S. can already export unlimited volumes of petroleum products, under what condition should it also be allowed to export crude oil? Over the past 8 years, U.S. petroleum product exports have increased fourfold. Last year in 2013, the U.S. exported about \$150 billion in petroleum products, scoring the largest gain for any commodity in the U.S. economy.

Reversing the crude oil export ban could significantly increase rising U.S. oil exports. A go-slow policy on oil exports is needed to allow the U.S. and other nations to adjust to North America’s increased oil capacity.

Those oil-rich nations that have built their economies around oil revenue are increasingly vulnerable to disruption. It is unclear how the oil value chain will adjust in response to changes in upstream production and downstream refining factors.

Fostering market stability should be a primary consideration in deciding what conditions should apply to the U.S. in terms of future crude and petroleum product exports.

Question two—who would benefit most from reversing the U.S. oil export ban? The oil value chain is made up of an increasingly diverse array of players, processes, oils and products, and public information is lacking to independently assess the situation.

As such, determining who benefits from exporting crude oil is not simple. Opinions vary widely and may not align with U.S. policy makers’ overall goals. For example, oil producers and lease holders strongly advocate lifting the ban. Refiners are split as to whether or not to lift the ban depending on numerous operational and geographic factors that determine their bottom lines.

Manufacturers do not yet appear to have a unified position. American consumers are most concerned about prices at the gas pump, and industry analysts like Woodmac argue that crude markets are complicated and relaxing the oil export ban could invite cost-cutting arbitrage of U.S. and international crudes with unpredictable outcomes.

Question three—could unconditional exporting of U.S. crudes have unintended environmental consequences? How the U.S. and global oils are managed through imperfect markets and various policy directives create significant uncertainties.

As the U.S. debates lifting its crude oil export ban, carbon emissions are already flowing throughout the marketplace in a highly fluid fashion. The energy sector will have to adapt to climate change both in the resilience of its existing assets and also in terms of the durability of its investments.

The situation the U.S. is confronting on how to manage North American oil boom raises serious climate questions for America as to its: (1) climate responsibility as both a producer and a consumer; (2) its capacity, our capacity, to create market transparency on a growing array of oils—and I cannot stress enough how different these oils are from one another; and (3) policy leadership to efficiently cut carbon out of the oil value chain.

In sum, the right question is not whether or not to eliminate the U.S. crude oil ban. Exporting U.S. oil is part of a much larger and more important picture. The burning question is whether America can manage the economic, security and climate impacts of its new oil bounty.

As one of the world's fastest growing oil producers, the U.S. has the opportunity and responsibility to be a global leader in the energy sector. A strong balanced energy policy is needed to guide energy decision making in ways that satisfy the energy needs of consumers, strengthen the U.S. economy, protect the climate and enhance national and global energy security.

Guided by congressional leadership, a comprehensive policy framework is needed to deliver on a promise of America's new energy abundance.

Thank you.

[The prepared statement of Ms. Gordon follows:]



CARNEGIE
ENDOWMENT FOR
INTERNATIONAL PEACE

Congressional Testimony

**SHOULD THE U.S. OIL
EXPORT BAN BE LIFTED?
THE NEED FOR STRATEGIC
THINKING**

Testimony by **Deborah Gordon**
Senior Associate, Energy and Climate Program
Carnegie Endowment for International Peace

House Foreign Affairs Subcommittee on
Terrorism, Nonproliferation and Trade hearing
on **Crude Truth: Evaluating U.S. Energy
Trade Policy**

April 2, 2014

Chairman Poe, Ranking Member Sherman, distinguished members of the Subcommittee, thank you for the opportunity to testify today to examine U.S. export policy on crude oil.

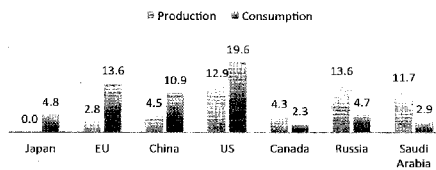
I am a senior associate at the Carnegie Endowment for International Peace, a non-partisan policy think tank. I began my career with Chevron as a chemical engineer and then spend over two decades researching transportation policy at Yale University, the Union of Concerned Scientists, and for a wide array of non-profit and private sector clients. I have authored books and many reports on transportation and oil policymaking.

In my remarks I will discuss three key points: the changing conditions influencing today's crude oil market; the divide among stakeholders on whether the export ban on crude oil should be lifted; and the need to deal with the environmental consequences from an unconditional lifting of the ban.

The bottom line is that managing the U.S.'s newfound oil abundance will require careful analysis and strategy. Many opportunities and challenges lay ahead. Determining how U.S. light tight oils fit in the oil value chain is not straightforward. Lifting the export ban on U.S. oil would affect the U.S. energy industry, consumers, and society as a whole. It is critical for Congress to examine economic, security, and environmental effects of policy decisions over both the short- and longer terms.

By way of background, today, the U.S. is the major energy nation that is closest to being equal parts oil *producer* and oil *consumer*. (See figure 1). Our energy situation stands in stark contrast to other nations. For example, China and Japan are majority consumers and Saudi Arabia and Russia are majority producers. America is in an enviable energy and economic position. We won't want to either hoard or hand over all of our resources without first establishing policy goals and strategies. The challenge will be to determine what policy frameworks will *balance* the nation's long-term oil trade objectives, national security, and global climate concerns.

**Figure 1: Petroleum and Liquids
Production and Consumption**
Million Barrels per Day, 2013



Source: IEA, <http://www.eia.gov/forecasts/steo/tables/pdf/3atab.pdf>

As U.S. oil production ramps up to peaks not seen since 1970, a key policy question is whether the forty-year old decision to ban U.S. crude oil exports should be reversed. In my judgment, the right answer is not a simple "yes" or "no". The situation is far more complex than those in favor or

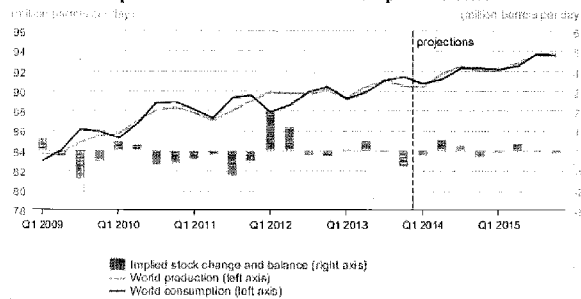
against lifting the U.S. crude oil ban suggest. As policymakers debate whether the ban should be lifted, it will be important to address three key questions.

Question #1: Given that the U.S. can already export unlimited volumes of petroleum products, under what conditions should it also be allowed to export crude?

American crude generally cannot be exported, but there is no legal limit on exporting certain raw ultra-light oil components (natural gas liquids and condensates) and refined oil products. As of January 2014, product exports have increased four-fold over the past eight years to 3.6 million barrel per day. Today's oil trade is increasingly driven by valuable diesel, gasoline, jet fuel, and petrochemical feedstocks than crude oil. In 2013, the U.S. exported at least \$150 billion in petroleum products, scoring the largest gain for any commodity in the U.S. economy.

As the U.S. ramps up its petroleum product exports and seeks to also export crude oil beyond Canada, the U.S. could flood the market. Balancing global liquid fuel trade with an increasing number of players will be an ongoing challenge. But this will be critical in order to minimize short-term market disruption and future price volatility. (See figure 2).

Figure 2: World Liquid Fuels Production and Consumption Balance



Source: EIA, Short-Term Energy Outlook, March 2014.

A go-slow policy, will allow other nations to adjust to North America's increased oil capacity. Those oil-rich nations that have built their economies around oil revenue are increasingly vulnerable to disruption. While reversing the export ban could increase global energy competition, it is also likely to change market dynamics and redirect refined product trade flows. It is unclear how the oil value chain will adjust in response to changes in upstream production and downstream refining factors. U.S. oil export policies must take these dynamics into consideration. Fostering market stability should be a primary consideration in deciding what conditions should apply to the U.S. in terms of future crude and petroleum product exports.

Question #2: Who would benefit most from reversing the U.S. oil export ban?

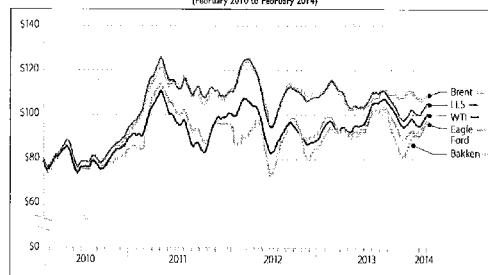
Answering this question is not straightforward. It is unclear where exactly American light tight oil (LTO) fits into today's oil value chain. Fracking in the U.S. is producing a different type

of oil than Canada and increasingly OPEC are producing. And not all LTOs are alike. Despite their generally high quality (light and sweet), U.S. LTO gravity ranges widely from 30 to over 70 degrees API—a huge spread. The lightest of these oils are more like natural gas than conventional oil. Many U.S. and overseas refineries, have been retrofitted to handle heavy, sour oils, and cannot be fed a steady diet of LTO. In order to process Eagle Ford and Bakken oils, significant volumes of heavy oil must be imported and blended into LTO feedstocks. Depending on their quality, some LTOs may be better suited to petrochemical manufacturing.

As such, determining who benefits from exporting LTO is not simple. Oil producers (IOCs and independents), refiners, manufacturers, and the public each have different objectives that relate back to price spreads and uncertainty (see figure 3), and may not align with U.S. policymaker's goals.

- Oil producers and LTO leaseholders strongly advocate lifting the export ban. These stakeholder are responding to the potential for domestic LTO saturation in the Gulf Coast, widening price differentials between WTI/LLS and Brent benchmarks, and an overly-simplistic view that easing the export ban would facilitate selling off more of the crude at a higher price from the Bakken, Eagle Ford, and other LTO oilfields.
- Industry analysts like Woodmac argue, however, that crude markets are complicated with different prices for various transportation mode and oil qualities. As such, relaxing the oil export ban may not necessarily eliminate the LTO discount to Brent. Instead it could invite cost-cutting arbitrage of U.S. and international crudes with unpredictable outcomes.
- Refiners are split on whether or not to lift the ban depending on numerous operational and geographic factors that determine their bottom line. To the extent the ban discounts U.S. crude to Brent, large U.S. refiners enjoy higher petroleum produce profits. Other U.S. refiners that can preferentially handle LTO also favor the export ban. Those refiners who cannot handle U.S. LTO feedstock because their infrastructure is designed for on low-quality oil imports from Canada, Mexico, and Venezuela are in favor of free trade and do not oppose ending export restrictions. European refiners who can better handle LTO and desire greater competition to moderate Brent pricing are in favor of loosening the U.S. oil export ban.
- Manufacturers may not yet have a unified position. Chemical companies took a strong position on LNG exports. But major manufacturers have yet to do so on oil exports. Petrochemical companies worry that lifting the ban could increase the price of domestic crude, which now trades for less than its international counterpart. Still others believe that more oil in the global market will drive down energy prices and create jobs in the United States.
- American consumers are concerned about what exporting U.S. oil will mean for gasoline prices. Simple assumptions—more oil at home means energy independence that will lower gasoline prices—lead to misperceptions. Prices are greatly influenced by global factors. Market volatility could be a real challenge in the future. And, in order for LTOs to be produced, global oil prices must remain high. The end of cheap oil and gasoline is over despite the U.S.'s new oil bounty.

Figure 3: Price History for Selected Crude Types
(February 2010 to February 2014)



Sources: Platts

Notes: ULS = Louisiana Light Sweet. CRS recognizes that WTI and Bakken price differentials, as reported in the figure above, are different than those tabulated in the body of this report from EIA. Price information for Bakken in this figure reflects Cushing marketing point prices.

Question #3: Could unconditional exporting of U.S. crude have unintended environmental consequences?

Answering this question is critical yet complex. How U.S. and global oils are managed through imperfect markets or policy directives creates significant uncertainties. As the U.S. debates lifting its crude export ban, carbon emissions are already flowing throughout the marketplace in a highly fluid fashion. The U.S. is exporting an increasing volume of petroleum products—from less climate intensive petrochemical feedstock to extremely high climate intensive petcoke with its emissions that rival coal. There are several ways the crude oil export ban can be skirted. New mini-refinery splitter configurations are being built to process crude just enough to escape the restrictions. A move is afoot to re-export unrefined Canadian oil sands brought through the United States. Abruptly hanging the U.S. policy to ban its crude oil policy will impact the oil value chain in complex ways.

This raises concerns for climate change. The world is still moving in the wrong direction. (See figure 4). As new oil resources surface, climate change is slipping down the policy agenda map even as evidence continues to mount, according to the International Energy Agency.

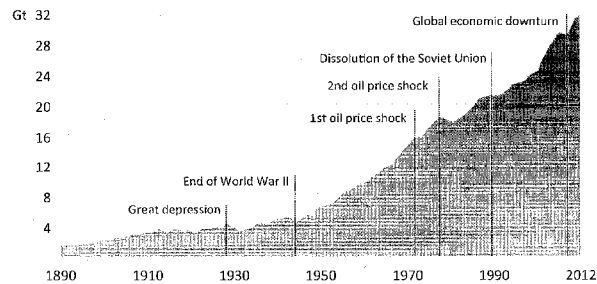
National efforts in this decade need to buy time for an international agreement, which the International Energy Agency expects to come into force in 2020. The energy sector must adapt to climate change, both in the resilience of its existing assets and in future durable investment decisions.

The situation the U.S. is confronting on how to manage the North American oil boom raises serious climate questions that must be answered.

- As an emerging oil production leader, what responsibility does the U.S. have in terms of exporting carbon around the world?
- How do emissions differ by oil?

- How can the U.S. most effectively cut carbon out of the oil value chain?
- Which oils should be taken out of the ground and which should remain buried as nature's carbon capture and storage device?

Figure 4: Global Energy-related CO₂ Emissions



Source: International Energy Agency, June 2013.

In sum, the right question is *not* whether or not to eliminate the U.S. crude oil ban. Exporting U.S. oil is part of a much larger and more important picture. The burning question is whether America can manage the economic, security, and climate impacts of its new bounty of oils.

As one of the world's fastest-growing oil producers, the United States has the opportunity and responsibility to be a global leader in the energy sector. A strong, balanced energy policy is needed to guide energy decisionmaking in ways that satisfy the energy needs of U.S. consumers, strengthen the American economy, protect the climate, and enhance national and global energy security. Guided by Congressional leadership, this policy framework can deliver on the promise of new energy abundance.

Mr. POE. I want to thank all our panelists. I will yield 5 minutes to myself for questions.

Mr. Medlock, Mr. Jennings on your far right there runs a refinery. He says it is going to cost him 10 to 15 cents more to refine gasoline if we lift the ban. What do you think about that?

Mr. MEDLOCK. Well, I think undoubtedly if we lift the ban domestic price of crude will go up and so that will actually affect the bottom line at any refinery, particularly those that are processing light sweet crude.

So the cost to refine crude will certainly rise but the price of the finished products themselves are still going to be determined in the international marketplace that is fully fungible because there are no barriers to trade there.

Mr. POE. All right. Let me be more specific. He said gasoline prices at his refinery would go up 10 to 15 cents if we lift the ban.

Mr. MEDLOCK. I disagree.

Mr. POE. And he would lay off I forget how many workers. He mentioned a lot of workers. So weigh in on that, and keep it simple, Mr. Medlock. Your testimony is complicated. Keep it simple.

Mr. MEDLOCK. Fair enough. Fair enough.

The issue, in all fairness though, is not quite so simple. But in point of fact, we export products today and we see healthier margins today at refineries because not only do we have cheap crude domestically because of the onset of production that we have seen in the last 4 to 5 years but we also have cheap natural gas which actually helps the bottom line of refineries, and we also have an excess of refining capacity relative to what we consume because demand today is lower than it was in 2006, 2007 and 2008.

All three of those things, coupled with the closure of refineries overseas, have really helped propel the U.S. refining industry into a sort of new paradigm, one in which we are actually exporting as much finished product today as we did just back in 2006 in terms of what we imported in 2006.

So when you look at that and you combine all those factors together, yes, exporting crude oil will raise the price of crude oil to refineries but those other benefits are still there.

So it is not clear to me that refineries will actually be forced to shut down. Their bottom lines will be affected. But whether or not they close and end up laying people off is a completely different issue.

Mr. POE. Mr. Milito, I have a couple of questions for you. The chairman mentioned the Keystone XL pipeline and the glut of crude oil coming in to the United States. How would that affect any of this, if it would?

Mr. MILITO. It is huge. We are looking to have a market in North America that works efficiently together and a lot of the refiners, particularly in the Gulf Coast, have reconfigured and made upgrades to take on heavier crudes. That would naturally come through the Keystone XL pipeline from our friendly trading partner to the north.

So infrastructure is a very important component of this whole debate and we need to make sure we are moving forward in a way to capitalize on these infrastructure opportunities because they alone create a lot of jobs.

Our country is projected over the next 12 or 13 years to put more than \$1 trillion into infrastructure projects because of this oil and gas renaissance. So we shouldn't turn our eye to that opportunity.

Mr. POE. The Keystone XL pipeline is supposed to come down to Port Arthur, Texas. I used to represent all those refineries. Mr. Weber now represents them all.

Mr. WEBER. Amen.

Mr. POE. But let me ask you another question about the Middle East, kind of a policy, and anybody can weigh in on this.

So we lift the ban, so to speak. How does that affect us energy wise and politically with the Middle East? Because that is—you know, when we talk about the Middle East everybody talks about making them irrelevant, you know, because of their situation. But they hold a lot of the crude oil we get. Politically and economically would this affect our relationship with the Middle East? Anybody can weigh on this.

Mr. MILITO. Well, I am sure Dr. Medlock has some input on that. But one thing I would point to is the need for us as a nation to look at energy security and link it to foreign policy. Those two need to be addressed holistically and from, you know, just a fundamental standpoint.

If we are taking down the walls that we have that are right now up along our coast to exports whether it is LNG, crude oil, we are sending a pretty strong signal to those around the world that we are going to play as an energy superpower like we should.

So we are sending a signal and we are also putting more supplies into the marketplace and creating a better scenario. The production we have had and this huge increase where we have gone from 5 to 8 million barrels a day has allowed the global market to be able to absorb and have a greater cushion when you are looking at things like Iran sanctions and things like that.

So it is a huge benefit to energy security when we are able to push more supplies into the global market. But, like I said, I think Dr. Medlock probably has a lot smarter answer than that.

Mr. POE. And also, Dr. Medlock, while you are answering that question I have always thought that the United States, Canada and Mexico, we ought to work together on energy issues, energy independence, energy security, economically. Are we doing that any better than we have in the past? Make it quick, if you can, please.

Mr. MEDLOCK. Yes. Great question. On the—on the issue of the Middle East, they will never be irrelevant. It is too large an energy exporter into the global marketplace and we are not the only consumer in the world. So when you talk about a globally interconnected marketplace they are going to matter no matter what we do.

With regard to U.S., Canada and Mexico, I would say we are not actually optimizing the relationships that we have with Canadians and the Mexicans, and we are presented with some actually new real opportunities and one of those north of the border would be with regard to the development of the oil sands production opportunities and moving that oil via pipeline instead of by rail or somewhere else where it is actually going to be at a cost disadvantage relative to moving it here. So it is going to be more polluting which, ironically, is exactly what is trying to be prevented.

So with regard to Mexico in terms of what is happening with energy reform there, there is tremendous opportunity to deepen the energy trade relationship with that country, particularly as it begins to open up their upstream sector to foreign investment.

Mr. POE. Thank you.

I will yield 5 minutes to the ranking member.

Mr. SHERMAN. A number of our witnesses talk about energy abundance, quote General Dempsey about how we are going to have world power by being a net energy exporter.

I think we are getting a little carried away. It is nice to be producing more but the chances that we export more petroleum than we import are roughly the same as Vladimir Putin winning a Nobel Peace Prize.

We are talking here about a country that is going to be importing more than it exports for a long, long time to come. I am going to pose one question for the record just because I don't know if you have come here prepared to answer it, and that is we could export a billion barrels and import a billion barrels and maybe that—and say hey, that is about the same. Except it offers an opportunity to play tax shenanigans with both the billion coming in and the billion going out.

So what are the opportunities for U.S. energy producers to classify their income as earned in the Cayman Islands or Switzerland on these exports and could this be a game where we are just kind of moving things around—it doesn't have much effect except we lose an awful lot of tax revenue. I am also going to be posing that question to people who are tax experts as well.

But if the major effect of this is to introduce tax shenanigans into moving a billion barrels from here to there and from there to here, I think we ought to be very wary of that. Now, it is my understanding that we can export refined petroleum products without legal restriction.

Is that correct? I am seeing nodding. Most natural resource producers in the world say we don't want to just have you come here and take our potash. We don't want to just have you come here and mine this or that.

We want the manufacturing or at least the processing jobs. Why can we not achieve what we want to achieve just by keeping the refinery creation and operation jobs here and exporting the refined product? Why do we need to be exporting the petroleum? Ms. Gordon.

Ms. GORDON. So about 10 years ago, 8 years ago, before light tight oil was really on anyone's radar screen and even EIA missed it—everyone missed it, and there are reasons why separately I can discuss—but the move was made to change the entire refining sector to deal with what oil we thought was going to be the last oil on earth, this heavier barrel.

And so now we have a situation where billions have been put into U.S. refineries up and down the Mississippi and into the Gulf that handle selective oils best—they are complex refineries and they handle the extra heavy oil. There are—

Mr. SHERMAN. So we would want to somehow acquire heavy oil for those refineries?

Ms. GORDON. Yes, and the prospects for Canada—

Mr. SHERMAN. And whether we burn that ourselves or whether we export the refined product we want to keep those special refineries refining what they were built for.

Ms. GORDON. And those refineries make diesel. They make more diesel, and diesel goes to your question—has a very high export value. We are exporting a tremendous amount of diesel.

The light tight oils that now we found out we have and we don't really yet have the refining capacity for make, preferentially, gasoline, which is the product we use, so you can imagine ships crossing in the night, you know, with all of this global trade where oil would go one way. It will get refined someplace else. The product will come back.

Mr. SHERMAN. How dangerous is it to transport refined petroleum products?

Ms. GORDON. I think it is just more a matter of what you were saying before—economic value. There is always a risk whenever you are putting things—

Mr. SHERMAN. But it is no more dangerous than—I mean, we know unrefined petroleum can stain beaches. I assume that the refined petroleum is not explosive.

Ms. GORDON. No. It would be the same contamination you would have if it opened up on—although the extra heavy oil might be very different. When it spilled into the Mississippi, you know, the extra heavy oil sinks so it is a little bit different.

Mr. MEDLOCK. We will work with you on that. The recent incident in Galveston in the Houston ship channel was related to a fuel oil spill. That was a refined product spill. So and in terms of the, you know, cost of transporting of products it is different because the flash points are different for refined products than they are for raw crudes. And so, you know, this goes back to the point about, you remember, the train incident that happened.

Mr. SHERMAN. But are we talking about \$1 a barrel difference or \$20 a barrel difference?

Mr. MEDLOCK. Oh, it is not huge.

Mr. SHERMAN. Okay.

Mr. MEDLOCK. The biggest cost is—

Mr. SHERMAN. The cost is small compared to the value of—

Mr. MEDLOCK. Yes. The biggest cost that Ms. Gordon was talking about was really related to stranded cost that refiners would be forced to deal with if they are forced to actually go and to reconfigure to handle the crudes that are being produced here.

Mr. SHERMAN. Okay. My time has expired.

Mr. POE. I thank the ranking member.

I will turn to Mr. Perry from Pennsylvania for 5 minutes.

Mr. PERRY. Thank you, Mr. Chairman, and thank you, ladies and gentlemen.

Just a myriad of questions here. I just want to maybe go back to this last question about refined as opposed to unrefined. It seems to me that the refined product would be more dangerous maybe to the environment if it would spill as opposed to crude oil that comes from the ground—comes from the earth.

But if I am wrong—am I wrong or—makes no difference whatsoever. We don't care whether we spill gasoline or oil or crude. It is all the same?

Ms. GORDON. Well, it is all hydrocarbon.

Mr. JENNINGS. The refined product will evaporate if spilled and crude oil will not. So there is a difference.

Mr. PERRY. But which one is worse?

Mr. JENNINGS. Well, worse to the water would be the crude oil, which would be residual in the water, where as to the air would be—

Mr. PERRY. Doesn't it come out of the ground on the California coast—the crude oil? Doesn't it bubble up out of the surface of the ocean? So—

Mr. MEDLOCK. But there is a difference between a naturally occurring seep and a spill. A naturally occurring seep is actually part of the local ecosystem that has evolved over thousands of years typically, whereas when you talk about a spill it is an introduction of a raw crude into an area that is not equipped to cope with it. So it is different.

Mr. PERRY. Okay.

Ms. GORDON. And I just wanted to add, because oils are now so different from each other—we still talk about it as oil coming out of the grounds—but the light tight oils, some of them, especially coming out of the Eagle Ford in Texas, are so light they are condensate and that is what Senator Murkowski was talking about maybe trying to change the definition of oil, and some of the oils coming out of the ground in Venezuela and Canada are so heavy they are on their way to coal.

So we are talking about the definition of oil, hydrocarbons, really changing where it is not necessarily one thing anymore. It is a collective of a lot of different hydrocarbon arrangements.

Mr. PERRY. Okay. Can anybody talk to the questions regarding some of the boutique fuels that the Federal Government requires refiners to make? Is there any difference or anything—any considerations in that regarding exporting, importing, light crude, heavy, sour, sweet and our refining capacity in the United States?

Mr. JENNINGS. The refining system in the United States is, obviously, capable of making the different boutique fuels that are required in different markets throughout the country. They relate principally to vapor pressure, how volatile the material is, octane and now sulphur content is a big focus.

The international standard often requires the tighter end of those specifications and so the export barrels typically will be those that would qualify for the most stringent U.S. markets as well.

Mr. PERRY. At what point in this discussion are producers going to leave the oil in the ground? Are we already doing that because refining capacity doesn't exist? Is that already occurring now and if it isn't at what point would that occur or will it never occur?

Mr. MEDLOCK. It will certainly occur if the discounts actually gets to be sufficient enough. I mean, currently—and there are a couple different things that are working against this. It is not just an export issue.

It is also an infrastructure issue because currently in the Bakken, for example, in North Dakota we move a lot of that crude by rail, which is an order of magnitude more expensive than moving it by pipeline. And this goes back to, you know, getting the ap-

propriate infrastructure in place and there is, obviously, a policy overlay here.

But if you were to actually have the pipeline infrastructure in place to move that crude effectively, the netback to the wellhead would be priced \$18 to \$20 higher. And so that buys a lot more activity in the field.

So it is, you know, I hate to focus this only on the export issue because it is broader than that. It actually is—it matriculates down in the infrastructure to move away from the wellhead. And moving crude by rail is a lot more expensive than moving it by pipe.

Ms. GORDON. I was just going to add because it came up, the, you know, consumers and the economy, of course, with oil and gasoline comes up all the time. These oils, if they are stranded in the ground, it will be because the price is too low.

It will—it will take a much higher price. So we are talking about more abundance at a high price. This is so different than the 1970s where we were talking very low prices and then supply was getting stuck.

This is a lot of capacity—physical capacity of hydrocarbons in the earth that can get out of the ground if the price gets really high. So we are not really—we will see volatility in the market but it is going to have to trend upward to get these oils into the market and move them around and refine them.

Mr. MILITO. And if I could add, you know, looking at the study we have it shows that with the lifting of the crude export restrictions we could see additional production of up to 500,000 barrels.

So just put two and two together. That is because there is now an opportunity because you have a new market to take that product to. At the same time, that impact on production is pretty significant.

You would see those jobs going to places like Pennsylvania, California, Texas, that are heavy in manufacturing and production. Not just production of oil but actually on the manufacturing side.

Mr. PERRY. So we have got a couple of refineries down in the Philadelphia area, Marcus Hook, that were—that were imperiled just a year or two ago. If refineries like the ones that you are familiar with and those in particular in Pennsylvania had to change around what would be the time frame to change around to refine the oil that we are talking about coming out of the United States?

Mr. JENNINGS. Those refineries are very well suited to the light U.S. crudes that are being produced in the Bakken and other places—the condensates from the Marcellus and Utica shales. They are at risk in the advent of crude exports and the reason being if it can go to the East Coast by rail or otherwise and load on to a ship at the Brent price they are going to lose access to that advantaged barrel of crude oil.

So they are sort of a poster child for reasons to retain that domestic U.S. manufacturing capacity and the security of being able to produce our own refined products versus export it.

Ms. GORDON. You know, and this is a very innovative industry, as we know, and that is a fantastic thing, actually. So these constraints lead to changes. BP is building the first splitter refinery in Houston that is going to be able to handle light tight oils and extra heavy oils.

Exxon is building a refinery—a petrochemical refinery in Indonesia that is going to be able to handle the gamut of these oils. So somehow we are going to have to figure out how to manage all of these oils and not just kind of split up or I would argue against changing the definition of oil because you are going to have to deal with the whole array of hydrocarbons in the future.

Mr. PERRY. Thanks, Mr. Chairman. I yield.

Mr. POE. All right. The chair recognizes the gentleman from Florida, Mr. Yoho, for 5 minutes.

Mr. YOHO. Thank you, Mr. Chairman. I thank the panel. Appreciate your testimony.

Mr. Jennings, you were saying oil price is dictated by OPEC. Is that correct? The OPEC market.

Mr. JENNINGS. It is significantly induced.

Mr. YOHO. Is it possible for the U.S. to produce enough oil with our allies to set the world oil prices, breaking OPEC's monopoly?

Mr. JENNINGS. I think that would take many years. The U.S. still imports 6 to 7 million barrels per day.

Mr. YOHO. All right. But if we increased our production along with our allies it is possible, right?

Mr. JENNINGS. It is possible, yes.

Mr. YOHO. Would breaking the OPEC's monopoly stabilize the sharp spikes we see, especially in the Middle East when you have a ruler or a dictator, they get an upset stomach or gas and they threaten to close one of the straits there? I mean, would that stabilize the price of oil?

Mr. JENNINGS. The Middle East is still producing and exporting 10 to 15 million barrels per day of oil. Even with what we and our North American allies could do, I don't believe in the near future in our lifetimes we are going to offset that effect.

Mr. YOHO. But it is possible. And if we don't prepare—if I look back to when Bill Clinton was in office and he had the opportunity to build that pipeline but he said that would take 10 years, wouldn't help us—that 10 years has come and gone by a factor of about two and a half to three—we would have had that extra stability in a supply that we do not have today. So if we prepare today it would be possible in the future, correct?

Mr. JENNINGS. Absolutely. The infrastructure and the production capacity is critical. I mean, if you take the other end of the spectrum, the Canadians are going to solve their own problem and they will go east to New Brunswick and off on a boat or west to British Columbia to China.

Mr. YOHO. And we don't want that.

Mr. JENNINGS. And we don't want that. None of us want that.

Mr. YOHO. We don't want that. We can't use oil or the petroleum products as a strategic diplomatic tool if we do not update our export oil policies and I for one will support the repeal of this policy to increase the ability for us to export so that we can use that as a bargaining chip.

Mr. Milito and Dr. Medlock, do you feel it is possible for us to achieve energy security in the U.S.?

Mr. MILITO. I think we are doing that right now with this tremendous advance in production that we are seeing. Going from 5

million barrels a day to 10 million barrels a day in just a few years is incredible.

Nobody would ever have imagined that. Same on the natural gas side. We are expected to import \$100 billion a year in natural gas and now we are looking to export. So——

Mr. YOHO. Well, I mean, that is just it. I mean, 10 years ago we were going to have to export all this but through technology and better techniques we are going to be a net exporter. Do you feel that we could be a net exporter on petroleum products too?

Mr. MILITO. We are on our way there as well if you look at——

Mr. YOHO. That is what I——

Mr. MILITO. The volume of a petroleum refined product that we are moving now that alone is having a huge dent on our trade deficit. So the refineries are performing at a high level, high capacity and are helping us on the energy security front.

Mr. YOHO. All right. And moving crude by pipeline is more economical. It is more efficient. That is what you were saying, correct?

Mr. MEDLOCK. Yes.

Mr. YOHO. Versus rail or truck?

Mr. MEDLOCK. It is much less expensive.

Mr. YOHO. And if we moved it that way it would be better for the environment so we are not driving trains and trucks around, correct?

Mr. MEDLOCK. That is correct.

Mr. YOHO. So do you see any reason not to build the pipeline?

Mr. MEDLOCK. No.

Mr. YOHO. Thank you.

Dr. Gordon, you said we should go slow at not upsetting the world producers, to give them time to adjust. Would an increase in the supply stabilize the price, in your opinion? Microphone, please.

Ms. GORDON. Sorry. What is happening in the U.S. is we are the biggest consumer and now we are becoming a very big producer. So we are in the position of being the only nation on earth that is almost equal parts producer and consumer, which puts us in a very unusual situation compared to everyone else around the globe, which is either more—much more producer or much more consumer—you know, China, Saudi Arabia. So us—we just have—the go-slow is to figure out what this means at home, you know, for us.

Mr. YOHO. I think what it means to me is I sleep better at night knowing that we can produce our needs and where we are not dependent as much on foreign oil. And so I think the more we can do that it would increase our security in the nation, stabilize our markets because what I see is I come from a strong agricultural background.

Every time the price of oil goes up, and I remember when we were buying diesel for \$5 a gallon in my truck, the price of everything went up immediately, and the sharp spikes are what disrupted the economy.

If we can stabilize that with a steady supply from our allies to the north and maybe Mexico and we can stabilize that here it will stabilize our economy and if we have a stabilized economy we have an economic engine that we need to protect.

Oil will be shipped where it is needed from countries that produce to those where the market is needed and if that is—I

mean, if that is the case, I say if we have the market and we have the supply I think we need to ship it because it will create tax revenues for this country and I think America can do it better than anybody else.

I yield back, Mr. Chairman. Thank you

Mr. POE. I thank the gentleman. The chair recognizes the gentleman from Arkansas, Mr. Cotton.

Without objection, the chair recognizes the gentleman from Texas, Mr. Weber, for 5 minutes.

Mr. WEBER. Thank you. Wow. Do any of you all know what the percentage of plants—there is about 130, 140 refineries across the country. Does that sound about right?

What percentage of those refineries were set to do light crude and what percentage are set to do just heavy crude and then what percentage are set to do both?

Mr. JENNINGS. First, I want to dispel the myth that it is just light or just heavy. Inside every heavy refinery is a light plant where you are going to not use the full kit. So these plants can refine light crude but not on an optimized basis. They don't fully use all the capital.

Probably half to five-eighths of our country's refining capacity has capability to cut deeper into the heavy and sour barrel and make gasoline and diesel out of it and the remaining 30, 40 percent doesn't have that capacity.

What I would say, though, is that this is a snapshot at a point in time. There is a lot of investment being made—condensate splitters, and other things that refining plants are doing. We had one in Cheyenne, Wyoming, that was almost 100 percent running heavy Canadian. Now we run 50 percent Canadian, 50 percent light Bakken.

So I hope I answered your question quantitatively but I want to leave you with the impression that things are changing because investments are being made toward the new light crude slate.

Mr. WEBER. Right. Right. Anybody else want to weigh in on that? Yes, ma'am.

Ms. GORDON. There is a new CRS report that just came out last week that actually has the map of the—map of the country broken down. It is very different by PADD. You know, some districts are much better suited to, you know, the different types of refineries. But I have that. I could show it to you after, if you want to see it.

Mr. WEBER. Okay. And is that—that was my next question. You are reading my notes up here, I guess. I hope that person is okay.

It shows the map of the United States by location. Of course, I am from the Texas Gulf coast, as Judge Poe was saying, and the Keystone pipeline does come into my district, and the discussion you are hearing is exactly correct.

We can move oil safer—99 percent safety rating via the pipeline industry and we can produce it in Texas and export it should the need arise.

It is going to impact some of the refineries, Mr. Jennings. I get that. And I am interested in that percentage and, of course, I am interested in, you know, what is in Texas and specifically what is in my district.

One of you said we have excess refining capacity and my question is how much.

Mr. JENNINGS. Currently, the United States is exporting about a million and a half barrels per day on a net basis of refined petroleum products.

Mr. WEBER. We are exporting a million and a half but how much refining capacity does that give us? I am not following.

Mr. JENNINGS. Refineries are running in the low 90s in terms of their capacity utilization. They might be able to eke out 2 percent additional so that would be another 300,000 or 400,000 barrels a day. What I would tell you is the refining system is fully utilized but we are excessing about a million and a half barrels a day to export markets for refined products.

Mr. WEBER. Does that also include the pipeline? I know that we changed—we move product back and forth. If we get the Keystone pipeline approved does that increase our capacity?

Mr. JENNINGS. That allows us to run different crude oil. It is a crude pipeline as opposed to a refined product pipeline.

Mr. WEBER. I gotcha. And when we are running those pipelines what we are seeing with the natural gas boom, if you will, we are getting a lot of liquids. You talked about dehydrogenation or what is the word? Hydration—thank you. And so we are seeing ethanes and methanes.

We are seeing propanes and butanes and a lot of that is being able to be taken out. So we also get a side market. It is not just—this is not just about the crude, per se, and if we think that—is this—I mean, am I correct in saying that had we been able to have all these pipelines in place in supplying propane, for example, to the northeast more so this past winter that they would have had a bit more of a comfortable heating season, economically speaking? Is that fair to say?

Mr. MEDLOCK. Well, I would be cautious about that because typically you don't build pipelines to peak because then you have got unutilized infrastructure 90 percent of the time. Propane historically has been distributed by truck, not by pipeline.

Mr. WEBER. Well, I know they have got to get it close so that they can distribute it. But that would have helped.

Mr. MEDLOCK. But the issue this winter was it was a record cold winter. I mean, that has to be recognized somewhere in the context of this.

Mr. WEBER. Right. Well, there are those who will tell you that the climate is changing and I agree with that. I think it changes four times a year. But nonetheless, and so you wouldn't argue with the fact that people over in Ukraine would rather be buying our natural gas and, conceivably, our oil than they would be getting energy from Russia, right?

Mr. MEDLOCK. At the moment, yes, but I think in general they would just be happy buying something that was low cost and available.

Mr. WEBER. As would Japan and some of the others. So all right. Well, I will yield back, Mr. Chairman. Thank you.

Mr. POE. The chair recognizes the ranking member.

Mr. SHERMAN. I don't know if we are planning to do another round but I just got a question or two.

I would point out on the idea of Ukraine they can't afford to pay Russia \$10 a unit. Japan pays us or is paying \$16 so if we were exporting natural gas the Japanese would be offering far more than the Ukrainians could afford to pay unless we want to tax the American people more so that we can provide \$6 a unit.

I have one or two questions for Ms. Gordon. The first is let us say we go ahead and we export everything without limits. Then there is another 1973 and we want to hoard what we have got.

Will we have the infrastructure to process the oil we produce and use it ourselves if we spend a decade exporting what we export—what the market says to export, importing what the market says to import?

Ms. GORDON. You know, that is a really good question because the more that we—the market—is constrained here with these different and new oils coming out of the ground, the more we are going to think about infrastructure solutions for those here.

If it is more profitable to just offshore them then Saudi Arabia is going to build the refining infrastructure capacity, which is what they are trying to do. The Middle East is getting into refining big time.

So, you know, in a way it is price too. Of course, it is economic to unload it as a producer but there is price here in terms of figuring out how to do it, and that is a question. We will lose that ground when we export.

Mr. SHERMAN. I am going to prevail on the chairman to let me ask you just one question. The dream of the—of environmentalists I know is that the tar sands of Canada are never exploited. There are those who say they will build the pipeline—the Keystone. The environmentalists think they can stop that.

There are those who say the Canadians will go east or west. There are Canadian environmentalists who are in touch with my California environmentalists who think they can stop that. How uneconomic is it to put that Canadian oil into tanker cars, take it on railroads to a U.S. domestic pipeline and then have it proceed?

In other words, if we—if the environmentalists stop the Keystone—stop any pipeline—any Canadian pipeline and they stop any international-U.S. pipeline, can domestic U.S. pipelines bring that oil to the market economically although at lower profits to those who own the tar sands?

Ms. GORDON. Well, it is pretty powerful. You know, the investments up there, at least for the mined bitumen, which has all been invested, it wants to get out and it will do so at a lower profit if it means, you know, mothballing everything that is ready to get out there.

So right now, it is moving by rail. There is—I think it is Valero, can't remember who—someone has put in a variance actually that would take rail bit, which is the diluted—slightly diluted bitumen that you put on rail and then it would just put it right onto a tanker so it would come through—the question would be, is this even U.S. oil? I mean, are we just exporting foreign oil out of Texas by putting Canadian oil on bunkers?

Mr. SHERMAN. So bottom line, that Canadian oil—those tar sands will be exploited. If it is inefficiently on tanker cars it is still

more economic than leaving that tar sand in the ground and—do I have that right?

Ms. GORDON. Yes, for the mined bitumen, which is about 20 percent of the resource, because all of that investment has been made. Big question mark for the in situ, the really deep bitumen that they have to heat out of the ground.

It might be that investments aren't made if it is difficult to move it to market. And then the big question about the oil sands is what do you do with the bottom of the barrel.

If we could think of a way to get rid of that pet coke—the bottom of the barrel—they really wouldn't be that different from any other oil. It is just that they have a very large bottom of the barrel.

Mr. SHERMAN. The environmentalists I know are opposed to any—

Mr. MEDLOCK. Well, I will just add a comment to that, that, you know, as the debate about Keystone has raged, oil sands production has increased.

Mr. JENNINGS. The difference in price to ship crude by rail versus pipeline from Canada to the Gulf of Mexico is only about \$6 a barrel—\$5 or \$6 a barrel. That isn't going to go into the producer's decision making of whether or not to develop incremental oil sands capacity.

Mr. SHERMAN. Thank you.

Mr. POE. The gentleman yields back his time.

I want to thank our four witnesses.

Mr. WEBER. Mr. Chairman, can I follow that up?

Mr. POE. No. You are not recognized.

The chair appreciates all four of you being here and working with you, and I want to thank the staff on both sides too for getting us excellent expert witnesses on this issue and look forward to talking to you as we progress on legislation, if any.

Committee is adjourned.

[Whereupon, at 3:29 p.m., the committee was adjourned.]

A P P E N D I X



MATERIAL SUBMITTED FOR THE RECORD

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

**Subcommittee on Terrorism, Nonproliferation, and Trade
Ted Poe (R-TX), Chairman**

TO: MEMBERS OF THE COMMITTEE ON FOREIGN AFFAIRS

You are respectfully requested to attend an OPEN hearing of the Subcommittee on Terrorism, Nonproliferation, and Trade, to be held in Room 2172 of the Rayburn House Office Building (and available live on the Committee website at www.foreignaffairs.house.gov):

DATE: Wednesday, April 2, 2014

TIME: 2:00 p.m.

SUBJECT: The Crude Truth: Evaluating U.S. Energy Trade Policy

WITNESSES: Panel I
The Honorable Lisa Murkowski
United States Senate

Panel II
Mr. Michael Jennings
Chief Executive Officer and President
HollyFrontier Corporation

Mr. Erik Milito
Director
Upstream and Industry Operations
American Petroleum Institute

Kenneth B. Medlock III, Ph.D.
Senior Director
Center for Energy Studies
James A. Baker III Institute for Public Policy

Ms. Deborah Gordon
Senior Associate
Energy and Climate Program
Carnegie Endowment for International Peace

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 Wednesday Date April 2, 2014 Room 2172

Starting Time 2:08 p.m. Ending Time 3:29 p.m.

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

Presiding Member(s)

Chairman Poe

Check all of the following that apply:

Open Session

Electronically Recorded (taped)

Executive (closed) Session

Stenographic Record

Televised

TITLE OF HEARING:

The Crude Truth: Evaluating U.S. Energy Trade Policy

SUBCOMMITTEE MEMBERS PRESENT:

Reps. Poe, Vargas, Kennedy, Perry, Sherman, Yoho, Lowenthal, Cook, Cotton

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

Reps. Weber, Royce

HEARING WITNESSES: Same as meeting notice attached? Yes No

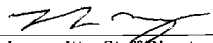
(If "no", please list below and include title, agency, department, or organization.)

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

Rep. Kennedy - QFR

TIME SCHEDULED TO RECONVENE _____

or
TIME ADJOURNED 3:29 p.m.


Subcommittee Staff Director