



FAQs: Crude Oil and Condensate Exports

WHY IS THERE A CONCERN ABOUT ADDRESSING CRUDE OIL EXPORTS?

Production of crude oil in the United States has changed dramatically in the past several years. The use of horizontal drilling and hydraulic fracturing opened crude oil resources in tight formations – typically shale – that previously were not economically and technically producible. Consequently, American crude oil production now reaches levels not seen since the early 1970s when U.S. crude oil production previously peaked. However, American refineries can no longer process all of the crude oil that can be produced in America. Without the opportunity to export, U.S. crude oil production will be stifled.

WHY CAN'T AMERICAN REFINERIES HANDLE ALL OF THE AMERICAN CRUDE OIL?

All refineries are designed to process a specific crude slate – a mixture of crude oils that it purchases to make the products it is designed to produce. During the 40 years before shale crude oil development really accelerated, refineries were modified to process imported crude oil that are typically heavy and sulfur laden (sour) compared to shale crudes that are typically lighter and low in sulfur (sweet). Consequently, these sour, heavy crude refineries cannot process as much sweet, light crude that can be produced. Reconstructing these refineries is costly and difficult to permit. Some reconstruction is taking place but not enough and not quickly enough to refine all of the shale crude that could be produced. In fact, many of these refiners recognize the importance of exporting the surplus supply of U.S. crude oil:

We urge policy makers to consider our views as refiners and consumers of crude oil, and take action to enable the export of domestic crude oil. Ending the outdated ban on crude exports is needed to ensure that investment in this country continues to grow and boost domestic production to provide Americans with greater job opportunities and economic benefits.¹

WHY NOT JUST KEEP THE NEW U.S. CRUDE OIL IN THE GROUND UNTIL IT CAN BE REFINED?

All oil and natural gas production declines as it is produced. Without developing new U.S. wells, the benefits of expanding production – job growth, expansion of the U.S. Gross Domestic Product, trade expansion, suppression of gasoline prices – will be lost. Without developing new wells, imports from foreign – sometimes unfriendly – countries will increase.

WHAT ARE THE BENEFITS?

American oil and natural gas production has been a consistently strong driver in the U.S. economy. In particular, over the past several years, oil and natural gas production investment has been essential to

¹ Letter from refiners to Senators Lisa Murkowski and Maria Cantwell, July 20, 2015

the economic recovery. For example, in 2012, oil and natural gas investment was the largest of any U.S. industrial segment. These benefits to the American economy can grow if crude oil exports are allowed.

HOW SIGNIFICANT ARE THESE NEW BENEFITS?

The benefits are extensive and cover many numerous issues:

Lifting the ban will support jobs and spur economic growth.

Numerous independent economic analyses have concluded that lifting the ban on crude oil exports will increase investment in the U.S. and support job growth across the supply chain. A recent study by the American Council for Capital Formation – *The Economic Case for Lifting the Crude Oil Exports Ban* – reviewed several reports and summarized key issues.

Gross Domestic Product (GDP)

GDP is the most commonly used indicator to assess America's economic health. The investment, ingenuity and output of the hard working Americans are what keep our economic engines running. It is therefore significant to note that each independent report predicts that unlocking crude oil exports will substantially increase GDP. Four of the expert reports quantify this positive impact. Brookings, The Aspen Institute, ICF International and IHS predict GDP increases ranging from:

- Brookings – the present discounted value of increases in GDP over the 2015–2039 period range from \$550 billion to \$1.8 trillion;
- The Aspen Institute – annual increase in GDP of \$105 billion in 2017 under the low export case to as much as \$165 billion in 2021 under the high export case;
- ICF International – the annual increase in GDP over the 2015 to 2035 period averages between \$10.1 billion and \$14.8 billion in the low differential scenario, and between \$18.6 billion and \$27.1 billion in the high differential scenario;
- IHS – annual increase in GDP over the 2016 -2030 period averages \$86 billion under the base case and \$170 billion under the high production case.

Job Growth

Four of the reports examined forecast significant job growth if the crude oil export ban were lifted. Brookings, The Aspen Institute, ICF International, and IHS quantify their predictions for employment gains as follows:

- Brookings – unemployment will fall by an annual average of 200,000 - 400,000 jobs between 2015 and 2020;
- Aspen Institute – between 495,000 and 630,000 more jobs in 2019 in the high exports scenario;
- ICF – increase of as many as 300,000 new jobs in 2020;
- IHS – create between 394,000 and 859,000 new jobs every year nationwide.

Oil exports will reduce the trade deficit and demonstrate America's commitment to free trade.

Trade is an integral part of our economy – with the U.S. importing \$2.37 trillion and exporting \$1.64 trillion in goods in 2014 alone. While crude oil is currently banned from export, refined petroleum

products, such as gasoline, diesel fuel and home heating oil are exported. In 2014 the U.S. exported over 6.7 billion gallons of gasoline.

- Council on Foreign Relations: “Liberalizing the crude oil export regime would advance U.S. foreign policy. It would demonstrate Washington's commitment to free and fair trade, even in a politically sensitive sector, bolstering its negotiating position on other trade issues.”
- ICF International: Lifting crude oil export restrictions “could narrow the U.S. trade deficit by \$22.3 billion in 2020.”

U.S. energy security and geopolitical position in the world is strengthened by crude oil exports.

Ending the export ban will enhance U.S. national security by providing greater stability to the global crude oil market, reducing price volatility and providing our allies with a reliable and secure supply of energy.

- Former CIA Director and Secretary of Defense Leon Panetta and former National Security Advisor Stephen Hadley recently explained: “The U.S. has broken free of its dependence on energy from unstable sources...But our friends and allies, particularly in Europe, do not enjoy the same degree of independence. The moment has come for the U.S. to deploy its oil and gas in support of its security interests around the world.”

WHAT ABOUT MY GASOLINE AND DIESEL FUEL PRICES?

Oil exports will help reduce the price at the pump for American consumers.

Questioned about the impact if the United States exported its surplus of crude oil, U.S. Secretary of Energy Ernest Moniz confirmed at a February 2015 Senate hearing that:

...the EIA...conclusion was, probably none to possibly minor decreases in domestic prices largely because the gasoline price is indexed more to the Brent benchmark.

The U.S. Energy Information Administration (EIA) report that Secretary Moniz referenced was *What Drives U.S. Gasoline Prices?*, which concluded, “gasoline is a globally traded commodity and, as a result, prices and changes in prices are highly correlated across global spot markets.” This government assessment is confirmed by other independent, non-partisan reports.

There is broad consensus among economists and policy experts from across the political spectrum that repealing the ban on crude oil exports will help reduce gasoline prices, which will benefit American consumers. The economic rationale is straightforward. Repealing the ban will lead to greater U.S. oil production and an increase in the global oil supply, which will drive down the international price of oil. *And because U.S. gasoline prices are determined by international oil prices (not U.S. oil prices), this will lead to a decline in U.S. gasoline prices.*

- Columbia University: “[W]e estimate lifting current crude export restrictions could ...reduce domestic gasoline prices by between 0 and 12 cents per gallon.”
- IHS Energy: “Since US gasoline is priced off global gasoline prices, not domestic crude prices, the reduction will flow back into lower prices at the pump – reducing the gasoline price 8 cents a gallon. The savings for motorists is \$265 billion over the 2016 – 2030 period.”

- Government Accountability Office: “A decrease in consumer fuel prices could occur because they tend to follow international crude oil prices rather than domestic crude oil prices, according to the studies and most of the stakeholders. If domestic crude oil exports caused international crude oil prices to decrease, consumer fuel prices could decrease as well.”
- NERA Economic Consulting: It’s analysis concluded that a possible nine cent per gallon decrease was likely for five years, but if oil supplies are more abundant than the analysis assumed, price declines would be seven cents per gallon to twelve cents per gallon for a longer period of time.

WHAT CAN BE DONE?

There are two pathways that could open trade in U.S. crude oil. Congress could change the law or the Executive Branch could use authority it has under current laws to eliminate restriction on crude oil exports.

CONGRESSIONAL ACTION

Several bills have been introduced in both the U.S. House of Representatives and the Senate that repeal the current prohibitions on crude oil exports. Early action on this legislation would allow for an orderly development of exports and the capital needed to manage this development.

EXECUTIVE BRANCH AUTHORITY

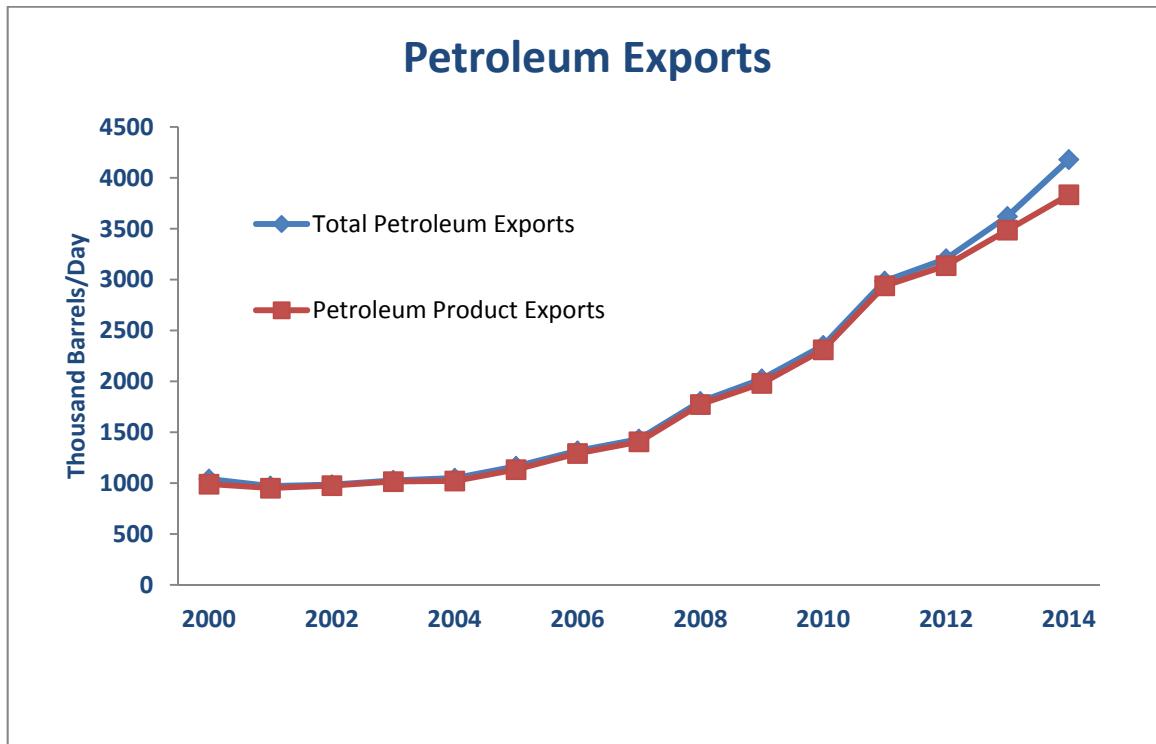
While Executive Branch action is more complicated, there are actions it can take – and some that it has taken – to open international markets for American crude oil.

Can crude oil be exported overseas?

No, U.S. crude oil cannot be exported, with a few exceptions. Laws enacted in the 1970s generally prohibit exports of crude oil, but authorize the President to make exceptions in the national interest. Congress and the President have made such exceptions; for example, for crude oil produced in Alaska, and for exports for refining or other uses in Canada. Depending on the month, exports of crude oil have ranged in volume from 50,000 barrels per day (bpd) to over 500,000 bpd. But by and large, oil exports are highly restricted. The rules governing crude oil exports are administered by the U.S. Department of Commerce’s Bureau of Industry and Security (BIS).

What about gasoline – can gasoline be exported?

Yes. There are no similar restrictions on exporting products made in the United States from crude oil. U.S. exports of gasoline and other refined crude oil products have climbed sharply in recent years, accounting for 8.8% of the total of all U.S. goods exported in 2014, and generating approximately \$144 billion in revenue. The U.S. exported 3.8 million barrels per day of finished petroleum products in 2014 up from 3.5 million barrels per day in 2013.



Besides gasoline and diesel fuel, what kinds of products are made from crude oil?

Many products are made from crude oil. In addition to motor fuels, crude oil can be processed into asphalt, petroleum coke (a coal substitute), lubricants, waxes, and chemical feedstocks. Typically, crude oil undergoes processing at numerous facilities of many types before reaching the industrial or residential consumers in the form of finished petroleum products such as motor gasoline, jet fuel, distillate fuel oil, or lubricants.

MORE ABOUT THE BIS RULES

Where can I find the crude oil export rules?

The rules are part of the Export Administration Regulations (EAR).² Specifically, the crude oil export rules are in section 754 of the EAR, which governs exports of products on the basis that they are in “short supply” in the United States. Interestingly, there are only three items that are subject to these controls: crude oil, western red cedar, and certain horses exported by sea. In each case, the export restrictions were adopted many years ago.

² U.S. Department of Commerce, Bureau of Industry and Security, [Export Administration Regulation Downloadable Files](http://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear), <http://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear>

How do the rules work?

Under the EAR, any export of crude oil from the United States must be licensed by BIS. The rules, however, authorize BIS to issue a license only in situations where an exception applies, and in certain other circumstances. For example, BIS may approve a swap of U.S. crude oil for imported crude oil or petroleum products where specified conditions are met.

How do you know which products are covered by the export prohibition?

“Crude oil” is specifically defined in the EAR, and anything fitting within that definition is covered by export restrictions. Specifically, section 754 defines crude oil this way:

“Crude oil” is defined as a mixture of hydrocarbons that existed in liquid phase in underground reservoirs and remains liquid at atmospheric pressure after passing through surface separating facilities and which has not been processed through a crude oil distillation tower. Included are reconstituted crude petroleum, and lease condensate and liquid hydrocarbons produced from tar sands, gilsonite, and oil shale. Drip gases are also included, but topped crude oil, residual oil and other finished and unfinished oils are excluded.³

What is “condensate”?

“Condensate” is a type of ultralight oil that can behave as a gas, liquid, or mixture of these, depending on the temperature and pressure. For instance, when found in underground reservoirs, condensate is mostly a gas, but it condenses into a liquid when pumped to the surface, due to the cooler temperatures and lower pressures.

How much condensate is being produced?

Condensate production is growing, but at present represents only about 8% to 16% of total U.S. production of crude oil.

How is condensate different from crude oil?

Condensate is lighter and with more gaseous components than crude.

What do you mean “lighter?”

“Lighter” describes both the color and relative density of the liquid. The energy industry measures the lightness of various types of liquid petroleum in terms of “API gravity”, with lighter liquids having a numerically-higher API gravity than “heavier” liquids.⁴ West Texas Intermediate – known as WTI – is a type of U.S. light crude oil that is well-known as a benchmark for crude oil prices. WTI has traditionally measured at an API gravity of around 40 degrees on this scale. While there is no strict legal or industry standard, generally “lease condensate” refers to petroleum liquids with an API gravity of around 50 degrees and higher.

What are the commercial uses of condensate?

Condensate is primarily used as a feedstock for chemical manufacturing or for producing motor fuel and solvents. Condensate may also be mixed with heavier crude oil to create a lighter crude oil blend.

³ 15 CFR § 754.2(a).

⁴ “API gravity” is a measure of density relative to water. Liquids with an API gravity of 10 degrees or lower will sink in water, whereas liquids with an API gravity greater than 10 degrees will float on water. “Heavy crudes” may have an API gravity of 20 degrees, while intermediate crude has an API gravity of roughly 38 degrees. Condensates can have an API gravity ranging between 45 to 75 degrees.

What is a distillation tower?

Distillation is the most common industrial process for separating chemical constituents of crude oil. Typically performed in vertical cylinders known as "distillation towers", this process uses heat to separate a crude oil stream into specific subsets of carbon molecules, which can be captured at different points in the tower because of their different boiling points. These products of distillation may then be sold for different end uses. As the export ban only applies to crude oil, the BIS definition incorporates processing through a distillation tower as a clear way to draw a line between crude oil and processed products that are not subject to export restrictions. All refineries use distillation towers.

Are refineries the only facilities that use distillation towers?

No, large scale oil refineries are not the only facilities that process crude in distillation towers. Distillation towers are used to process crude oil and condensates for more specific industrial purposes.

What is a "splitter"?

The term "splitter" is sometimes used to describe certain distillation towers. Like distillation, splitter does not describe a specific distillation process and can be used in the context of simple or complex distillation.

WHAT HAS THE BIS DONE CONCERNING CONDENSATE EXPORTS. WHAT ARE THE FACTS?

A number of BIS actions in late 2014 addressed condensate exports. Some of these actions were in response to specific company actions; others more broadly clarified the nature of the condensate export process.

Did the BIS license all condensate exports?

No. In response to requests from two companies, BIS simply confirmed that the companies were correct in their analyses that their specific processing of ultralight condensate yielded petroleum products that are exportable without an export license. Specifically, BIS issued "Commodity Classification Decisions" regarding condensate that is processed through the specific facilities operated by the companies, which include distillation towers. Commodity Classification Decisions are issued as a matter of course by BIS so that exporters can ensure that they are properly classifying their products for export control purposes. BIS did not issue export licenses and it did not make any change in the existing rules or policies governing crude oil exports.

Do the BIS decisions mean that the government is loosening the regulations on crude oil exports?

No. BIS simply confirmed that the products resulting from processing ultralight lease condensates through the particular stabilization facilities of each of these companies, which include distillation towers, are not classified as crude oil. These decisions do not address any other situation. They do not change or ease existing rules.

What is a stabilizer?

A stabilizer is a facility that lowers the vapor pressure of certain grades of light crude oil and condensates to produce a product that meets industry standards for safe storage and transportation. The stabilization process involves heating and distillation of the condensate to extract lighter hydrocarbons, such as natural gas and natural gas liquids (*e.g.* ethane and propane). Processed condensate can be used as feedstock for petrochemical manufacturing or production of motor gasoline and jet fuel. It is essentially the same as naphtha, and is used for the same purposes.

Do the BIS decisions mean any crude oil that is run through a stabilizer can be exported?

No. The BIS decisions apply only to the specific facts presented by the companies that requested the determinations.

Has the BIS provided any additional guidance on condensate exports?

Yes. In December 2014, the BIS also released guidance in the form of frequently asked questions (FAQ) to explain what kind of oil was generally allowed under the ban, the first effort by the Executive Branch to clarify an issue that has caused confusion and consternation in energy markets.

In its FAQ the BIS confirmed or clarified a number of nuanced issues related to the rules, including:

- Confirmation that lease condensate processed through a distillation tower is considered a petroleum product, and therefore can be exported without constraint.
- Clarification of what constitutes "distillation" for export, including the fact that pressure reduction alone, and flash drums with so-called heater-treaters or separators, would not be sufficient to qualify oil for overseas sales.
- A reminder that most petroleum products may be "exported to most of the world without a license," a message seen by many analysts as blessing the process of self-certification.
- And clarification that "a minimum amount of mixing" between exportable foreign crude and restricted domestic crude may be allowed, a note likely making it easier to ship Canadian crude through U.S. pipelines and ports.

Detailed FAQ information can be found at the BIS website at: <http://www.bis.doc.gov/index.php/policy-guidance/faqs> under "FAQs – Crude Oil and Petroleum Products December 30, 2014".