U.S. Senate Committee on Energy and Natural Resources

U.S. Crude Oil Export Policy

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Chairman Murkowski, Ranking Member Cantwell, and members of the Committee, I appreciate the opportunity to testify before you on the topic of crude oil exports from the United States. Arguments around exporting crude oil are often visceral rather than grounded on careful research. Just this week, IHS issued a new study based on hard data and shrewd analysis. I want to explain why eliminating the export ban on crude oil will create jobs, increase household incomes, stimulate economic growth, contribute to government revenues, offer consumers lower gasoline prices, and strengthen our national security and American influence in the world.

I appear before you in my capacity as Senior Vice President for IHS. IHS is a global consultancy that specializes in energy, capital-intensive industries, data and analysis with a worldwide presence. I previously served as the Coordinator for International Energy Affairs and Special Envoy on Energy at the State Department. I am associated with Columbia University as a Fellow at the Center on Global Energy Policy. My work through IHS and at Columbia University has involved me in two landmark studies on crude oil exports.

Over the past years, I have been engaged in some of the toughest challenges at the intersection of energy and geopolitics – from negotiating the implementation of the energy sanctions imposed on Iran, to addressing the energy risks to Ukraine and Europe from Russia's violation of Ukraine's national sovereignty. From my experience, I have seen that lifting the export ban would increase U.S. leverage in convincing international partners to adopt policies that mirror U.S. interests on Iran, Russia, free trade, and even the environment. This experience deeply informs my understanding of the impact – and the signal – that comes from this new opportunity of U.S. energy exports.

Moreover, maintaining the ban increasingly undercuts U.S. credibility in its three-decades endeavor to persuade other nations to permit free flows of energy trade and not constrain trade in strategic commodities with political restrictions and resource nationalism. The United States, for instance, has launched numerous complaints under the WTO against China exactly because of these kinds of restrictions on natural resources that China imposes.

The dramatic fall in oil prices since November makes this issue even more urgent. Over the 30 days, U.S. WTI light crude oil has sold at an average price of $49.82, compared to $59.48 for the global Brent price. That $9.66 difference will be crucial in determining the viability or non-viability of new investment in U.S. oil and gas production. The effects will be felt on jobs, the budgets of many states, and in the supply chains that traverse non oil-producing states as well.

It is rare that policy options arise in the energy world that offer such overwhelming, unmitigated benefits as allowing American producers to export crude oil to international markets. The IHS report

released this week, *Unleashing the Supply Chain,* [1] documents the benefits across the economy from 2016-2030:

- $86 billion in additional GDP,
- about 400,000 new jobs annually,
- 25% higher pay for workers in the energy industry supply chain – an additional $158 per household, and
- $1.3 trillion in federal, state and municipal revenue from corporate and personal taxes.

The benefits accrue across most of the United States, not just oil producing states. States like Illinois, Washington State, Massachusetts, and Michigan – with little or no oil production -- also benefit substantially in terms of economic activity and jobs, owing to the interconnected nature of U.S. supply chains. The report affirms earlier research that eliminating the export ban would reduce gasoline prices by 8 cents per gallon.

Roots of the Problem

The ban on crude oil exports is an anachronism that grew out of a period of scarcity in the 1970s when the United States imposed price controls on oil and banned the export of oil in order to support the price controls. In the wake of the 1973 Arab oil embargo, the Emergency Petroleum Allocation Act of 1973 allowed President Nixon to set price controls and allocate oil to end users in the United States. The Energy Policy and Conservation Act of 1975 prohibited the export of crude oil and natural gas produced in the United States, with some exceptions. The U.S. system of price controls on oil was abolished in 1981, as was, a few months later, the ban on the export of oil products. However, illogically, the ban on crude oil exports was retained even though the rationale provided by price controls had disappeared. The United States now has the fastest growing oil economy in the world. Since 2008, American entrepreneurship has increased U.S. crude oil output by 81% -- 4.1 million B/D principally of light tight oil, such as Eagle Ford in south Texas, Bakken in North Dakota and West Texas Intermediate (WTI). This increase is the fastest in U.S. history and exceeds the combined production gains from the rest of the world. The commercial and technical reasons for this increase in production are well documented, including the May 2014 IHS report, called *U.S. Crude Oil Export Decision*. The conditions that justified the crude oil export ban in 1973 no longer apply.

More importantly, continuation of this ban hurts American consumers, causes an unnecessary drag on American productivity, and does not let the United States exploit fully the national security benefits from our energy resurgence. The reasons are intertwined with the nature of the American refinery system and the price discounts that American producers must take in order to sell their products competitively to refineries, particularly along the Gulf Coast, which holds over half of the nation's total refining capacity. Over $85 billion has been spent in the past quarter century to reconfigure these refineries to process heavy oil imported from countries like Venezuela, Mexico and Canada. The United States contains the largest refining capacity of any country in the world, with 139 operating refineries with a combined crude oil distillation capacity of about 18 million B/D. The US refining system is characterized not only by the number and size of refineries but also by a high number of world-class, high-complexity, full conversion refineries with a substantial degree of petrochemical and specialty products integration.

[1] The study *Unleashing the Supply Chain* is available at www.ihs.com/crudeoilsupplychain.

In this complex refining system, if the crude quality varies enough, the yields from the crude oil no longer match the processing capabilities of the refinery, and not all products can be produced to a finished state for sale or in some cases the throughput capacity of the refinery is reduced. In the Gulf region, most refineries are configured to process heavy crude oil. When using light tight oil, Gulf refineries operate inefficiently. Unfinished products are produced, which have a lower value because they require further processing to be upgraded into gasoline, jet and diesel fuels. In some cases the crude quality mismatch is large enough that a refinery will have to reduce the crude oil throughput to process additional volumes of light tight oil. As a result, there are limits to how much of the new, domestically produced light tight oil the refining system can efficiently and effectively process. To use light tight oil, many Gulf Coast refiners require a price discount, which is evidenced today in the difference between the international crude oil benchmark (Brent) and the US benchmark (WTI) that has ranged from $7-12 per barrel for the past month.

Allowing crude oil exports would allow light tight oil (i.e., WTI) to sell at higher world prices. In *U.S. Crude Oil Export Decision,* IHS estimates that eliminating the WTI discount would incentivize nearly $750 billion more in investment from 2016 to 2030—and increase oil production by 1.2 million B/D. Eliminating the crude oil ban proves even more important when oil prices are low. For example, if Brent crude (the international standard) trades in the range of $55/barrel and WTI trades in the United States at around $45/barrel, many companies will be on the margins of their new well investment breakeven point. In such a case, a small price change can have a major impact on supply because it can make or break the profitability of a significant share of tight oil producers. Crude oil production thus drops even more sharply when prices are low and producers must take further price cuts to sell to domestic refiners if they cannot export. A $3 per barrel change in a $50 per barrel price environment can have the same effect as a $10 change in a $100 per barrel environment, the study finds.

Investment Drives Economic Benefits

The critical change driven by lifting the crude oil export ban is that it offers a greater incentive for producers to invest in oil production. That investment drives higher production, and it reverberates throughout the economy, starting with the supply chain for the energy industry.

From 2008–13, while U.S. GDP growth averaged 1.2% per year, economic output in the oil and gas industry grew four times faster, at 4.7%. Over the same period, total U.S. employment declined by 0.1%, while oil and gas industry employment grew 4.3% per year. More broadly, the revolution in the production of “unconventional” oil and gas has been one of the major contributors to the U.S. economic recovery, estimated by IHS to have added nearly 1% to U.S. GDP annually, on average, over the past six years – accounting for nearly 40% of overall GDP growth in that time.

Crude oil production depends on an extensive supply chain. The supply chain is the extended network of companies providing the labor, commodities, technology, and information required to extract oil and deliver it to the midstream (transportation and logistics) and downstream (processing and marketing) sectors. For example, the diesel engines driving drilling rigs and hydraulic fracturing equipment are largely manufactured in the industrial heartland of Illinois, Indiana, Wisconsin, and Michigan. Many states — New York, Florida, Illinois, and Massachusetts, for example—with modest or negligible oil production sectors have strong manufacturing or service sectors supplying the oil industry in producing states.

The companies in this diverse and far-reaching supply chain contribute to employment and to every U.S. state's economy—not just oil-producing states. The U.S. oil revival has increased demand for industrial equipment and machinery, construction and well services, information technology, materials, logistics, and professional, and financial and other services and has spurred research and development investment across numerous industries. Investment in crude production has a far-reaching impact on jobs, with about 10% of the total employment impact flowing directly to producers and another 30% into the supply chain. The remaining 60% derive from the broader impact of workers' increased income and spending due to higher levels of crude oil activity. In other words, for every job created in the oil and gas extraction sector, three jobs are created in the supply chain and another six jobs in the broader economy. In a similar fashion, contributions to Gross Domestic Product (GDP) also multiply: every dollar of GDP created in the oil and gas sector generates two dollars in the supply chain.

Unleashing the Supply Chain considered both a Base Case and a Potential Case scenario in assessing the impacts of increased investment. The Base Case takes a conservative perspective and assumes production from already well-defined fields, as well as limited new technology developments. The Potential Case allows for new field developments and moderate drilling and technology improvements. The study examined the impacts directly on the supply chain and on the wider U.S. economy:

Employment: Higher upstream capital spending and production increase U.S. employment. Supply chain jobs represent, on average, 30% of the increase in total U.S. crude oil export-related employment in 2016-30, or about 124,000 jobs on average in the Base Case, and 240,000 jobs in the Potential Case, if the export ban is lifted. Across the entire U.S. economy and not just the supply chain, increased investment would create 400,000 jobs in the Base Case during this period. Employment contributions are spread across the entire supply chain, but are most prominent in sectors that support oil and natural gas operations and in the construction sector. For example, construction activity and related support services at well sites require engineering, construction machinery, sand, concrete, engineered equipment and fabricated metal to build the necessary infrastructure.

Income: Wages earned in these supply chain jobs are considerably higher than the average U.S. wage. IHS estimates that labor income for the oil export supply chain will increase under a free trade policy by over $21 billion per year during the 2016-30 period in the Base Case and by over $39 billion per year in the Potential Case. In the Base Case, lifting the export ban would increase incomes by $57 billion annually across the entire U.S. economy. This export-led labor income contribution is particularly notable when US wage growth remains sluggish, at about 2% annually, and even lower in the construction sector as wages remain flat due to a slow rebound in US housing starts. On an annual basis, lifting the crude export ban translates to a wage increase of $158 per year for each household in the Base Case and $285 in the Potential Case, on average, in the 2016-30 period.

GDP: A large supply network serving upstream operators creates a multiplier effect by drawing value from the manufacturing and raw materials sectors that produce the finished goods supporting upstream activities. In the Base Case, the U.S. crude oil will contribute, on average, an additional $26 billion per year to GDP from the supply chain, and $86 billion per year to the economy as a whole over the 2016-30period under a free trade policy. The Potential Case contribution to annual GDP of export-related supply chain is $47 billion. To put these contributions to GDP into perspective with other US industries, the base case contribution of $26 billion is equivalent to the total 2013 value-added contribution of dairy products manufacturers in the United States.

Revenues: The cumulative economy-wide impact on government revenue from federal, state and local tax receipts would be $1.3 trillion from 2016-2030 in the Base Case and almost $2.8 trillion in the Potential Case. Total government revenues generated by crude oil export-related supply chain activity will roughly double, from $7 billion in 2016 to over $13.6 billion in 2020 in the Base Case and from $10 billion in 2016 to over $25 billion in 2020 in the Potential Case. To place these revenue totals in context, the president's budget in fiscal year 2014 provided $71.2 billion in discretionary funding for the Department of Education—and the additional government revenue from lifting the export ban could fund nearly 10% of this budget. Over the entire 2016-30 forecast period, lifting the trade restrictions will generate government revenue through the supply chain in excess of $428 billion in the Base Case—enough to fund the president's fiscal year 2015 budget for the Department of the Interior.

Benefits Across the Country

Eliminating the ban on the export of crude oil will have far-reaching consequences for the U.S. economy and within virtually every state. The effects of this policy change will go beyond crude oil exploration and development and will include manufacturing and service-related sectors present in every region. Some industries that stand to benefit—transportation, steel, professional and financial services—are dispersed across many states. Large and diverse state economies such as California, Texas, Illinois and New York benefit by virtue of their ability to fulfill supply-chain requirements. Other states, such as Ohio, Michigan and Pennsylvania, have large capital equipment manufacturing sectors, which are supported by their local materials and components suppliers.

Sourcing supplies for crude oil development reaches states that do not have an oil play within their borders. Capital spending may be incurred at an oil production site, but the machinery and equipment, engineering services, materials, and other expenditures may occur in other locations far from production. For example, oil development in North Dakota relies on companies that provide banking, financial, and insurance services in Chicago and New York City as well as professional services firms that might be located in Dallas, San Francisco and Boston.

The oil-producing states of California and Texas are expected to reap the largest benefits from a free trade crude oil export policy, together accounting for about 25% of total supply chain employment and labor income contributions and 23% of the government revenue contributions over the 2016- 30 period in both the Base and Potential Cases.

Washington, Massachusetts and other states that do not produce crude oil still rank high in employment, labor income, and value-added economic contributions under free trade. In terms of labor income, Washington and Massachusetts contribute nearly 7% of the free trade's impact on the U.S. supply chain in both the Base and Potential Cases. The supply chain accounts for nearly 50% of the overall economic impact of a free trade policy in several oil-producing and non-producing states. In Washington State, for example, the technology and manufacturing sectors are expected to grow rapidly in both the Base and Potential Cases, and its supply chain contribution to GDP is expected to comprise 47% of the state's total impact from higher crude oil exports over the 2016-30 period. Even a state like Illinois, a small oil-producing state with a diverse set of supplier industries, will derive 58% and 54% of the total value added impacts from the supply chain in the Base and Potential Cases, respectively.

New York State has a diversified economy with a strong financial sector and many mature manufacturing industries that are expected to benefit from removing the crude oil export ban. In the long-term (2016-30), supply chain activity under free trade is expected to contribute an additional $2.1

billion on average per year to value added in the Base Case, while the average in the Potential Case exceeds $4 billion per year. New York's state and local governments are also expected to benefit: between 2016 and 2030, the cumulative impact on government revenue in the Base Case will exceed $37 billion and will reach almost $81 billion in the Potential Case.

Benefits at the Pump

It may be assumed that liberalizing crude oil export trade will raise U.S. gasoline prices. But this would be a mistaken assumption, as crude and gasoline pricing data do not support such a conclusion. Rather, the data make clear that international market prices—and not domestic crude prices—have more influence on U.S. gasoline prices. Gasoline and other refined products are not subject to the same trade restrictions as crude, and both imports (to the East Coast) and exports (from the Gulf Coast) routinely are freely traded. This free trade and movement of refined products create price linkages among markets both inside the United States and between the United States and foreign markets (such as Europe). These product price linkages have remained firmly in place despite significant changes in the price of the crude refined within the domestic market.

Gasoline's tie to international crude through the free trade of refined products is based on changes in the global Brent price. Restrictions on the export of U.S. crude, as explained earlier, allow refiners to extract a discount on WTI, yet gasoline is priced based on higher international Brent crude prices. Allowing the export of U.S. light tight oil would increase the supply of light crudes that establish the international Brent price benchmark. As new crude supply is added to the global market, the international price of crude will fall, putting downward pressure on US gasoline prices. In *U.S. Crude Oil Export Decision,* IHS assesses that the shift of the U.S. crude market to free trade will reduce gasoline prices paid by US consumers by an estimated 8 cents per gallon (Base Case) and 12 cents per gallon (Potential Case) from 2016-2030. At the same time, free export of U.S. crude oil would actually increase domestic crude prices, which will rise to meet higher international price levels, generating additional U.S. output and adding to international crude supply.

Strengthening our National Security and America's Position in the World

America's energy revolution has already made the United States more secure by making energy supplies more accessible and reliable for American industry and consumers. The United States has reduced oil imports from 60% of total supply in 2005 to 27% in 2014. The majority of U.S. imports are sourced in North America. Today, the United States can worry less about oil supply interruptions affecting the ability of the U.S. economy to function. The United States is still tied to global markets through price. Instability and disruption of oil markets, key producing states, and transit routes still affect oil and U.S. gasoline prices and economic growth. Nonetheless, American energy entrepreneurship has reduced U.S. economic vulnerability to external physical disruptions in oil markets. Eliminating the crude oil export ban helps the United States expand and consolidate these national security benefits.

The first critical issue is restoring incentives to investment at a time of low prices. Investment drove the American energy revolution. Low oil prices have already forced cuts in North American capital expenditures in the oil and gas sector on the scale of around 35%. The United States has an interest in retaining the investment and innovation in energy production that underpins its newfound energy security. To do that, American oil producers need access to the widest potential markets for their products, offering the highest price incentives for production. If the United States wants to protect and

consolidate its gains in energy security, acting now to remove the export ban on oil is perhaps the most concrete action that policymakers and legislators could take.

Second, the United States has an opportunity to partner with Canada and Mexico to make North America a new foundation for global energy security. On November 27, 2014, OPEC demonstrated that, today, it cannot act as a block to adjust production and affect energy prices. Instead, Saudi Arabia, Kuwait and UAE decided to protect their global market share in oil, and to rely on market forces to rebalance supply and demand and drive out high cost producers.[2] North America can contribute to filling the space left by OPEC to help shape global oil market conditions that drive stable and sustained economic growth. The U.S. Energy Information Administration has projected that the United States, in a high case scenario, could increase crude production from current levels of 9.3 million B/D to 13.3 million B/D in 2020. The National Energy Board of Canada's high forecast estimates that Canada could increase its production from 3.6 million B/D in 2015 to 4.3 million B/D in 2020. Mexico is in the midst of a major energy reform that will attract investment to the hydrocarbon's sector and help it recapture its productive potential. North America will not act like an oil cartel. Rather, it represents three democratic and market-oriented states establishing a reliable base of production that will set standards in international conduct and transparency in energy development and trade that can influence the global industry. To achieve this new foundation, the United States must be an exporter.

Third, the United States and all energy consumers and producers benefit most when energy markets operate on the basis of competition and are not tied to special relationships or regional monopolies that give individual actors undue political leverage over their customers. Already we have seen the benefits of competition in natural gas trade, even before the United States has had the capacity to export natural gas. As the U.S. has increased gas production by 35% since 2009, we have also reduced imports, allowing about 75 bcm of gas once intended for import to the United States to be redirected globally. Europe has taken advantage of this market opportunity to diversify gas sources, while at the same time investing in gas import infrastructure and restructuring market rules to make them more competitive. Those changes created competition with Russia's Gazprom that has lowered natural gas prices for European consumers and created a vibrant internal gas market in Europe that has even supplied gas to Ukraine through "reverse flows." The lesson is clear – a competitive environment provides checks on potentially dominant regional players. Already there is much greater competition in oil markets than natural gas because of cheaper and more widespread transit infrastructure. The United States has a direct interest in contributing supplies to this competitive international oil market, as it signals to producers and consumers that the largest world's largest producer of petroleum liquid fuels is fully committed to a globally competitive oil market that neutralizes regional political power drawn through regional market dominance.

Fourth, the United States benefits most from a global oil market where all major producers allow global markets to drive resource availability. From our own history, the Arab Oil Embargo of 1973 perhaps most dramatically illustrates the economic pain created when major producers take commodities off the market.

The United States should not continue to perpetuate an example through our own resource nationalism that can encourage similar action from others – on oil, gas, or any other mineral or commodity. A January 2015 Columbia University Study on *Navigating the U.S. Oil Export Debate* documents U.S. cases that have been won against China under the General Agreement on Tariffs and Trade and the World Trade Organization regarding Chinese export restrictions, first on bauxite, coke, fluorspar, magnesium,

[2] IHS, *Oil Change: A World Without OPEC as We Knew It* (February 2015)

manganese, silicon, carbide, silicon metal, yellow phosphorus, and zinc – and then in a later case on rare earth resources. The United States argued that these were critical inputs into steel and other manufacturing processes. Under provisions that apply as well to crude oil export restrictions, the WTO ruled that exceptions to the WTO rules for conservation of exhaustible natural resources or to relieve critical domestic shortages did not apply. It is in both the trade and international security interests of that United States to maintain the strongest foundations to defend against resource nationalism that can drive countries to impose selective embargoes on commodities critical to international commerce. It would be against our interest to see Russia use such precedents today to curtail gas supplies to Europe. In a world where resources and manufacturing inputs are sourced globally, maintaining the crude export ban precedent undermines the very competitive and global nature of American economic interests.

Fifth, there are times when energy must be used as an instrument in foreign policy, but that is usually to no effect unless a core group of countries is willing to act together. In 2012, the United States and Europe imposed sanctions on Iran's oil exports. To make those sanctions effective, the United States engaged China, India, Turkey, Japan, Korea and other major importers to curtail imports and diversify sources. Increased supplies out of Saudi Arabia and Iraq, and the emergence of the U.S. tight oil revolution (which reduced U.S. imports) radically facilitated the market conditions to make it possible to encourage countries to diversify. As the person coordinating the teams on these negotiations, I can assure the Committee that the U.S. negotiating position would have been far stronger if we were not protecting U.S. oil export restrictions in the name of our consumer interests, when we were asking others to risk higher oil prices for the sake of international security.

Finally, we should recognize clearly that issues of resource nationalism and consumer populism will be front and center in the largest debate on geopolitics and energy that the world may face in the next decade: the debate over climate change. In December in Paris, the Conference of the Parties will convene once again with all 196 parties to the UN Framework Convention on Climate Change. That meeting will proceed on a new track – where member countries must propose national plans (formally called "Intended Nationally Determined Contributions") to reduce CO2 emissions. There will be an intense global debate on whether nations are acting boldly enough to avoid an emissions path that would trigger the worst impacts of climate change. The issues at the center of this debate will be around energy sources, costs, and how energy is produced and used to create jobs and drive economic growth. With China emerging as the world's largest energy consumer and largest emitter of CO2, and with almost all the future growth of energy demand in non-OECD countries, the climate challenge cannot be solved without the full participation of these countries. Each country will have incentives to claim special interests, ranging from consumer concerns over phasing out fuel subsidies to the price competitiveness of investments in coal generation versus lower carbon fuels. For the United States to participate credibly in this forum, argue against special national interests, and leverage credible participation from non-OECD countries, the United States should move beyond its own laws that confer special domestic privileges. There is no better time to end the crude oil export ban, since in today's market it also benefits American consumers, workers, and economic growth.

Concluding Reflections

On any energy policy it is critical to consider the downsides, and there are risks to consider in ending the crude oil import ban. The risk most feared is increasing the domestic price of gasoline. The two IHS studies cited in this testimony, the Columbia University study, and a number of others all argue on firm economic grounds that this risk is misplaced. The price of gasoline should decrease.

Some will argue that the United States is better off refining its light tight oil to capture the value added benefits. *Unleashing the Supply Chain* makes clear that the U.S. economy benefits far more from the $750 billion that would be invested due to stronger producer incentives than inefficiently processing light tight oil, and from the reverberations that these investments would have through the supply chain and economy-wide. Moreover, the U.S. refining system is already demonstrating the limits of its ability to handle the light crude. The United States is better off selling light tight oil at a global market price rather than at a domestic discount for the reasons outlined earlier, and instead importing heavier crude oil as needed to meet the configuration requirements of Gulf coast refiners to produce a full product slate. In other words, with free trade the U.S. benefits from a higher purchase price for light tight oil, stronger domestic production incentives, and the stream of economic and national security benefits outlined in this testimony – and Gulf coast refiners can import and refine heavier crude with stronger commercial results. What refiners would lose is the large price discount between WTI and Brent crudes. They would still get a cost advantage over refiners outside the United States who would pay another $2-$5 per barrel to transit LTO imported from the United States. U.S. refiners will continue to have a global competitive advantage coming from inexpensive natural gas, the largest operating cost input in the refining process.

Timing is indeed sensitive when one considers both national security and economic benefits from the resurgence of American oil and gas production. Low oil prices today are affecting capital expenditures around the world, which will affect U.S, and global production in the next 18 months. For the U.S. to create the incentives to recapture or sustain the dynamism, innovation and security inherent in its energy revolution, it should give its American energy producers the widest market to sell their products. Market scale, price and prospects will fundamentally drive investment and production – the factors that underpin the American energy revolution. Price is especially sensitive in the current low cost environment, as it will determine whether significant parts of the North American industry will remain competitive. Moreover, in today's global environment where energy has vast geopolitical ramifications, the United States is strongest positioned when it can advocate for global competition and free trade in commodities – and say without any reservation when we call on friends and allies to make sacrifices on issues such as sanctions or subsidies, that we ourselves have not protected our own legacy interests.

Ending the crude oil export ban will not be simple politically. Most likely the price of gasoline will rise before the 2016 general election – whether because of increased global demand, new country risks, and unpredictable supply disruptions. Any price increase, however, will not be the result of lifting the export ban. On the contrary, increasing U.S. output will help to offset disruptions elsewhere.

I appreciate, Mr. Chairman, your leadership and that of this Committee to take on this issue, knowing that is politically charged. The benefits that come with ending the crude oil export ban justify your efforts. Thank you for this opportunity to testify before your committee. I welcome the chance to respond to your questions.