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# HOW EXPANDING U.S. CRUDE EXPORTS CAN MEAN CHEAPER GAS FOR AMERICANS

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## HOW EXPANDING U.S. CRUDE EXPORTS CAN MEAN CHEAPER GAS FOR AMERICANS

As U.S. oil production continues to increase, the call to lift the ban on U.S. crude exports is becoming louder.

One of the mostly hotly debated questions regarding the topic has been whether exporting oil will raise gasoline prices for Americans.

Logic might dictate that if we sell off our oil to foreign markets, our gas prices at home would go up. But - as we're about to find out - when it comes to prices at the pump, the simple explanation is rarely the right one.

If you're curious about what *really* affects the prices you pay at the pump, spend a few minutes scanning this primer. You may find it to be a real eye-opener.



# OVERVIEW OF THE U.S. CRUDE EXPORT BAN

## WHAT THE EXPORT BAN IS AND WHY IT WAS IMPLEMENTED

In recent years – and even more so in recent months – the U.S. crude export ban has become an important topic of political and economic debate. Though the ban's roots can be traced back to the 1920 Mineral Leasing Act (which authorizes the federal government to manage mineral exploration and exploitation on public lands), it was more firmly implemented after passage of the 1975 Energy Policy Conservation Act and the 1979 Export Administration Act.

**The ban was put in place largely to protect American consumers from relatively unstable oil markets that were created by the 1973 Arab Oil Embargo** along with increasing unrest in large crude-producing states throughout the Middle East. A growing concern in the 1970s that U.S. oil reserves were quickly becoming depleted also played a role in its implementation. Though we now know past claims that America was “running out of oil” were highly inaccurate, the export ban offered a sense of security by ensuring that all domestically produced crude stayed within the country.

The ban was also important to the government's oil price control system in the 1970s, a system that was meant to prevent inflation and encourage exploration efforts by allowing oil from newly discovered reserves to be sold at a higher price on the market than oil from established plays. In 1981, however, this system was abandoned entirely. With rich shale plays across the country now representing a secure (and plentiful) supply of domestic energy, the purpose of the crude export ban is being called into question.

## HOW THE BAN WORKS

The export ban does not prohibit the export of refined products such as diesel, nor does it prohibit the export of crude entirely. For instance, the ban allows for the export of crude to Canada but only if it is going to stay in Canada. Oil from Alaska that's transported via the Trans-Alaskan pipeline can also be exported, as can minimal volumes of heavy crude from California and other very specific regions. Aside from this, producers looking to export have to navigate a very vague legislative framework and apply for an exemption, which can only be approved if their exports are considered to be in “the national interest.” Only a handful of such waivers have been granted in 40 years.

## WHY THE BAN IS BECOMING OBSOLETE

From 1970 to 2008, U.S. oil production dropped by approximately 50 percent. Because the country was largely dependent on importing petroleum to meet domestic demands during this period, the export ban was of little practical relevance<sup>1</sup>. This, however, has drastically changed as “fracking” and unconventional oil and gas production from newly-accessible shale plays have transformed our domestic oil market.

As of September 2014, the volume of domestically produced crude was at 8.78 million barrels per day – more than 65 percent higher than what it was at the beginning of 2008<sup>2</sup>. In addition, net U.S. dependence on imported oil has been cut by more than half since 2005. As the exportation of other refined petroleum products such as diesel continues to increase, the pressure to lift the export ban has grown immensely<sup>3</sup>.

NET U.S. DEPENDENCE ON IMPORTED OIL HAS BEEN CUT BY MORE THAN HALF SINCE 2005<sup>1</sup>.

## WHAT LIFTING THE BAN MEANS FOR U.S. GAS PRICES

After reaching a high of nearly \$4.00 per gallon in March 2014, the average price of gasoline in the U.S. has steadily declined. Largely due to a strong U.S. dollar along with increased production from shale plays like Bakken and Eagle Ford – which have helped compensate for slumping oil markets in other parts of the world – the Energy Information Administration (EIA) projects that gas prices will continue trending downward to an estimated \$3.30 per gallon by the end of 2014<sup>4</sup>.

Many advocates for keeping the export ban *in place* are under the impression that by stockpiling a domestic supply of crude, the U.S. will come closer to achieving energy independence and gas prices will fall even further. Although this logic seems sound, many studies agree that this will likely not be the case.

The reason is that U.S. gas prices are more closely tied to the global supply of crude than they are to the domestic supply. If we keep the ban in place and domestic crude surplus increases, we may continue to have supply gluts, but the price at the pump will not necessarily go down.

1. IHS – “US Crude Oil Export Decision: Assessing the impact of the export ban and free trade on the US economy” <http://www.ihs.com/info/0514/crude-oil.aspx?ocid=coe:pressrls:01d> (accessed 6 October 2014).
2. U.S. Energy Information Administration, “Weekly Supply Estimates” [http://www.eia.gov/dnav/pet/pet\\_sum\\_sndw\\_a\\_epc0\\_fpf\\_mbbldpd\\_4.htm](http://www.eia.gov/dnav/pet/pet_sum_sndw_a_epc0_fpf_mbbldpd_4.htm) (accessed 6 October 2014).
3. U.S. Energy Information Administration, “US Net Imports of Crude Oil and Petroleum Products” <http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MTTNTUS2&f=M> (accessed 6 October 2014).
4. Timothy Cama, “Gas Prices to Drop Through the End of 2014,” The Hill, August 12, 2014, <http://thehill.com/policy/energy-environment/214946-gas-prices-to-drop-through-the-end-of-2014> (accessed 5 October 2014)

## WHY ARE U.S. CRUDE OIL PRICES DETERMINED GLOBALLY?

The answer is that despite an increasing U.S. supply of crude, the U.S. continues to import – and will continue to import – a hefty portion of its supply from the global market.

## U.S. GASOLINE PRICES ARE MORE CLOSELY TIED TO GLOBAL OIL MARKETS, NOT DOMESTIC ONES

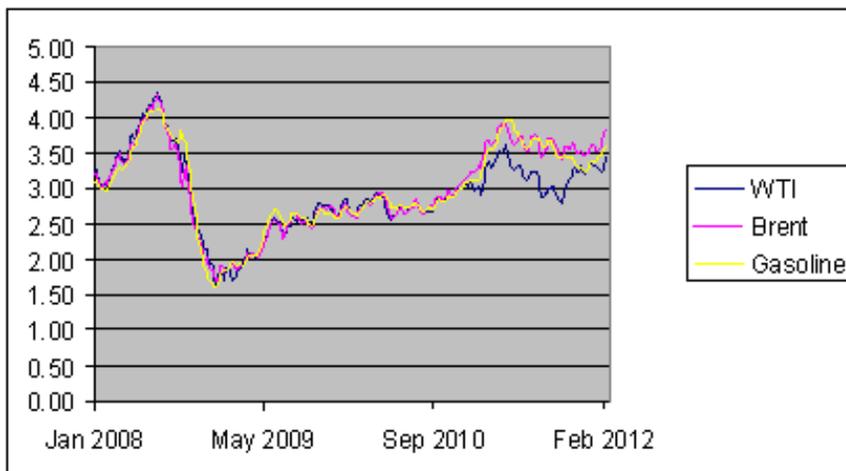
Although the EIA reports that net oil imports to the U.S. could fall to zero by 2037, it does not mean that our imports will be cut entirely. It only means that, by 2037, the U.S. will import the same amount as it exports. In fact, there isn't any scenario that suggests the U.S. will be able to meet all of its energy demands from domestic crude alone, despite the current boom in shale oil and gas.

Quite simply, the U.S. will continue to be an importer of oil, and as a result, we will still be dependent on the global price of crude.

Proof that our gas prices don't always correlate with domestic crude supplies can be seen by examining the relationship between gas prices and WTI and Brent crude prices (two benchmarks for crude oil pricing). WTI is a light, sweet crude produced mostly in the Midwest and Gulf Coast regions. Brent crude comes from oilfields in Europe's North Sea and is largely considered to be the leading global benchmark for oil.

As can be seen in the graph below, starting in 2011, WTI prices began to diverge from gasoline. Since then, the U.S. retail price of gas has tracked the price of Brent crude much more closely.

## PRICE OF GASOLINE IS MORE CLOSELY TIED TO BRENT THAN WTI<sup>5</sup>



**Source:** [http://econbrowser.com/archives/2012/02/crude\\_oil\\_and\\_g](http://econbrowser.com/archives/2012/02/crude_oil_and_g)

**Yellow:** Average U.S. price of regular gasoline, all formulations in \$ per gallon, weekly Jan 7 2008 to Feb 20, 2012. Data source: EIA. Blue: 0.8 plus 0.025 times price of WTI, Jan 4, 2008 to Feb 21, 2012. Fuchsia: 0.8 plus 0.025 times Brent price. Data source: EIA

5. [http://econbrowser.com/archives/2012/02/crude\\_oil\\_and\\_g](http://econbrowser.com/archives/2012/02/crude_oil_and_g)

## WHY ARE WE TALKING ABOUT EXPORTING IF WE STILL NEED TO IMPORT?

The problem lies in the refining and pipeline infrastructure in the U.S.

Much of the excess crude oil in the U.S. is coming from the Midwest, where there is inadequate pipeline capacity to ship it to refineries on the Gulf Coast. As production in these regions has increased, localized supply gluts have formed, forcing shale oil producers to sell their oil to local refineries at a substantial discount.

This is one of the many reasons why there is such a demand for the Keystone XL – to help alleviate these supply gluts and ship the oil from the Midwest to refineries in the South.

In addition to problems with pipeline capacity, the U.S. refinery infrastructure is not set up very well to handle the crude that is being produced domestically. While the U.S. currently has the largest and most flexible refining capacity in the world, it is more suited to handle heavy crude blends from Canada and South America than it is to handle the light tight oil increasingly flowing out of North Dakota and Texas.

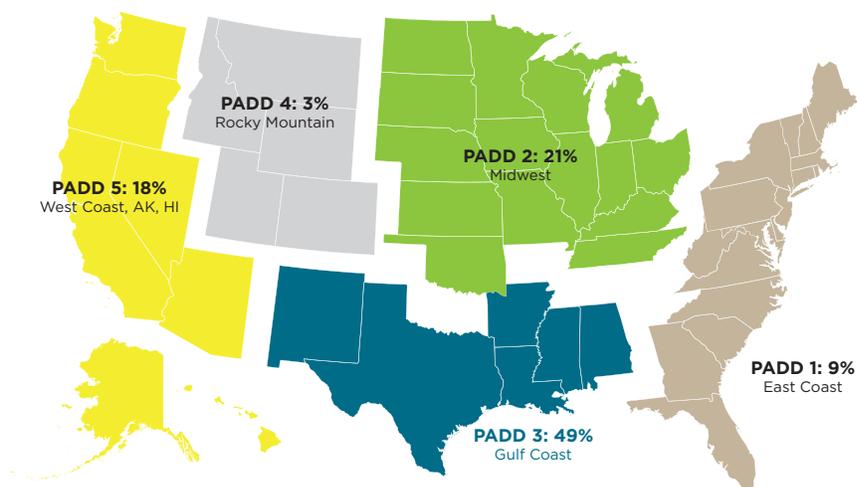
We must therefore continue to import heavy crude to maximize production at our refineries. The light tight oil from the U.S. needs an outlet.

If we do not lift the ban, eventually crude production will exceed refining capacity. And with exportation prohibited, it will have nowhere to go.

In addition, if a large enough supply of light tight oil builds up and domestic crude prices fall past a certain point, it will no longer be economical for oil companies to exploit tight shale formations and domestic production will taper off.

## THE PROBLEMS WITH PADDs

Refineries in the U.S. are located in geographical areas called “PADDs.” Currently 76 percent of our refinery capacity is located on the coasts in PADDs 5, 1 and 3.<sup>6</sup> Like most U.S. refineries, these refineries are most efficient when processing heavy, imported crude. Only 21 percent of our refineries are located in the Midwest, where there is currently a glut of light, sweet crude.



Sources: U.S. Energy Information Administration

6. [http://www.refinerlink.com/blog/US\\_PADD\\_Overview/](http://www.refinerlink.com/blog/US_PADD_Overview/)

# HOW GASOLINE PRICES ARE DETERMINED

Although gasoline prices can be indirectly influenced by a number of factors, there are four main elements that directly contribute to the price that Americans end up paying at the pump. Each of these elements is discussed in the sections below.

## REFINING

Refining costs contribute to roughly 13 percent of what consumers pay at the pump<sup>7</sup>. During seasonal changes, refiners have to make adjustments to their blending processes in order to ensure that refined products perform under certain temperature constraints. For instance, in the summer months, the price of gasoline typically goes up because refiners have to replace cheap butane with more expensive additives that won't evaporate in extreme heat; as refining costs go up, so does the end-user price. This is one of the main reasons why the price of gas is currently falling in the U.S. As colder temperatures begin to sweep across most of the country, refiners can swap out more expensive ingredients for cheaper and more volatile additives.

## TAXES AND DISTRIBUTION AND MARKETING

Taxes (12 percent) and distribution and marketing (10 percent) also affect the price of gasoline.

States can levy their own taxes, which is why prices vary from state to state.

Distribution and marketing costs are relatively steady and can include the cost to transport gasoline from refineries to stations, operating costs for individual gas stations, and competition in local markets. In general, the farther away the station is from the supply source, the higher the distribution cost.

## CRUDE OIL PRICES

Accounting for a 65 percent share, the market value of crude oil is by far the largest contributor to the price of gasoline in the U.S.<sup>7</sup>

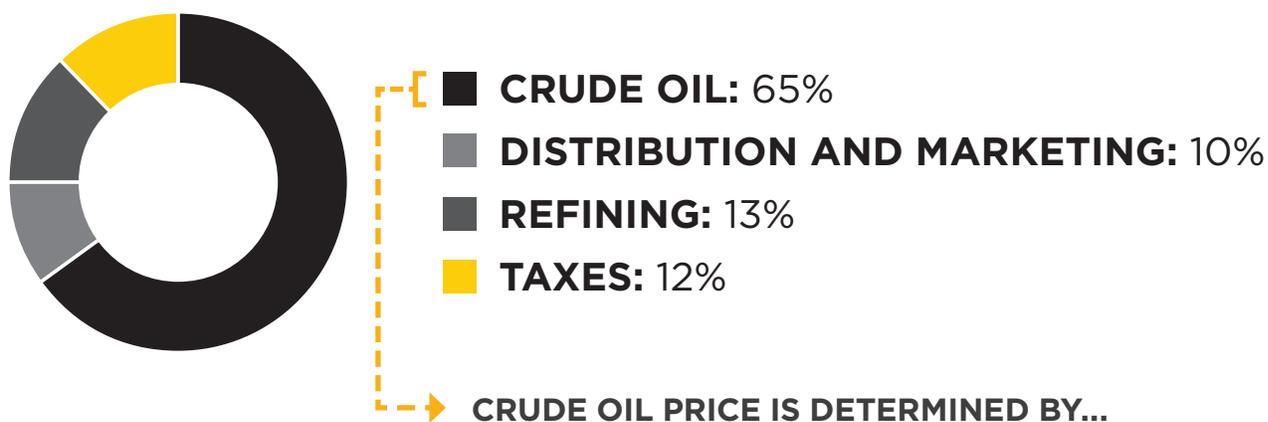
Predicting the price of crude, therefore, is key when predicting gas prices.

And, remember, gas prices are more closely tied to global crude prices, not domestic prices.

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7. U.S. Energy Information Administration, "Gasoline and Diesel Fuel Update," July 7, 2014, <http://www.eia.gov/petroleum/gasdiesel/> (accessed 5 October 2014)

## HOW GASOLINE PRICES ARE DETERMINED<sup>5</sup>



## WHAT GOES INTO THE PRICE OF CRUDE?

Like any other commodity, **global supply and demand** is the primary driver of crude prices. Due to their enormous consumption, rapidly growing countries such as China and India can often have a significant effect on the price of crude. If demand in these countries goes up, so do world oil prices, which in turn can lead to higher gas prices in the U.S.

Geopolitical calamity, particularly in the Middle East, can also be responsible for short-term spikes in the price of crude. Disruption of midstream or downstream operations from severe weather events can push prices upward by causing temporary supply shortages as well.

The **strength of the U.S. dollar** also has an effect on crude markets. Historically, when the dollar has been weak, crude prices have been high. This is because as U.S. currency weakens, foreign currencies become stronger, and when foreign currencies become stronger, the people holding those currencies buy more oil. This results in an increase in the global demand for crude and indirectly drives up U.S. gas prices.

In some instances, speculation in **oil futures markets** can cause crude oil prices to deviate from the fundamental laws of supply and demand. An oil future is a contract in which a buyer agrees to purchase a specified amount of oil from a seller in the future at a predetermined price. Essentially, this allows buyers to “gamble” on the future price of crude. Because the price specified in the contract has already been agreed upon, an artificial market is created that may or may not be a reflection of actual supply and demand.

For instance, if unrest in the Middle East threatens to disrupt supply and cause the price of crude to go up, a buyer may want to purchase a futures contract to protect against paying the true market price down the road. The problem, however, is that accurately determining future crude prices is extremely difficult (if not impossible) to do. As a result, futures markets can cause crude prices to fluctuate in a rather unpredictable fashion. Some industry experts have estimated that speculators in these markets can drive up prices by as much as \$40 per barrel.

Many regulating agencies throughout the U.S. and the rest of the world have made a concerted effort to prevent the intentional manipulation of crude prices in futures markets. Even so, the complexities of global commodity exchanges along with the current regulatory framework make it difficult to entirely eliminate the effect that speculation can have on oil prices.

**Global spare capacity** – which is defined by the EIA as the amount of oil that can be delivered to the market in 30 days and sustained for a period of 90 days – also has a major influence on the global price of crude oil. With more spare capacity worldwide, the effect that a disruption will have on the supply chain can be minimized and global demand can be met. **Lifting the crude export ban would increase global spare capacity, bolster supply, and provide added stabilization to international oil markets, which would ultimately lead to lower gasoline prices.**

Many proponents for keeping the ban in place have argued that even if the U.S. were to begin injecting crude into the global market, the Organization of the Petroleum Exporting Countries (OPEC) would restrict its output to ensure that oil prices remain relatively high. However, there is very little data to back this theory. In the past, in fact, OPEC has had difficulty reducing supplies because each of its member nations needs revenue from oil production to meet state economic goals.

Conversely, some industry analysts believe that by allowing the U.S. to export, OPEC would respond by upping production in order to prevent its market share from being reduced. If this were the case, global supply would increase even more and crude prices could fall even lower. Furthermore, allowing crude exports from the U.S. would reduce the world’s dependence on OPEC oil, thus encouraging prices to become more elastic.

## **WILL THE PRICE OF CRUDE (AND THEREFORE GASOLINE) DROP IF WE LIFT OUR OIL EXPORT BAN?**

Many studies suggest that it will. Lifting the export ban will alleviate bottlenecks and facilitate production in burgeoning shale plays, thus allowing the U.S. to sell its oil at competitive prices on the global market.

By expanding exports, global supply will increase and crude oil prices worldwide will decline.

## HOW MUCH WILL GAS PRICES GO DOWN IF EXPORTS ARE EXPANDED?

In recent months, a great deal of effort has been put into determining what kind of impact lifting the crude export ban will have on the U.S. economy, and more specifically, how it will affect the price of gasoline at the pump. While many studies agree that the price will likely experience a drop, estimates of exactly how much it will decline have varied rather significantly. This section will summarize the findings of four different studies conducted by separate organizations.

<b>Report</b>	US Crude Oil Export Decision - Assessing the impact of the export ban and free trade on the US Economy
<b>Releasing Organization</b>	IHS
<b>Release Date</b>	March 2014
<b>Key Findings</b>	“The benefit to consumers of a crude oil free trade policy is estimated at \$0.08 per gallon (Base Production) and \$0.12 per gallon (Potential Production) reduction in the price of gasoline and transportation fuels (e.g. gasoline, diesel, and jet fuel).”

<b>Report</b>	Changing Markets - Economic Opportunities from Lifting the U.S. Ban on Crude Oil Exports
<b>Releasing Organization</b>	The Brookings Institution
<b>Release Date</b>	September 2014
<b>Key Findings</b> (Based on NERA Economic Consulting analysis)	“...the decrease in gasoline price is estimated to be \$0.09/gallon, but only for about five years. If oil supplies are more abundant than currently expected, the decline in gasoline prices will be larger (\$0.07 to \$0.12 per gallon) and more enduring.”

<b>Report</b>	The Impacts of U.S. Crude Oil Exports on Domestic Crude Production, GDP, Employment, Trade, and Consumer Costs
<b>Releasing Organization</b>	ICF International (NASDAQ: ICFI)
<b>Release Date</b>	March 2014
<b>Key Findings</b>	“This study found that average U.S. wholesale product prices... decline an average of 1.4-2.3 cents per gallon between 2015 and 2035 due to crude oil exports.”

<b>Report</b>	Crude Behavior: How Lifting the Export Ban Reduces Gasoline Prices in the United States
<b>Releasing Organization</b>	Resources for the Future (RFF)
<b>Release Date</b>	February 2014
<b>Key Findings</b>	“Given our projections for the change in crude oil prices and increased efficiency in refinery operations, we estimate US gasoline prices would be reduced by 1.7 to 4.5 cents per gallon. “

## SEE A PENNY, PICK IT UP...

The reduction in prices at the pump may seem somewhat less than earth-shattering after so much analysis. It's true that we're not going back to \$1.50/gallon gas anytime soon.

That being said, the pennies at the pump add up. And they can mean big savings to Americans and the economy.

**“THE SAVINGS FOR MOTORISTS IS \$265 BILLION OVER THE 2016-2030 PERIOD.”**

~IHS ENERGY

**“THIS PRICE DECLINE [TO GASOLINE] COULD SAVE AMERICAN CONSUMERS UP TO \$5.8 BILLION PER YEAR, ON AVERAGE, OVER THE 2015-2035 PERIOD. PRICE DECLINES DUE TO CRUDE EXPORTS ARE LARGEST IN 2017 ... WITH U.S. WHOLESALE PRODUCT PRICES DROPPING 3.8 CENTS, TRANSLATING TO CONSUMER FUEL SAVINGS OF \$9.7 BILLION.”**

~ ICF INTERNATIONAL

**“U.S. GDP IS ESTIMATED TO INCREASE UP TO \$38.1 BILLION IN 2020 IF EXPANDED CRUDE EXPORTS WERE ALLOWED. GDP INCREASES ARE LED BY INCREASES IN HYDROCARBON PRODUCTION AND GREATER CONSUMER PRODUCT SPENDING (DUE TO LOWER PRICES FOR GASOLINE AND OTHER PETROLEUM PRODUCTS).”**

~ICF CONSULTING

## ADDITIONAL ECONOMIC BENEFITS OF EXPANDING CRUDE EXPORTS

ECONOMIC BENEFIT	CAUSE
An increase in domestic oil production by as much as 500,000 barrels per day by 2020.	Allowing exports would give producers access to a much larger customer base, which in turn would provide more incentive to further increase domestic oil production.
An investment of as much as \$70.2 billion towards U.S. exploration, development and production of crude oil between 2015 and 2020.	Increased domestic oil production will require more infrastructure.
An estimated \$13.5 billion in federal, state, and local tax receipts.	Attributable to GDP increases.
A reduction in the federal trade deficit by \$22.3 billion in 2020.	Increased international trade of U.S. crude oil.
The addition of as many as 300,000 jobs to the U.S. economy by 2020.	More investment in domestic oil production would trickle down into sectors that are directly affected by it.
An increase in average refinery throughput of roughly 100,000 barrels per day through 2035.	More flexibility in global crude exchanges would alleviate process bottlenecks in the U.S.

## CONCLUSION

In recent years, oil production from booming shale plays throughout the U.S. has drastically transformed the country's energy landscape. Largely due to technological advances in multi-stage hydraulic fracturing ("fracking"), 3D seismic imaging, and horizontal drilling techniques, producers now possess the capability to economically develop tight oil formations that were at one time considered inaccessible.

With America's dependence on foreign oil steadily declining, the relevancy of current crude export policies is being called into question. Implemented nearly four decades ago with the goal of enhancing America's energy security, the crude export ban was designed to align with an oil market that simply no longer exists. The negative impacts it's having on the U.S. economy are becoming hard to ignore.

Lifting the export ban will alleviate bottlenecks and facilitate production in burgeoning shale plays, thus allowing the U.S. to benefit from its competitive cost advantage in the production of crude oil. By expanding exports, global supply will increase and crude oil prices worldwide will decline. This, in turn should lead to a wide range of economic benefits, including enhanced energy security, more jobs, lower refined petroleum product prices, and lower prices at the pump for U.S. consumers.

MAKE YOUR VOICE HEARD AND HELP  
UNLEASH AMERICA'S ENERGY. SIGN THE  
PETITION TO LIFT THE CRUDE EXPORT  
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# UNLEASHING AMERICA'S ENERGY

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## EXPORT U.S. CRUDE

Lifting the crude oil ban could be a global game-changer – providing plentiful energy worldwide and helping to stabilize or even lower world energy prices. Our oil exports would reduce the world's reliance on volatile energy-producing nations and that would boost the economic, political, and social stability of all nations that currently rely on energy imports from countries that are historically unpredictable or hostile.



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