



Before the Subcommittee on Energy and Power

Committee on Energy and Commerce

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Hearing on “21st Century Energy Markets: How the Changing Dynamics of World Energy Markets Impact our Economy and Energy Security”

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Chairman Whitfield, Ranking Member Rush, and distinguished Members of the Subcommittee:

Thank you for the opportunity to appear before the Subcommittee today. The subject of this hearing is particularly timely and of utmost importance to assessing the impact of current developments in the oil and gas industry on the health of the U.S. economy and U.S. energy security.

I offer you my perspective today as a petroleum engineer with more than 40 years of experience, including over 30 years as Chief Executive Officer of Pioneer Natural Resources Company and its predecessor company.

Pioneer is a leading independent exploration and production (E&P) company headquartered in Dallas, Texas. Our company is the third most active operator in the United States, based on

footage drilled. We employ approximately 4,000 very hardworking and talented people. I am pleased to say that number is up from about 1,400 in 2005, when Pioneer reinvented itself from a global exploration company to a shale producer with its sole focus on onshore U.S. opportunities. I am especially proud that Pioneer has been responsible for investing over \$20 billion directly in the United States since the beginning of 2005. A large portion of this investment was funded by the sale of *all of our international assets* over the same period. We have more than doubled our U.S. workforce in the past five years, while being recognized repeatedly as a top place to work. We also have created thousands more high-paying jobs through our contractors, suppliers, construction workers, truck drivers and others who are actively involved in the supply chain.

Key Points

I will provide more detailed observations below. First, here are the key points that I wish to leave you with today:

- **The shale oil and gas revolution has revitalized domestic energy production, substantially boosted the Nation's employment and overall economy, and strengthened U.S. energy security. Growing U.S. production has increased global competition and reduced energy prices and, therefore, gasoline prices as well. These advances are now at risk because of the out-of-date ban on exporting crude oil produced in our country.**
- **Surging U.S. production and weak global demand have driven the E&P industry into a downturn. Price cycles come with the territory and we will navigate this downturn as we have in the past. Producers of domestic oil are especially**

disadvantaged compared to foreign producers, however, because they cannot receive global prices.

- **Historically, U.S. oil prices have been in line with international prices. In recent years, however, U.S. oil has sold at substantially lower prices than international levels, in part because of the export ban.**
 - **Prices for U.S. crude oil continue to weaken, compared to international prices. A massive buildup of oil is occurring in the United States, surpassing the volumes that domestic refiners are interested in buying. Storage of domestic crude oil is at an 80-year seasonal high — over 434 million barrels — and storage capacity is running out. This is symptomatic of the combination of the export ban and the limited appetite for light tight oil among the only customers we can access. Absent the ban, U.S. producers could be selling their crude oil abroad and driving global crude prices lower by increasing global supply.**
- **Shale oil production requires significant reinvestment of capital to sustain growth. Therefore, in order to effectively compete and reinvest capital in domestic resources, U.S. shale oil producers must not be disadvantaged vis-à-vis their competitors that sell into the broader world market. This means that U.S. producers of crude oil must have access to the export markets, just like U.S. refiners that produce gasoline or farmers who produce grains.**
 - **If current trends continue and the export ban is not lifted, U.S. shale oil production will flatten or decline by disproportionate volumes versus our**

overseas competitors, diminishing the profound benefits of the shale revolution.

- The strategy of OPEC countries is clear: to downsize U.S. production, reduce global supply and increase OPEC's market share, which will ultimately lead to higher international prices. Regrettably, the ban on U.S. exports unwittingly enables the OPEC strategy. If U.S. producers are forced to downsize further due to a protracted downturn exacerbated by the export ban, it could take the industry many years to restore growth. Loss of critical mass in the U.S. oil and gas sector equates to a loss of energy security for the United States.
- Every recent economic study, including a study by the U.S. Energy Information Administration (EIA), has demonstrated that U.S. gasoline prices are primarily linked to international crude oil prices, not domestic crude oil prices. Allowing U.S. crude oil to be sold overseas would increase global supply, which is why the clear and growing consensus of knowledgeable analysts is that lifting the export ban would *cause gasoline prices to decline*. The export ban, therefore, denies U.S. consumers the full economic benefit of the U.S. energy revolution. Removing crude oil export constraints would also help keep a lid on rising global prices when demand recovers, by letting U.S. producers meet the rising demand.
- The crude oil export ban was adopted 40 years ago to address circumstances that long ago disappeared — most notably, U.S. domestic price controls, which were removed in 1981. Today, the ban acts only to bar U.S. companies from competing on equal footing in the very global market that sets the prices driving their business.

- **This out-of-date policy hurts U.S. consumers, harms job creation and perversely undercuts U.S. energy security and critical foreign policy goals.**
- **The export ban will discourage investment in U.S. oil production, especially in this highly competitive environment. A market-based policy would encourage continued development of resources in the United States, rather than abroad.**

In virtually every other aspect of American commerce, the U.S. government rightly acts aggressively to remove foreign barriers to international market access by U.S. exporters. Here, the market is the global market, and the barrier is the self-imposed ban that prohibits U.S. oil producers from competing in it. In contrast, all other energy commodities are exportable — gasoline, petrochemicals and other products refined from oil, coal, LNG and natural gas. The government should treat crude oil similarly, allowing its sale to trading partner customers abroad. An unwillingness to level the playing field for U.S. producers will contribute to a deeper and longer industry retrenchment, eventually leading to declining U.S. production, a loss of jobs and tax revenues, and a return to increased reliance on foreign sources of crude oil.

The Shale Revolution

As recently as 2005, the United States depended on imports of foreign energy sources for more than half of our oil and natural gas needs, and experts generally predicted that our dependence would only rise in the future. A decade later, the U.S. energy landscape has been transformed by the shale oil and natural gas revolution within our borders. This U.S. energy renaissance is appropriately called the “Age of Energy Abundance”.

Several developments have made this possible: (1) the realization that the source rock for the oil and natural gas in conventional reservoirs could itself be developed; (2) the game-changing advancements in science, technology, and engineering — in particular, horizontal drilling and hydraulic fracturing using state of the art three and four dimensional seismic mapping and drilling rigs that can bore more than 10,000 feet with pinpoint accuracy; (3) access to hydrocarbon resources under private ownership, with a stable and predictable legal environment; (4) a robust energy service sector and significant investment in midstream oil and gas transportation and infrastructure; and (5) strong commodity prices. Independent, entrepreneurial companies — many of which are small businesses — have lead the way, drilling the vast majority of shale wells.

The result? Global and domestic energy markets have been transformed, hundreds of thousands of high-paying jobs have been created in the United States, and billions of dollars have been reinvested here that would otherwise have been invested abroad. Indeed, the redirection of investment by Pioneer and other companies from foreign E&P operations to the United States, and the attraction of billions of new foreign investment into the U.S. oil and gas industry, may be the greatest “in-sourcing” story of recent decades.¹

¹ The U.S. Department of Commerce estimates that the foreign direct investment position in the petroleum refining and extraction sector grew at a compounded annual growth rate of nearly 60% from 2008 - 2012, far outdistancing the growth rates in nearly every other sector. Foreign Direct Investment in the United States: Drivers of U.S. Economic Competitiveness, December 31, 2013. These data, of course, do not include the vast redeployment of capital into U.S. E&P activities by Pioneer and many other companies.

The re-emergence of the United States as a major oil producer is remarkable:

- The United States has now surpassed Saudi Arabia and Russia as the world's largest producer of petroleum and natural gas hydrocarbons. In each of 2013 and 2014, U.S. oil output jumped by 1 million barrels per day,² providing most of the world's oil production growth.
- Globally, the supply of oil has become far less concentrated, with OPEC's share of production declining from 53% in 1973 to about 35% today as U.S. production surged.
- United States reliance on foreign energy has dropped sharply, thanks mainly to the shale oil and gas boom: Total U.S. net imports of energy declined 19% from 2012 to 2013, hitting the lowest level in more than 20 years.³
- The U.S. annual average level of crude oil production fell from 9.6 million barrels per day in 1970 to 5 million barrels per day in 2008. Since then, driven principally by shale development, production has rebounded to over 9 million barrels per day. Production in January 2015 of 9.2 million barrels per day is 80 percent higher than 2008 production, and U.S. crude oil production could more than double by the mid-2030s.⁴
- As recently noted by the U.S. Department of Commerce, the U.S. petroleum deficit – the percentage of the total trade deficit attributed to petroleum products – is at its lowest point in 10 years.⁵ 2014 was also a record year for petroleum product exports, accounting for nearly 10 percent (\$146 billion) of total U.S. exports.

² U.S. Field Production of Crude Oil, Energy Information Administration, <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MCRFPUS2&f=M> (last visited February 27, 2015).

³ Net energy imports in 2013 lowest in more than 20 years, Energy Information Administration, April 2, 2014, <http://www.eia.gov/todayinenergy/detail.cfm?id=15671> (last visited February 27, 2015).

⁴ US Crude Oil Export Decision: Assessing the Impact of the Export Ban and Free Trade on the US Economy, IHS Energy, May 29, 2014.

⁵ Annual Trade Highlights, 2014 Press Highlights, United States Census Bureau, <http://www.census.gov/foreign-trade/statistics/highlights/annual.html> (last visited February 27, 2015).

- The availability of low-cost natural gas has reduced greenhouse emissions by allowing cleaner fuels to have a greater share of our power generation mix.

These are all remarkable accomplishments, especially considering that not long ago our country faced a significant and rising dependence on foreign sources of oil.

Today, major U.S. oil producing areas that were declining or not yet discovered at the beginning of the 21st century — the Permian Basin and the Eagle Ford Shale and Bakken Plays — stand as some of the largest and most prolific oil basins in the world.⁶ The unconventional type of oil largely produced in these areas is called “Light Tight Oil” (LTO). LTO has a higher API gravity (40° and above) than oil typically extracted from conventional or deep-water sources. It is “tight” because it is extracted from dense rock formations.

A substantial amount of associated natural gas is produced from shale oil wells. According to the EIA, more than 60% of new U.S. wells produce both oil and gas,⁷ contributing a third of the growth of new U.S. natural gas supplies.⁸ This contribution to the surge in affordable domestic natural gas supplies is enabling a U.S. manufacturing renaissance.

The domestic oil and gas industry has been a major growth engine of the U.S. economy, one of the few bright spots during the recent long recession, providing American consumers with a wide

⁶ See Appendix A.

⁷ Outlook for North American Natural Gas, EIA, http://www.eia.gov/pressroom/presentations/sieminski_11112014.pdf (November 11, 2014).

⁸ Scott Disavino and Barani Krishnan, Low oil prices threaten to curb ‘associated’ gas output growth, Reuters, November 4, 2014, *available at* <http://www.reuters.com/article/2014/11/05/us-energy-natgas-shale-idUSKBN0IP03D20141105>.

array of benefits – from higher wages to lower heating bills and gasoline prices. In recent years, state and local governments have enjoyed significantly increased revenues to support public services through enhanced local employment, a broader tax base and higher royalty payments associated with the increased production of the oil industry.

The industry has created hundreds of thousands of good-paying jobs, directly and indirectly among the countless suppliers of equipment, goods and services used by U.S. oil and gas producers, including construction contractors, construction equipment manufacturers and dealers, logistics companies, well services providers, professionals such as engineering and architectural firms, and providers of materials and supplies such as sand, cement, trucks and steel pipe.⁹ Shale energy activities support over half a million supply chain jobs,¹⁰ and have been one of the most important drivers of the U.S. manufacturing sector's robust performance over the last five years.¹¹

Current Conditions

Over the past eight months, we have experienced a dramatic drop in U.S. and global oil prices. Until last June, despite the significant increase in U.S. shale oil production, North American oil prices had been fairly stable for many years, which encouraged significant capital investment.

⁹ See, e.g., Bureau of Labor Statistics, U.S. Department of Labor, The Economics Daily, Employment changes in the oil and natural gas industry, by state on the Internet at http://www.bls.gov/opub/ted/2014/ted_20140404.htm (last visited February 27, 2015); The Shale Gas and Tight Oil Boom: U.S. States' Economic Gains and Vulnerabilities, Council on Foreign Relations, October 2013, <http://www.cfr.org/united-states/shale-gas-tight-oil-boom-us-states-economic-gains-vulnerabilities/p31568> (last visited February 27, 2015); Oil and gas industry employment growing much faster than total private sector employment, Energy Information Administration, August 8, 2013, <http://www.eia.gov/todayinenergy/detail.cfm?id=12451> (last visited February 27, 2015).

¹⁰ Supplying the Unconventional Revolution: Sizing the unconventional oil and gas supply chain, IHS Economics, September 2014, p.1.

¹¹ Thomas J. Duesterberg et al., Lifting The Crude Oil Export Ban: The Impact on U.S. Manufacturing, Aspen Institute (October 2014), p.2.

Generally speaking, the growth in U.S. oil production reduced oil imports, while offsetting supply disruptions globally, particularly from Libya and Iran. Indeed, experts have noted that the U.S.-led nuclear sanctions targeting Iran would not have succeeded but for the vastly increased U.S. production.¹² Surging U.S. oil production helped prevent oil prices from rising sharply, and likely averted another global recession.

During the second half of 2014, however, as United States production continued to surge, worldwide demand was sluggish, reflecting the decline in China's growth rate, the lingering recession in Europe, and weaker economic performance in other regions. The combination of these factors resulted in worldwide oversupply of crude oil and oil price weakness. These conditions intensified late in the year, when the market reacted negatively to OPEC's decision to maintain production quotas at current levels to preserve market share.

Other than U.S. production, crude oil is traded in a global market, where the key global benchmark price is based on the price of Brent, a crude oil blend drawn from a dozen or so fields in the North Sea. West Texas Intermediate (WTI) is the primary benchmark price for crude oil sold in the United States. For more than two decades prior to 2011, Brent and WTI prices moved in tandem, with WTI consistently priced higher, reflecting the transportation cost differential. This difference between Brent and WTI prices at any particular point in time is called "the spread."

¹² See Remarks by Thomas E. Donilon, Center on Global Energy Policy, School of International and Public Affairs, Columbia University, January 21, 2015.

Since 2011, however, the spread has heavily favored Brent pricing. For example, in 2013, the impact of supply from Canada into the United States and transportation bottlenecks caused the Brent/WTI spread to blow out to as high as \$23 per barrel in the country's key oil transportation hub in Cushing, Oklahoma.¹³ Pipeline expansion provided some relief to these bottlenecks, which temporarily reduced the spread between Brent and WTI. However, due to the constraint imposed by the export ban, the spread has recently begun to widen again to an ominous gap, especially at current price levels. The growing spread is a clear signal that U.S. LTO production is not being absorbed effectively in the U.S. market.

Prices declined significantly for both Brent and WTI in 2014. From its high of \$115 per barrel in June 2014, the price of Brent fell to \$45 per barrel on January 13, 2015. But where Brent has recovered to over \$60 per barrel, the U.S.-based WTI index has remained under pressure below \$50 per barrel. Experts believe the spread will widen dramatically in the future as the crude oil export ban leads to a glut of trapped LTO. Again, U.S. consumers will not benefit from that glut by seeing lower gasoline prices—those prices are based on Brent oil prices. Instead, cash flow constrained producers will be forced to reduce drilling activity even more, which will reduce domestic production and leave consumers and the country worse off.

At Pioneer, we have made tough decisions to respond to the downturn. We have reduced capital spending, operating costs, and general and administrative expenses. We have reduced our rig activity to 16 horizontal rigs drilling, from a high of over 30 in 2014. Rigs have been stacked in our operating areas. We expect to reduce our capital spending in 2015 by over 45% to about \$1.85 billion, down from \$3.6 billion in 2014.

¹³ See Appendix B.

Other companies are replicating our actions; based on the publicly available information illustrated on Appendix C, U.S. public E&P companies intend to reduce their capital expenditures by 35% in 2015 over 2014, a spending decrease of \$50 billion. The result will be dramatically lower spending in the oil and gas sector, which translates directly into lower employment, wages, and taxes related to our industry, including suppliers, throughout the country.¹⁴

As discussed above, a substantial amount of natural gas is produced from shale oil wells. As drilling slows and existing wells decline steeply, natural gas growth from shale oil production will slow, undercutting the benefits of low cost fuel for the nascent U.S. manufacturing renaissance and other industries dependent on affordable, plentiful natural gas.

Impacts Specific to U.S. Shale Producers

The need to respond to price cycles effectively and promptly is always in the minds of operators in the oil and gas industry. We are adjusting to the current environment in pragmatic ways. It is nonetheless important to understand certain particular aspects of U.S. shale oil production in order to appreciate fully the potentially serious adverse impact of the current downturn on the broader U.S. economy, and the one step that the government should take to help moderate that impact.

¹⁴ For example, U.S. Steel Corporation recently announced the layoff of nearly 2,000 workers in its tubular operations in Texas and Alabama. U.S. Steel Corporation, press release, January 26, 2015, <https://www.ussteel.com/uss/portal/home/newsroom/pressreleases> (last visited February 27, 2015).

(a) The Need for Sustained Investment

Shale development is capital intensive and requires a continuous reinvestment of cash flow and borrowing to maintain and increase production. In fact, most shale producers, like Pioneer, will reinvest all their cash flow from sales of oil and gas into capital for new wells. As reflected in the decisions that Pioneer has made, this reality of shale development and production compels operators, facing the prospect of sustained low prices, quickly to reduce their capital spending on development activities. The falling revenues from the combination of declining production and lower prices rapidly constrict an operator's ability to fund new drilling activities.

Not surprisingly, the current domestic rig count is down by 39 percent, or 842 rigs idled, from its peak in October 2014,¹⁵ and is continuing to decline. In January 2015 alone, over 20,000 job cuts were attributed to the decline in oil prices and the number of job losses, both within our industry and in the many industries that depend on the E&P sector, will dramatically rise if current market conditions persist.¹⁶

¹⁵ RigData.

¹⁶ *E.g., see* 2015 January Job Cut Report: 40% of 53,041 Cuts Due to Falling Oil Prices, <http://www.challengergray.com/press/press-releases/2015-january-job-cut-report-40-53041-cuts-due-falling-oil-prices>, (last visited February 27, 2015).

(b) The Impacts of the Crude Oil Export Ban

The magnitude of the price drop since mid-2014 has led directly to decisions to reduce drilling activity and eliminate jobs, as we are seeing throughout the industry today. Those actions are a natural consequence of market conditions. But another, non-market factor is exacerbating the impact of the price decline: The 1970s-era crude oil export ban, which artificially constricts the potential range of customers for U.S. production and ensures that U.S. producers receive a government-suppressed price in the domestic market. This artificial market distortion is evidenced by the relationship between U.S. gasoline prices and international and domestic crude oil prices, represented by Brent and WTI, respectively. As the EIA has shown, Brent crude oil prices are more important than WTI crude oil prices as a determinant of U.S. gasoline prices in all parts of the country, including the Midwest. What that means is that consumers do not see any benefit from these government-suppressed domestic crude prices when they pay for gasoline. The only impact is to place U.S. producers at a competitive disadvantage with their foreign counterparts.

I expect that there will be sustained downward pressure on U.S. WTI oil prices. Several factors contribute to my assessment:

- Despite large curtailments in new drilling, production growth will continue during the first half of 2015 because wells already under development will be completed and placed on production, continuing the oversupply trapped in the United States.
- Shale oil producers can slow activity rapidly in the face of adverse market developments, which will eventually result in lower production. In contrast, Canadian oil sands

production will continue to come online and to find its way to the United States, where U.S. Gulf Coast refineries have revamped to accommodate the heavy Canadian crude. In addition, recent pipeline and rail expansions will facilitate movements of Canadian crude to the Cushing, Oklahoma hub, where it competes with U.S. production, including for storage.

- According to EIA, U.S. commercial crude oil stocks increased 8.8 million barrels, to a total of 434 million barrels, in the week ending February 20,¹⁷ with U.S. refiners operating at 87.4% of utilization capacity.¹⁸ In short, storage capacity is being filled to the brim — reaching an 80-year seasonal high.¹⁹

As long as the spread between Brent and WTI prices remains at high levels, U.S. shale producers will be capital constrained from resuming drilling activities at former levels. The graph at Appendix E to my testimony shows the potential consequences to production at various price points. As shown on the table, the respected analytical firm PIRA projects that shale oil production may tail off rapidly and significantly in coming years, with every \$10 per barrel difference in price resulting in the loss of two million barrels per day of production after six years. With the spread between Brent and WTI now more than \$10 per barrel and projected to rise, removing the export ban could make the difference between growing or shrinking production in U.S. For example, if U.S. producers received Brent prices today, this would increase production in the U.S. by as much as two million barrels per day.

¹⁷ Weekly U.S. Ending Stocks excluding SPR of Crude Oil, Energy Information Administration, <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=WCESTUS1&f=W> (last visited February 27, 2015).

¹⁸ See *Weekly Inputs & Utilization*, Energy Information Administration, February 13, 2015, http://www.eia.gov/dnav/pet/pet_pnp_wiup_dcu_nus_w.htm (last visited February 27, 2015).

¹⁹ Market Prices and Uncertainty Report, Energy Information Administration, February 2015, <http://www.eia.gov/forecasts/steo/uncertainty/> (last visited February 27, 2015). See Appendix D.

Disparity between Crude Oil and other Hydrocarbons and Refined Products

Among hydrocarbon resources, only crude oil remains effectively banned from export. Indeed, crude oil is one of only three commodities restricted for export under regulations that limit exports of products in “short supply”; the other two are unprocessed western red cedar, and horses shipped by sea for slaughter.²⁰

While current law restricts access by domestic oil producers to global markets, U.S. oil refiners and petrochemical manufacturers are free to sell refined petroleum products, including gasoline, diesel fuel and petrochemicals, on a global market. With the benefit of a surplus of low-cost U.S. feedstock and cheap energy from abundant natural gas, U.S. refiners and petrochemical companies have increased product exports into world markets, where they are highly competitive.²¹

As U.S. shale oil production has increased, U.S. refiners have enjoyed a growing abundance of supply, especially with traditional imports augmented by increasing Canadian supplies. Canadian producers are free to export oil to the United States, and can readily obtain a U.S. license to re-export the oil to other countries. Yet, the U.S. government denies U.S. producers — which use exactly the same U.S. transportation network and compete with Canadian crude for sales to U.S. refiners — the same market freedom.

²⁰ 15 CFR Part 754; §§754.4, 754.5.

²¹ Don't Stop The Party - Why Gulf Coast Refiners Keep on Dancing After Crude Price Collapse, RBN Energy LLC, February 22, 2015, <https://rbnenergy.com/don-t-stop-the-party-why-gulf-coast-refiners-keep-on-dancing-after-crude-price-collapse> (last visited February 27, 2015); “Sign, Sign, Everywhere a Sign” - Hints of Domestic Demand Growth Bring Back Good Memories for U.S. Refiners, Turner, Mason & Company, February 24, 2015, <http://www.turnermason.com/blog/2015/02/24/sign-sign-everywhere-a-sign/> (last visited February 27, 2015).

The Benefits of Removing the Crude Oil Export Ban

As Secretary of Energy Moniz recently noted, the EIA has found that the domestic price of gasoline is determined more by the price of Brent, not WTI.²² It follows that if U.S. crude oil could be marketed globally, the additional supply would tend to reduce the global price, and hence the price of petroleum products both in the United States and abroad. Every economic analysis over the past year of which I am aware has reached the same conclusion.²³

Over the past five years, the U.S. shale revolution was the primary source for global oil supply growth, which allowed the U.S. to reduce oil imports, while offsetting production disruptions globally. Had U.S. production not increased during this period, the world price of oil would have been much higher.²⁴ However, as a result of the substantial decrease in 2015 budgeted capital expenditures by cash-strapped U.S. producers and the steep decline of shale oil wells, U.S. shale oil production will likely begin to flatten or decline later in 2015 and if conditions persist, continue to decline for the foreseeable future. The impact of this decline will be magnified by the probable impacts of announced cancellation, curtailment or postponement of major price-sensitive development projects around the world and the ever-increasing risk of supply

²² Testimony of Hon. Ernest Moniz, Secretary of the U.S. Department of Energy, before the Senate Committee on Energy and Natural Resources, February 12, 2014, <http://www.energy.senate.gov/public/index.cfm/hearings-and-business-meetings?ID=5568eb52-fea5-409a-b037-c8e85cc657ec> (last visited February 27, 2015).

²³ See, e.g., Crude Behavior: How Lifting the Export Ban Reduces Gasoline Prices in the United States, Resources for the Future, February 2014; The Impacts of U.S. Crude Oil Exports on Domestic Crude Production, GDP, Employment, Trade, and Consumer Costs, ICF International, March 31, 2014; US Crude Oil Export Decision: Assessing the Impact of the Export Ban and Free Trade on the US Economy, IHS Energy, May 29, 2014; Changing Markets: Economic Opportunities from Lifting the U.S. Ban on Crude Oil Exports, Brookings Institution, September 2014; Changing Crude Oil Markets: Allowing Exports Could Reduce Consumer Fuel Prices, and the Size of the Strategic Reserves Should be Reexamined, United States Government Accountability Office, September 2014; The Economic and Budgetary Effects of Producing Oil and Natural Gas From Shale, Congressional Budget Office, December 2014.

²⁴ Thomas J. Duesterberg et al., Lifting The Crude Oil Export Ban: The Impact on U.S. Manufacturing, Aspen Institute (October 2014), p. 5.

disruptions in the Middle East and other producing areas. As a result, based on forecasted demand growth, excess global production capacity could be exhausted in as little as two years, resulting in sharply higher prices. OPEC countries clearly have determined that U.S. shale will now be the new “swing” production that must be the first to cut back in order for the world to maintain supply-demand balance. The strategy of OPEC countries is clear: to downsize U.S. production, reduce global supply and increase OPEC’s market share, which will ultimately lead to higher prices. If U.S. producers are forced to downsize further due to a protracted downturn caused by the export ban, it could take the industry many years to restore production growth. Loss of critical mass in the U.S. oil and gas sector equates to loss of energy security for the United States.

Pioneer’s experience with its export of processed condensate offers a small scale example of the benefits of lifting the export ban. Last year, Pioneer determined that under existing law and regulations, condensate processed through a distillation unit at its South Texas Eagle Ford Shale facilities is classified under the export regulations as a petroleum product, not crude oil. At Pioneer’s request and following factual inquiry and analysis, the Commerce Department’s Bureau of Industry and Security confirmed this interpretation through a standard “commodity classification” process. Since the second half of 2014, Pioneer has been exporting processed condensate to Asia and Europe at significantly improved pricing compared to condensate sales in the United States, where demand is limited. As a result, we recognize improvements to the anticipated cash flows from drilling Eagle Ford Shale wells, which translates into more activity, more spending and more jobs. These sales certainly have not diminished the vast amount of crude oil available to U.S. refiners at low prices.

As the facts in this testimony show, government policy in the form of the crude oil export ban has direct and adverse consequences for U.S. oil production, and, therefore, is a real threat to the new energy abundance that has blessed the United States during the past five years. I firmly believe that it is profoundly in the economic and national security interests of the United States to remove the ban.

I am not alone in my judgment. Virtually every economist, industry analyst, national security and foreign policy expert, and editorial board that has opined on the subject during the past 18 months has reached this same conclusion.²⁵ The full range of policy arguments for removing the ban are beyond the scope of my remarks today, but taken alone and together, they are compelling.²⁶ I particularly concur with the numerous foreign policy and national security experts who have called for the ban to be lifted as a way for the United States to enhance our national security by providing a stable, alternative source of supply for our friends and allies. It simply is indefensible to demand that these countries reduce or eliminate their crude oil purchases from Iran, for example, while refusing to sell them U.S. oil.

²⁵ *E.g.*, Dr. Lawrence Summers, Keynote Address at the Brookings Institution's "Changing Markets: Economic Opportunities from Lifting the Ban on Crude Oil Exports," (September 9, 2014); Remarks by Thomas E. Donilon, Center on Global Energy Policy, School of International and Public Affairs, Columbia University, January 21, 2015; Michele Flournoy and Richard Fontaine, The Steps A Divided Government Can Take to Protect National Interests, Washington Post, January 16, 2015; Oil Export Myths: Lifting the Ban will Increase U.S. Supply and Energy Security, Wall Street Journal, January 16, 2015.

²⁶ *See, e.g.*, The Impacts of U.S. Crude Oil Exports on Domestic Crude Production, GDP, Employment, Trade, and Consumer Costs, ICF International, March 31, 2014; US Crude Oil Export Decision: Assessing the Impact of the Export Ban and Free Trade on the US Economy, IHS Energy, May 29, 2014; Changing Markets: Economic Opportunities from Lifting the U.S. Ban on Crude Oil Exports, Brookings Institution, September 2014; Navigating The U.S. Oil Export Debate, Columbia University Center on Global Energy Policy, January 2015; Time to Lift the Ban on Crude Oil Exports, The Heritage Foundation, May 15, 2014; The Case for Allowing Crude Oil Exports, Policy Innovation Memorandum No. 34, Council on Foreign Relations, July 2013.

Let me summarize, from my perspective, the clear benefits of removing the ban on exports of U.S.-produced crude oil. This action would result in:

- Lower gasoline prices throughout the United States
- More high-paying American jobs
- Lower world oil prices
- Increased world oil supplies
- Decreased volatility of world oil prices
- Enhancing our national security and strengthening our allies
- Lower net crude oil imports into the United States
- Greater investment in crude oil production in the United States rather than abroad

I know of no real dispute about these potential benefits, nor of any credible argument that the U.S. economy or energy security require that the ban stay in place.

Conclusion

America's independent oil and gas producers are second to none in their innovation and efficiency. On equal terms of engagement, we can compete successfully with all foreign producers. But the terms are not equal: Government policy is effectively tying one hand behind our backs.

Across the political and policy spectrum, there is near consensus among those who have looked at the issue: U.S. restrictions on the export of crude oil are a self-defeating anachronism that harms consumers, the economy, and vital U.S. national security interests. There is no defensible

reason to maintain the ban. As former Secretary of the Treasury, and Chair of the National Economic Council, Dr. Lawrence Summers stated:

“I believe that the question of whether the United States should have a substantially more permissive policy with respect to the export of crude oil and with respect to the export of natural gas is easy. The answer is affirmative. The merits are as clear as the merits with respect to any significant public policy issue that I have ever encountered.”²⁷

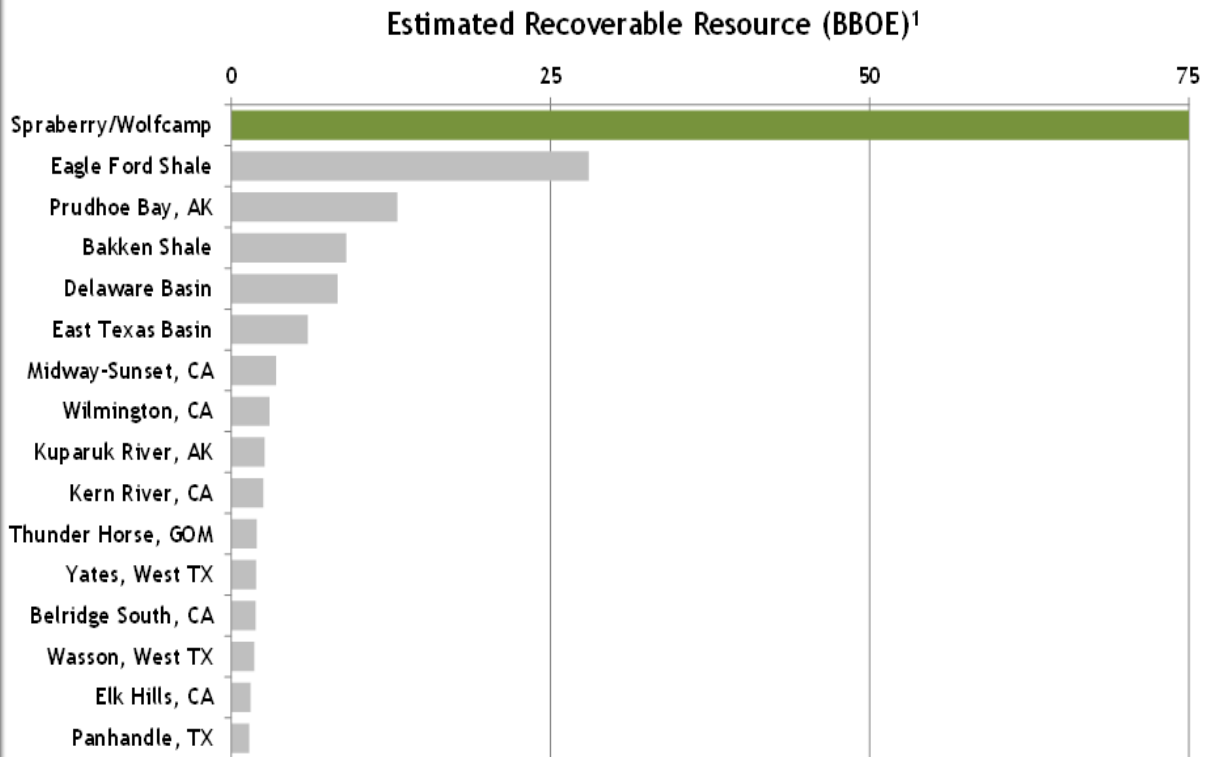
Removing the ban is an action on which members of both political parties can and should readily agree. I urge the members of this Committee to take the lead in forging that path.

²⁷ Dr. Lawrence Summers, Keynote Address at the Brookings Institution’s “Changing Markets: Economic Opportunities from Lifting the Ban on Crude Oil Exports,” (September 9, 2014).

Appendix A

Largest U.S. Oil Fields

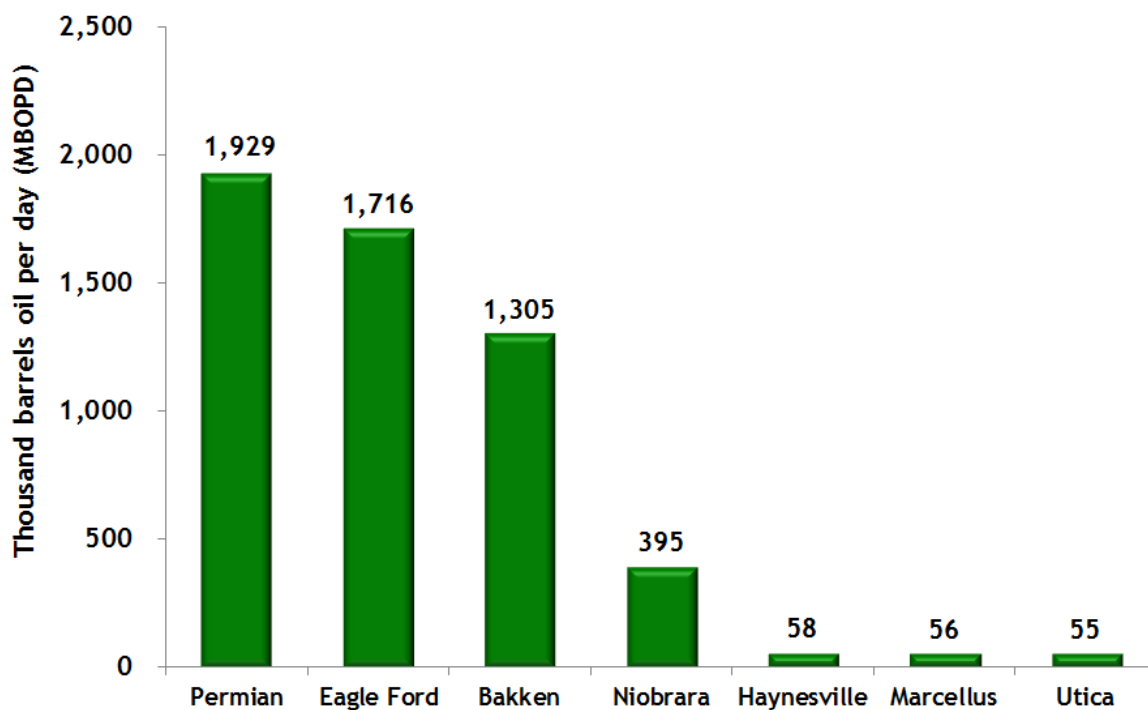
PIONEER
NATURAL RESOURCES



1) Cumulative production + estimated remaining recoverable resource
Source: DOE, EIA, ITG and other sources

U.S. Light Tight Oil Production: Selected Regions

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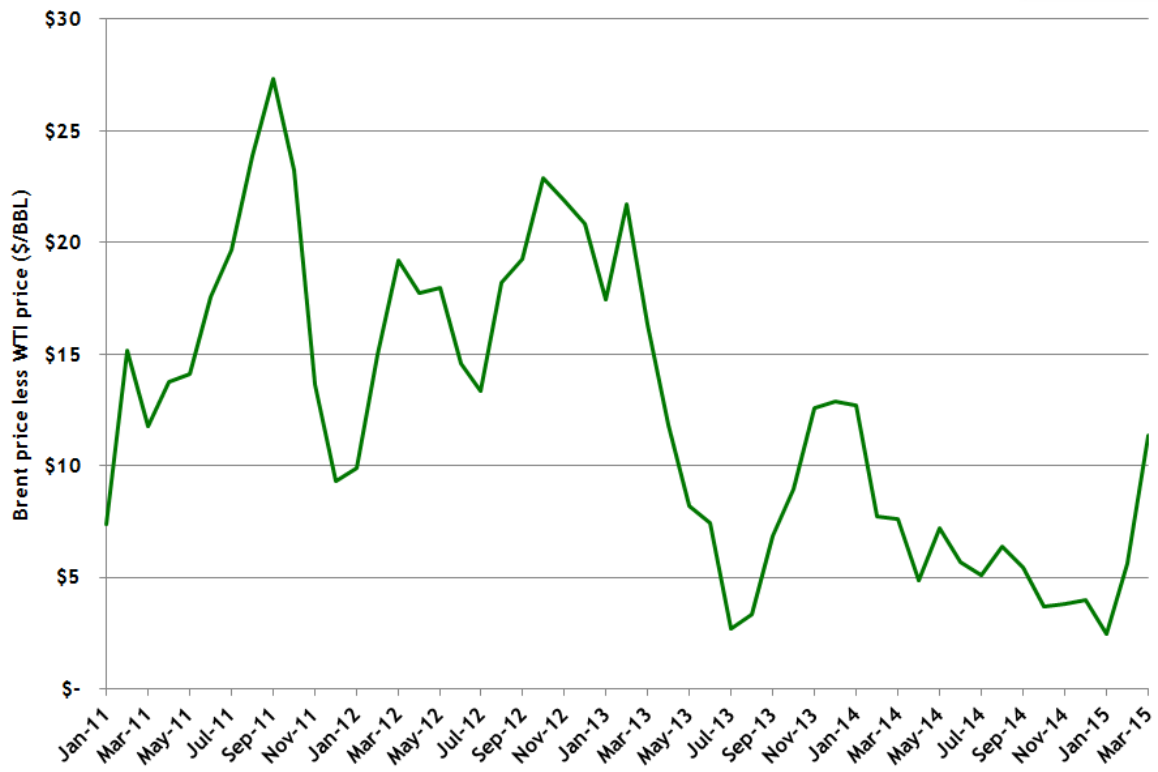


Source: EIA, February 2015 Drilling Productivity Report

Appendix B

Brent - WTI Spread Since 2011

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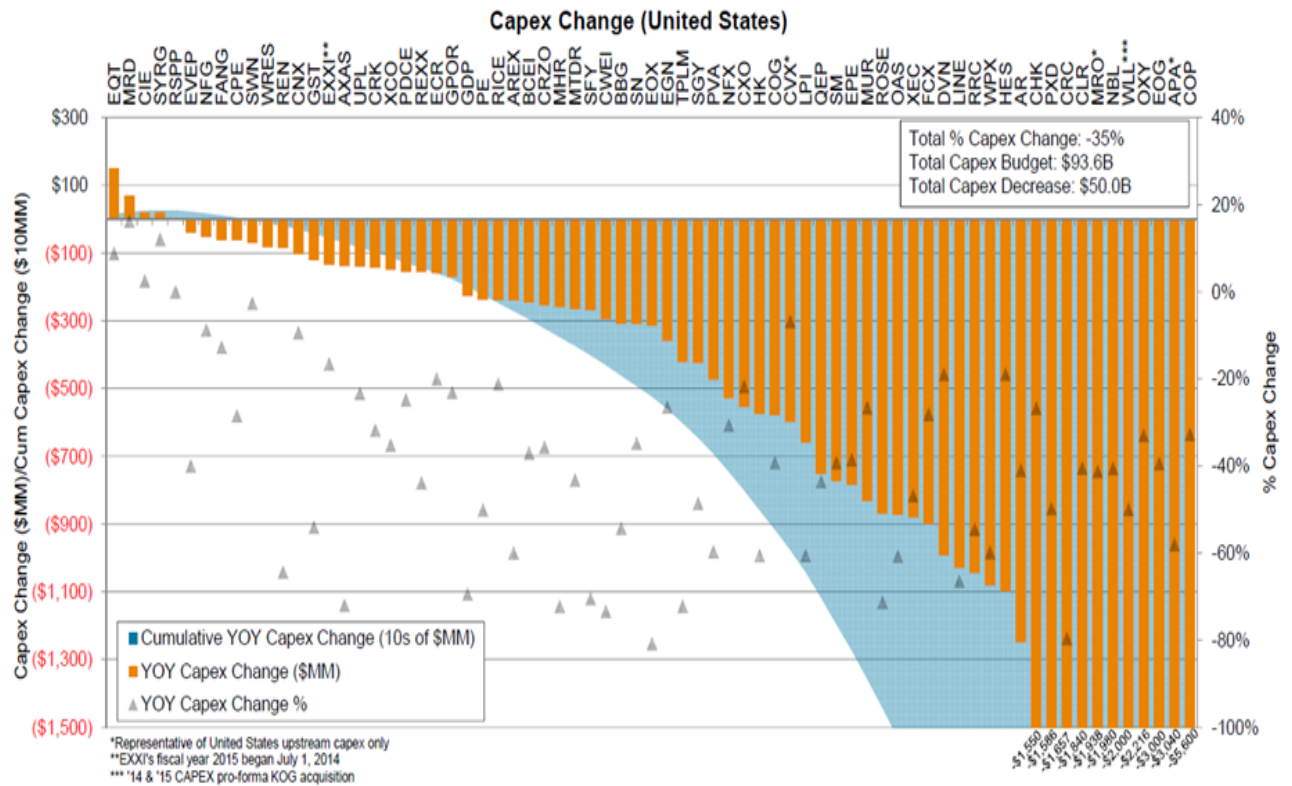


Source: EIA, monthly prices

Appendix C

Announced 2015 Capex Changes—U.S. Public Companies

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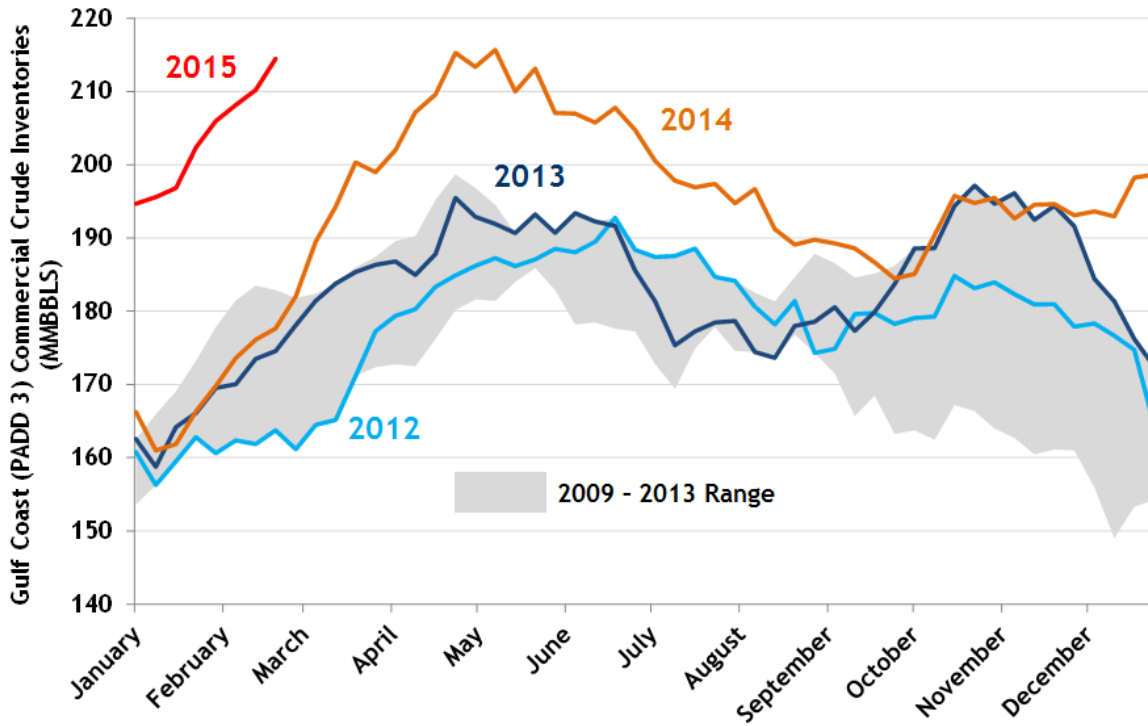
Source: ITG Investment Research

Appendix D

Gulf Coast Crude Inventory Storage Levels Continue to Rise

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Total U.S. inventories at 80 year high



Source: U.S. Energy Information Administration; Weekly Gulf Coast (PADD 3) Ending Stocks excluding SPR of Crude Oil

Appendix E

U.S. Shale Oil Forecast Sensitivity to Oil Price



U.S. Shale Crude and Condensate Production (MMB/D)

