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Policy Brief
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New markets and partners for Saudi oil exports

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Executive summary

Flows of crude oil sales are determined by refining demand. In recent years Saudi Arabia has invested massively in captive refining capacity at home and abroad and will be able to refine two-thirds or more of its oil in controlled refineries by the end of the current decade. Because refineries in Europe are likely to be put on sale as distressed assets, Saudi Aramco would have no difficulty in further expanding its controlled capacity. A continuation of this trend may even lead to the Kingdom not exporting crude oil to third parties at all. This is in line with the country's ambition to diversify its economy and its limited interest in further expanding oil production for the sake of selling oil as crude.

Crude oil is bought by refiners: the evolving geography of refining is no less important than the changing geography of oil production in determining international oil flows.

In the latest issue of the *Oxford Energy Forum* (May 2013), Antoine Halff writes:

> The global oil market is undergoing a profound transformation, the depth of which is inadequately captured by the popular cliché "the new oil map". For the changes underway in the market go beyond a mere geographical reallocation of supply and demand or even refining capacity. The supply chain itself – the way oil is being delivered from the wellhead to end-users – is transforming. The old system, in which crude trading was largely global but refining and distribution were mostly local, is being turned on its head. Product trading is globalising and the product supply chain is getting both longer and more fragmented, an evolution which carries significant implications for supply security and prices.

The International Energy Agency's *Medium Term Oil Market Report* forecasts that in the next few years global trade in crude oil will decrease by 900,000 barrels per day (b/d), while trade in products will expand to more than compensate for this decline.

New refineries are being built especially in emerging countries. Much of the expansion is specifically concentrated in China and Saudi Arabia. The latter will see the start-up of the SATORP refinery (a joint venture between Saudi Aramco and Total) in Jubail this year (with a capacity of 400,000 b/d) and the YASREF refinery (a joint venture between Saudi Aramco and Sinopec) in Yanbu' in 2014 (with another 400,000 b/d). Later this decade we shall see the start-up of the Jazan refinery, which is wholly owned by Saudi Aramco, with another 400,000 b/d of capacity. Furthermore, Saudi Aramco is also increasing its refining capacity outside the Kingdom. In the U.S. the Motiva refinery (a joint venture with Shell) has been expanded to a capacity of 600,000 b/d, and plans are being pursued to establish refineries in China and Indonesia.

The chief executive officer of Saudi Aramco, Khaled al-Faleh, has been insisting on the transformation of the company ever since his appointment. This means increasing captive refining capacity and massively branching down the value chain into petrochemicals. In January 2012 he said that Saudi Aramco will invest $90 billion in the next five years to increase refining capacity by 50% to 6 million b/d in projects "that more or less have been identified". Refining capacity in Saudi Arabia itself will rise to 3.46 million b/d in 2016 from the present 2.26 million b/d.

The exact numbers may not be 100% precise, but the strategic intention is clear: by the end of the current decade the availability of Saudi crude oil for refiners unconnected to Saudi Aramco might be considerably reduced: if we assume that Saudi crude oil production will continue at 9-10 million b/d, only little more than 3 million b/d might be available for sale to external parties.

Furthermore, all the new refinery capacity that Saudi Aramco is creating in Saudi Arabia and elsewhere in the world is specifically geared to processing Saudi heavy crude oil, which is more difficult to market. The streams of Arabian light and extra-light will never have a problem finding customers, and will continue to be priced in line with international realities. In contrast, heavier slates from other Gulf producers that have not equally invested in captive refining capacity may have a harder time finding buyers.

We should also consider the likely impact of refinery additions on older existing refineries. There is unanimous agreement that the refining sector in Europe will especially be hit by competition from more modern refineries elsewhere in the world. Russian oil companies are also massively investing in refinery improvements and one after the other the old Western European refineries will be closed or put on the block. Because it is difficult and extremely expensive to definitively close a refinery, current owners will look for buyers and European refineries will become distressed assets. In this context Saudi Aramco may well decide to selectively buy in order to gain a more solid foothold in the European market – although so far the company has not shown any interest in this or simply seen no need for taking such a step.

As mentioned, the other main strategic direction is downstream integration in petrochemicals. This is embodied by the major joint venture with Sumitomo, which has led to the transformation of the Rabigh refinery and the development of a petrochemical plant attached to it, as well as by the SADARA joint venture between Saudi Aramco and Dow Chemical, which will see the creation of a new world-class petrochemical complex at Jubail. Of course, Saudi Aramco's petrochemical projects are only part of the story, as major expansion is planned in parallel by SABIC and by various petrochemical companies belonging to the private sector. Increasingly, new projects are being launched to produce sophisticated petrochemical products, in particular those that are used in the automotive industry, in a strategy that is meant to eventually see the birth of an automotive and transport equipment industry in Saudi Arabia itself.

It does not make much sense to discuss how much crude oil Saudi Arabia will sell to third parties by the end of the 2020s, but clearly the combination of the will to diversify its economy and the extrapolation of a production level not much higher than 10 million b/d may mean that the Kingdom will eventually export only various manufactured or higher value-added products and limited volumes of crude oil to joint-venture or wholly owned refineries. In fact, almost all global oil scenarios envisage growing demand for crude oil and assert the need for Saudi Arabia to increase production to contribute to meeting growing global demand (with the other main incremental source being normally identified as Iraq). Yet these scenarios do not take into account the fact that the Kingdom is serious about diversifying its economy and may not be interested in increasing its crude oil production beyond the current level.

In the opinion of this writer, those commentators, including Saudi businessman and royal family member Waleed bin Talaal, who see U.S. shale oil expansion as a threat to Saudi oil exports fail to understand the connection between crude oil sales and investment in refining, as well as the longer-term impact of Saudi Arabia's diversification ambitions.

Of course, Saudi Arabia will face some entirely new challenges as a global producer and marketer of petrochemical and other manufactured products. It is expected that the world may see a glut of refined products towards the end of the decade, leading to a softening of prices and very small refining margins, and the prices of petrochemical products are well known to be highly unstable as the industry regularly goes through phases of overproduction. There is no OPEC for refined products or petrochemicals. To the extent that Saudi Aramco and other major Saudi corporations will have invested in the transformation of oil, they will no longer be willing to cut back production to defend crude oil prices; this burden will need to be increasingly shared by other producers and the outcome is far from clear.

Nevertheless, Saudi companies and political decision-makers are wise enough to always engage international partners in joint ventures for major projects so as to guarantee access to optimal manufacturing and marketing skills. The fact that major international players are willing to engage with and invest in the Kingdom indicates that they see concrete potential for success.

THE AUTHOR

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