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Why Kuwait wants to shift to heavy oil?

EXPLAINER

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By Rania El Gamal

KUWAIT: Last week, Kuwait announced its plans to shift into heavy oil production during an international oil conference to meet its 2020 target of producing 4 million barrels per day (bpd). Kuwait has traditionally produced and exported mainly medium to light crude since the 1950s. Now KOC is pushing for more involvement of international oil companies in developing its heavy oil assets. But why is Kuwait shifting to heavy oil production?

Developing and marketing of heavy oil is highly challenging both technically and economically. For Kuwait, shortage of skilled manpower and lack of the know-how to clear mines in the northern fields are some of the challenges facing KOC.

The focus of the four-day energy conference, organized by state-owned Kuwait Petroleum Corporation (KPC), was heavy oil crude; opportunities, challenges and recovery techniques. Though currently Kuwait doesn't produce any heavy oil for export according to industry officials, Kuwait Oil Company (KOC) announced during the conference a preliminary agreement with Exxon Mobil to develop its heavy oil assets.

KOC aims to achieve 50,000 barrels per day (bpd) by 2011, 250,000 bpd by 2015 and 900,000 bpd by 2020 of heavy crude production. Kuwait will start producing 5,000 bpd to 6,000 bpd of heavy crude by the end of next year, Hashim El-Rifai, CEO of Oil Development Company told Kuwait Times last week. Though, heavy oil is found in the South East and the West of Kuwait - from Burgan and Umm Gudair fields and the Neutral Zone shared with Saudi Arabia - the majority could be found in northern Kuwait in Ratqa field.

There are several differences between light and heavy crude. In simple terms, the gravity of light crude begins from 25 API and higher. Light crude is cheaper and easier to process and to transport, though it is more expensive in price. Light crude is also easier to refine because of its low viscosity, meaning that it needs less energy to extract sulfur and other impurities from it. Kuwait's heavy oil, on the other hand, varies from 11 to 17 API. In general heavy crude doesn't flow easily making it more environmentally damaging than light crude. The high gravity and viscosity of heavy crude also makes its production more difficult, as the techniques to extract light crude will not

work for heavy oil.

Khaled Al-Sumaidi, deputy managing director for KOC, northern oilfield operations stressed last week that Kuwait needs international oil companies (IOCs) and research institutes with heavy oil expertise. "Heavy oil for Kuwait is something that is a new business for us," he said. "We need IOCs in north Kuwait," he added.

WHY THE SHIFT?

Reasons behind Kuwait's planned shift to heavy crude are many: The state hopes producing heavy crude will help boost its oil production to 4 million bpd within the coming 12 years. Kuwait also hopes to capitalize on economic growth in China and the increasing demand for oil in Asia as well as soaring oil prices and the decline in the country's light oil reserves. Kuwait aims to increase its oil production to 4 million bpd by 2020 and 25 percent of those 4 million barrels will be from heavy oil, according to Al-Sumaidi. Whether or not Kuwait will be able to achieve its 2020 target is not evident by the current political standoff according to analysts.

"We are very pessimistic about (Kuwait's) chances of hitting the 4 million bpd target - largely because political issues that have long dogged projects and are going to continue to be major factors," David Kirsch, manager of market intelligence at Washington-based consultancy PFC Energy told Reuters earlier this month. He added that Kuwait's capacity is expected to be just 3 million bpd by 2017. Kuwait currently producing around 2.6 million bpd, down from almost 3 million bpd in 1972, according to the Arab Oil & Gas Industry.

As estimates of heavy oil reserves worldwide are up to six times greater than those of light oils, according to industry reports, an increased consumption depletes light crude reserves, making heavy crude increasingly sought after. "Demand for oil will continue to grow. The question is do we have enough resources? Yes, we have. We have plenty of heavy oil," said Al-Sumaidi last week. "The conventional oil will decline even with the new technology. I don't think there is an escape from using heavy oil," he added.

RESERVES

Kuwait's proven oil reserves is another controversial issue. The country's reserves are not publicly announced, though official numbers show an estimated 101.5 billion barrels of proven oil reserves. The Middle East fourth-largest oil exporter sits on about 8 percent

of the world's oil reserves.

Last year, Petroleum Intelligence Weekly reported that Kuwait's oil reserves were about half what was officially reported, or 48 billion barrels, based on internal leaked reports. MPs demanded that the government to disclose the actual figures of Kuwait's proven oil reserves.

But former Oil Minister Sheikh Ali Al-Jarrah Al-Sabah said in May that "Kuwait has not and will not disclose the size of its oil reserves" for reasons of national security. Sheikh Ali, however, confirmed later to Al-Wasat newspaper that the state's proven oil reserves have fallen to 48 billion barrels but added that Kuwait has additional "probable" reserves of around 150 billion barrels, especially after recent discoveries earlier this year. The Kuwait government officially denies the 48 billion barrel figure. The question of Kuwait's reserves remains unanswered.

Most of Kuwait's oil reserves are located in the 70-billion barrel Greater Burgan area, which has a production capacity of around 1.6 million bpd. Burgan is the world's second largest oil field and has been producing oil since 1938, according to the Energy Information Administration (EIA). However, as most of Kuwait's producing oil fields are over sixty years old, field maturity is another problem. In 2005, Farouk Al-Zanki, chairman of KOC said that Burgan oil field is "exhausted" in an interview with Bloomberg. The plateau in output from the Burgan field will be about 1.7 million bpd rather than as much as the 2 million bpd forecasted before. "Burgan by itself won't be enough because we've exhausted that, with its production capability now much lower than what it used to be," said Al-Zanki. "We tried 2 million bpd, we tried 1.9 million, but 1.7 million is the optimum rate for the facilities and for economies."

Oil is the backbone for Kuwait's economy. Oil revenues account for around 95 percent of the country's revenues and about two-fifths of GDP. Kuwait is in a dire need to explore new reserves, build more pipelines and use new techniques to develop its oil fields to compensate for the declining output from old reservoirs. With the increasing world demand for oil and depending mainly on oil revenues, developing its heavy crude assets is an essential step for Kuwait to maintain its current oil production rate.



A Kuwait oil refinery is being protected by military forces