



November 19, 2018

## United States and Saudi Arabia Energy Relations

Following the murder of journalist Jamal Khashoggi at a Saudi Arabia consulate in Istanbul, Turkey, some Members of Congress have expressed interest in taking action against Saudi Arabia for its apparent role. The purpose of this In Focus is to provide a non-comprehensive overview of the U.S.-Saudi Arabia energy relationship that dates back to at least 1933, when Saudi Arabia granted an oil concession to Standard Oil Company of California (now Chevron). Since then, this relationship has witnessed the creation—founded by U.S. oil companies—of the Arabian American Oil Company (Aramco), nationalization and ownership transfer of Aramco to Saudi Arabia (renamed Saudi Aramco), a Saudi-supported embargo of crude oil shipments to the United States, and various periods of energy cooperation. Today, the U.S.-Saudi energy relationship includes interests within three general categories: (1) energy trade, (2) business operations, and (3) global petroleum prices.

### Energy Trade

Energy commodity trade between the United States and Saudi Arabia is bilateral and is heavily weighted towards U.S. imports of Saudi Arabian crude oil, which have annually ranged between 132,000 and 1.73 million barrels per day (mbpd) between 1973 and 2017. From January through July of 2018, U.S. buyers imported approximately 795,000 bpd of crude oil and 20,000 bpd of petroleum products from Saudi Arabia. Crude oil from Saudi Arabia during this period represented approximately 10% of total U.S. crude imports. Saudi Arabia purchases a small amount—approximately 1,000 to 4,000 bpd—of petroleum products from U.S. companies.

### Business Operations

Saudi Arabia has various energy-related business interests located in the United States. Saudi Aramco—through its Saudi Refining, Inc., subsidiary—is the parent company of Motiva Enterprises, which owns and operates a 600,000 bpd refinery in Port Arthur, TX. Motiva accounted for approximately 31% of U.S. crude oil imports from Saudi Arabia between January and July 2018. Motiva also operates a network of petroleum-product storage terminals. Other Saudi Aramco-affiliated businesses located in the United States include Aramco Services. In addition to providing technical, engineering, and management services, Aramco Services also operates three research centers in Houston, TX, Boston, MA, and Detroit, MI.

Saudi Arabia's petrochemical manufacturing company—Saudi Basic Industries Corporation (SABIC)—has multiple manufacturing and technology development facilities in the United States. As part of its long-term strategy, Saudi Aramco has indicated intent to expand into petrochemical manufacturing and is reportedly planning to acquire a controlling interest in SABIC.

U.S. energy companies also have business interests in Saudi Arabia. Exxon and Chevron have joint ventures and other business agreements in the country. Oil field service companies such as Halliburton and Schlumberger have a presence in the country, and in March 2018, Saudi Aramco announced oil field service deals reportedly valued at potentially more than \$10 billion with U.S. firms. U.S. companies are also in contention for a Saudi nuclear power generation procurement program.

### Global Petroleum Prices

The Kingdom of Saudi Arabia is the third largest producer of crude oil in the world (10.4 mbpd), after the United States and Russia, and has the second largest reserve base. The United States is the largest petroleum-consuming country at nearly 20 mbpd. Saudi Arabia is also the largest exporter of crude oil to world consumers at over 7 mbpd. While these values alone would establish the kingdom as a major factor in the world oil market, Saudi Arabia's potential ability to directly influence global petroleum prices lies in its spare production capacity—1.5 mbpd in September 2018, or 72% of global spare capacity. This allows the kingdom to adjust oil output in response to Organization of the Petroleum Exporting Countries (OPEC) policy, world political conditions, and other factors.

For prices to remain stable, the world oil market must be in balance between oil production and consumption in the short term. In the very near term, a wide variety of political and security factors (e.g., unrest in Libya) can affect prices, but the underlying balance between supply and demand is essential. Global petroleum prices respond to any imbalance between demand and supply. Since neither oil demand, nor oil supply quantities, adjust quickly in the short-run, price response can be quite sharp. Excess demand can result in sharp price spikes, while excess supply can result in the collapse of prices.

In recent years, Saudi Arabia, through OPEC policy decisions, has demonstrated how its ability to contract and expand oil output can affect prices. In 2014, OPEC, led by Saudi Arabia, adopted a policy to remove member-country production quotas and decided to not adjust oil production levels at a time when the oil market was oversupplied. As a result, the price of oil declined from over \$109 per barrel in May 2014 to about \$30 per barrel in January 2016. In December 2016, OPEC and 11 non-OPEC countries, led by Russia, collectively agreed to reduce oil production by nearly 1.8 mbpd. World oil prices began a steady increase to around \$80 per barrel. Finally, oil market participants are also looking to Saudi Arabia to ease potential price escalation associated with reduced global oil supply that might result from the re-imposition of U.S. sanctions that target Iran.

## Measures and Countermeasures

Any consideration, or analysis, of the effects of censuring Saudi Arabia for its involvement, or lack of cooperation, in the investigation of the death of Jamal Khashoggi at this time must be considered highly speculative. Some in Congress, along with the Administration, have called for possibly restricting U.S. imports of Saudi Arabian crude oil. Given the important political, military, and economic relations between the United States and Saudi Arabia, it is possible that no action might be taken by the United States.

The Saudi reaction to any action taken against it by the United States is also uncertain. On October 14, 2018, the Saudi Foreign Ministry said “The Kingdom emphasizes that it will respond to any measure against it with an even stronger measure.” While this statement was quite strong, it did not mention oil. About two weeks later, the Saudi Energy minister Khalid Al Falih said that there is no interest in repeating 1973. This statement was in reference to the Saudi-led oil embargo against the United States in 1973.

Oil markets in 2018 are quite different from those of 1973. In 1973, most oil was being traded on long-term contract and there was little trading infrastructure; no futures contracts were traded; spot transactions were largely limited to Rotterdam, the Netherlands; and the web of trading companies that today manage the destination of oil cargos around the world barely existed.

For sake of argument, suppose the United States decided to restrict the entry of all, or a part, of Saudi oil into the country. The specific way this could be accomplished is unknown, but it is likely that the initial impact would be on the U.S. refiners that use that oil. Unless they had anticipated the restrictions they would find themselves facing a shortage which would have to be made up with other supplies. Saudi Arabia would have to find other buyers for that crude oil, or simply produce less.

The retaliatory response that Saudi Arabia could take is open, in the sense that either producing more, or less, oil could be effective in disrupting the market. If the Saudi response to a U.S. embargo were to produce less oil, U.S. gasoline consumers would see a quick rise in gasoline prices. However, the price increases would not likely be limited to the United States. The oil market is a world market, so every consuming nation would face higher petroleum product prices. In addition, this strategy could have other deleterious effects from the Saudi perspective. Higher oil prices have been linked to slower economic growth and recession in oil importing countries. In addition, the use of oil as a “weapon” could accelerate the use of non-oil powered vehicles which would be contrary to long-term Saudi interests.

However, producing less oil and inducing higher prices would be unlikely to cost the Saudi’s near term revenues. Because of the nature of the demand for oil, the percentage increase in prices is likely to be larger than the percentage decrease in production, resulting in increased total revenue (total revenue = price x quantity).

An increase in Saudi oil supplies could have a more targeted effect on the United States. The U.S. light, tight oil supplies are characterized by high costs of production compared to Saudi oil. If increasing Saudi oil production drove down the world price of oil enough, it could result in reduced U.S. oil production and financial difficulties for U.S. producers. However, this result is not inevitable. It is possible that reduced prices could result in a push for cost cutting efficiencies that have, in earlier periods of low prices, resulted in lower breakeven points for U.S. oil. On the other hand, U.S. and world petroleum product consumers would benefit from this strategy. While this strategy might be viewed as favorable by consuming nations, Saudi’s partners in the Organization of the Petroleum Exporting Countries would suffer financial losses along with Saudi Arabia itself. This strategy is also less likely to be identified with the use of oil as a political weapon.

## Considerations for Congress: Restricting Imports

U.S. actions to restrict crude oil imports from Saudi Arabia would likely affect Saudi oil revenues as well as U.S. refinery costs/margins to some degree. Retaliatory actions taken by Saudi Arabia could create additional negative market results. Initial market and price behavior that might result from an action restricting energy trade between the world’s largest oil consuming country and largest oil exporter is uncertain and could potentially be significant. Further retaliatory measures could aggravate the situation depending on the chosen actions. The Saudis would need to either increase sales to current buyers or locate new buyers—likely through price discounts—to absorb barrels diverted from the United States. U.S. refiners would need to secure alternative sources—likely through price premiums—of crude oil with similar quality characteristics. Premiums could potentially reduce refinery margins unless increased costs were passed to consumers through higher petroleum product prices.

Higher petroleum product prices along with the effects of sanctions on Iranian oil, deteriorating trade relations between the United States and China, and slowing economic growth could create serious economic headwinds for the U.S. and world economies.

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