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

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

April 2, 2014

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

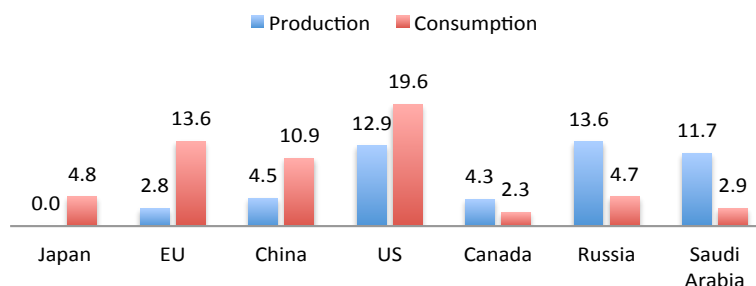
I am a senior associate at the Carnegie Endowment for International Peace, a non-partisan policy think tank. I began my career with Chevron as a chemical engineer and then spend over two decades researching transportation policy at Yale University, the Union of Concerned Scientists, and for a wide array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

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

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

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

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



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

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

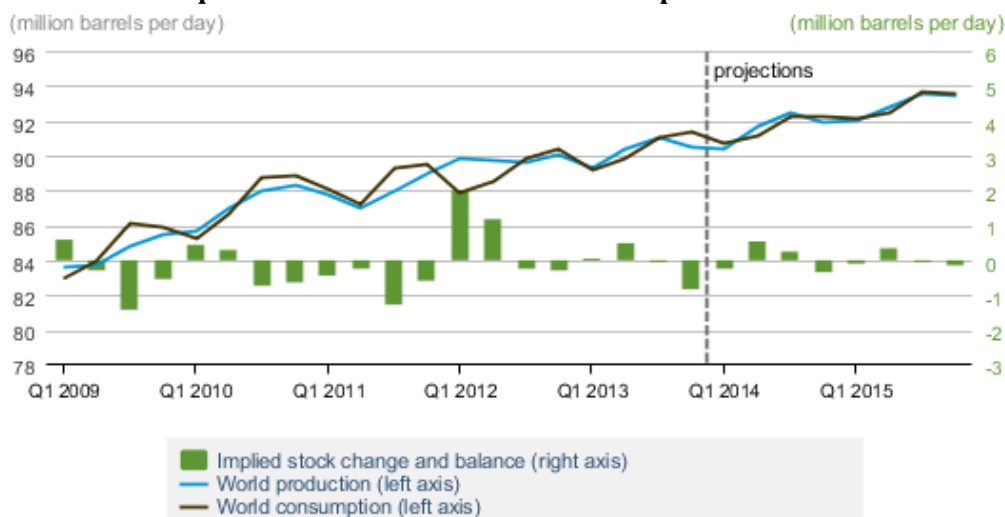
against lifting the U.S. crude oil ban suggest. As policymakers debate whether the ban should be lifted, it will be important to address three key questions.

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

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

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

Figure 2: World Liquid Fuels Production and Consumption Balance



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

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

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

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

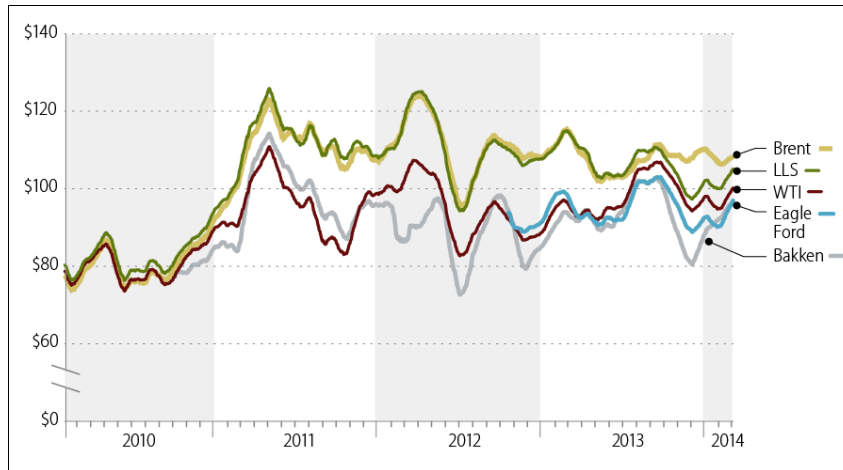
of oil than Canada and increasingly OPEC are producing. And [not all LTOs are alike](#). Despite their generally high quality (light and sweet), U.S. LTO gravity ranges widely from 30 to over 70 degrees API—a huge spread. The lightest of these oils are more like natural gas than conventional oil. Many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

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

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

Figure 3: Price History for Selected Crude Types

(February 2010 to February 2014)



Source: Platts

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

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

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

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

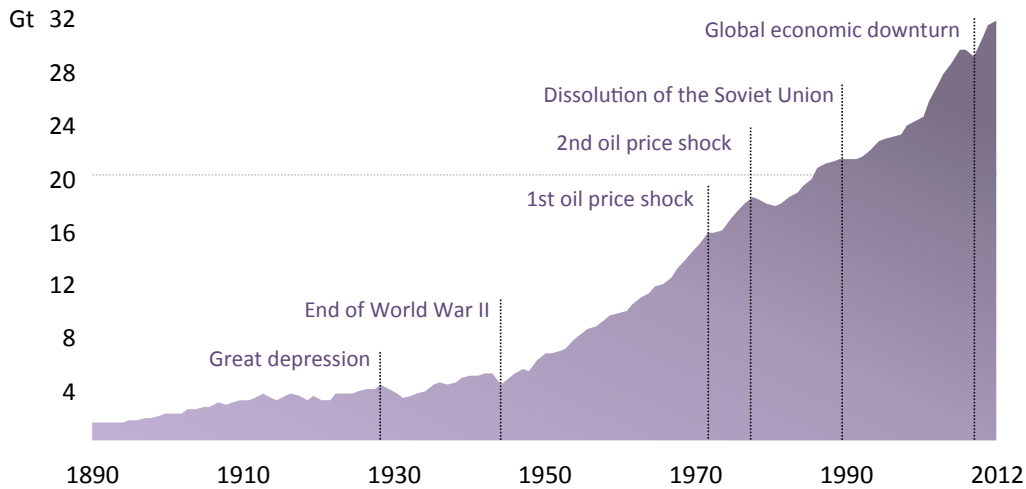
National efforts in this decade need to buy time for an international agreement, which the International Energy Agency expects to come into force in 2020. The energy sector must adapt to climate change, both in the resilience of its existing assets and in future durable investment decisions.

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

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

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

Figure 4: Global Energy-related CO₂ Emissions



Source: International Energy Agency, June 2013.

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

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