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The US-OPEC Oil War Takes Another Turn

Capitalism and innovative technology in the United States still appears to be unbeatable. And no more so than for Oil & Gas.

Figure Caption: Khalid Al-Falih, Saudi Arabia's Minister of Energy, Industry and Mineral Resources warns that OPEC's efforts directly benefit the U.S. industry and 'we will not underwrite the investments of others at our expense.' Credit: Fayez Nureldine/AFP/Getty Images

On Thanksgiving Day 2014, the Organization of Petroleum Exporting Countries (OPEC), led by Saudi Arabia, adopted a new strategy by refusing to cut production. This shocked the market because OPEC usually cuts when oil markets get oversupplied.

Saudi Arabia's goal was to renew alliances with post-war Iraq, post-sanction Iran, and to create a new and powerful partnership with Russia, a top 3 global oil producer (Saudi and the U.S. are the other two). Also, the cartel recognized the ancillary benefit of hurting U.S. producers, which would lessen the flow of hydrocarbons into global markets.

It is now clear that OPEC underestimated how adaptive the U.S. shale industry would be, and that the oil price crash would actually make it a more formidable competitor. If you'd have asked any expert in 2014 what price would allow U.S. markets to grow, they would have said $75/barrel. But now it seems $45 to $50/barrel is enough, mainly because of innovative technology and increased efficiency.

OPEC's view of the U.S. shale industry has changed dramatically over the past several years. In 2014, they didn't see the U.S. as a sustainable threat. Now, OPEC has recognized the harsh reality that U.S. shale is here to stay. It is clear that U.S. shale is the marginal barrel of production that, like an accordion, can quickly accommodate global demand growth when it is expanding, but also quickly decline when demand recedes.

This new understanding led OPEC to cut supply in November 2016, but also makes the cartel unlikely to cut output during the next recession, instead relying on the marginal U.S. barrel to adjust accordingly. The cut quickly drove oil prices above $50/bbl, a level that allows shale producers to grow profitably.

Ahead of the 172nd OPEC Meeting in Vienna Austria this Thursday, I spoke with several experts and energy investors to better understand how new technologies have affected these trends and how this Oil War may play out.

'With any technology, there is a learning curve. The methods used to drill and complete wells a decade ago seem archaic by today's standards,' explains Andrew Heyman, Co-Founder of Talara Capital, a real asset investment firm that owns energy assets in both private and public markets. 'Hydraulic fracturing was first commercialized in the mid-20th century, however, it was not widely adopted until the 2000's when the technology became more economical.'

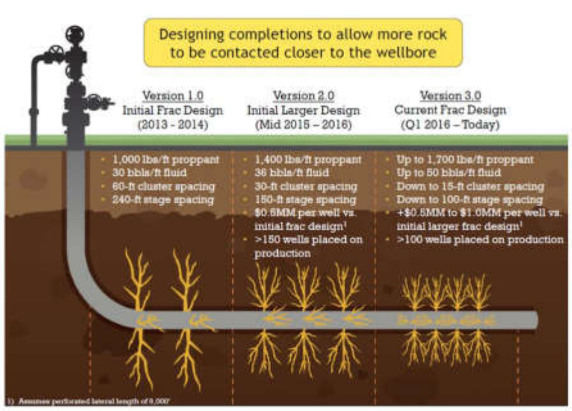

Figure Caption: Example of Well Optimization that overtook the industry in just the last few *years and has made an astounding difference in costs and what can be economically recovered.*

Shale oil development is now beginning to displace higher-cost alternatives including deepwater exploration and the Canadian Oil Sands. Technological improvements in drilling and completing wells are driving these shifts, and new innovations continue to be developed.

Even though prices are lower, U.S. oil remains a growth industry. Demand trends have been stronger than those seen before the downturn, as lower prices have encouraged more consumption.

Talara Capital expects global oil demand should grow around 1 million barrels per day annually for the next decade. The U.S. is likely to supply around 700 thousand barrels per day of that growth, roughly 70%. Core parts of the Permian and Eagle Ford basins in New Mexico and Texas have some of the lowest cost wells in the country, and will account for the majority of U.S. oil growth.

In these basins, productivity has improved dramatically in recent years as new technology is driving better performance. The biggest improvements are in drilling and completing wells.

'Completion techniques have really advanced,' said Bob Bakanauskas, Talara Capital's Vice President of Public Company Research. 'Oil companies have gained a more nuanced understanding of their rocks (see figure). Older fracing techniques were inefficient and left behind significant amounts of hydrocarbons.

'The industry is now focused on maximizing sand and fluid contact around the wellbore. This involves understanding which parts of the rock break down easily and which parts need more help. Some of the techniques involve using shorter spacing between frac stages and injecting more sand and fluid into a well. Additionally, the industry has been developing technologies like diverters that work to direct sand and fluid into parts of the rock that would otherwise not take the frac.'

Randy Nickerson, Chief Operating Officer at Talara-backed [Caza Oil and Gas] notes that 'On our New Mexico Permian properties, new technology has really expanded the opportunity set. We've gone from one horizontal zone to five.

Precise drilling and improved fracing techniques make it likely that multiple zones of the Bone Spring and Wolfcamp will be commercial, along with others.'

It's not just the big technologies that are making a difference. Much of the rapid expansion is being driven by digitization and data analytics, similar to the manufacturing industry. Firms such as [EOG Resources] have embraced machine learning and big data to drive further gains in well productivity.

Bakanauskas explains, 'EOG has hired big data specialists from the likes of Amazon and Google. The company is at the forefront of understanding which techniques work best for different geologic conditions. Through machine learning, software is being developed to make real-time recommendations regarding the best techniques for specific circumstances.'

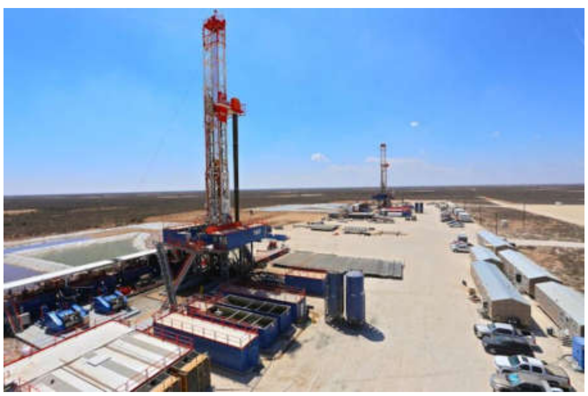

Figure Caption: New technology has revolutionized drilling, like Patterson-UTI's APEX WALKING® drill rig. This rig uses hydraulic feet to 'walk' from one drill site to another and operates in West Texas.

As Richard Myers tells it, a year ago, crude oil prices were at, or near, $26-per-barrel, a long downward slide from just over $100 per barrel in mid-2014. The Saudis made sure we had three years in a row with more supply than demand. About 500,000 jobs disappeared worldwide, most of them in the oilfield services sector.

Even more, Myers observes that the price cycle has shortened. 'Oil and natural gas from tight shale formations has fundamentally changed the velocity of the commodity cycle. Everything happens much more quickly. When the marginal barrel was a frontier barrel or an offshore barrel, the commodity cycle was measured in years. When the marginal barrel is an onshore shale barrel, the cycle is measured in months.'

The geopolitical ramifications of this Oil War are huge. Not only will the U.S. export petroleum products of all types, but many American industries will be helped by access to cheap oil and gas.

In many countries around the world, oil prices are more important to their economies than in the United States because their economies are so dependent on oil revenue. Fitch Ratings warned that most crude oil producers in the Middle East, Africa and the emerging economies of Europe won't be able to patch up their budgets this year with the forecasted price of $52.50 a barrel for 2017.

OPEC nations are now realizing that they need to diversify away from oil and gas if they want to have stable economies and governments. The IPO of Saudi Aramco is acknowledgment of this.

As Ali Shihabi, executive director of the Arabia Foundation in Washington, DC, noted, 'Aramco is Saudi Arabia's biggest asset and is the best run National Oil Company in the world...this is not an IPO of a tech start-up where the founding investors need to capture maximum value at IPO. The privatization of Aramco is a strategic step of long-term benefit to the Kingdom's economy.'

An uneasy tension between American shale producers and the rest of the world was on display last March during the CERAWeek global energy meeting in Houston.

Saudi Arabia has always been the only country with significant surplus production capacity – able to go up several thousand barrels a day when that's needed, and down several thousand barrels a day when that's needed, and they have essentially controlled supplies and prices for the last several decades. OPEC and some non-OPEC producers have agreed to reduce production by 1.8 million barrels a day, in an attempt to bring the market back into balance.

It's not clear, however, to what extent Saudi Arabia is willing to play the role of supply manager in the future. 'OPEC is the only catalyst able to bring stability to the market,' said Khalid Al-Falih, Saudi Arabia's Minister of Energy, Industry and Mineral Resources. OPEC is demonstrating 'greater alignment than at any time in recent memory,' he said, and has established 'a collaborative framework of production management for a restricted period of time.'

But Al-Falih warned his audience that 'our collective efforts directly benefit the U.S. industry...we will not underwrite the investments of others at our expense.'

Maybe this Oil War is not over, but the U.S. seems to be holding the bigger stick.

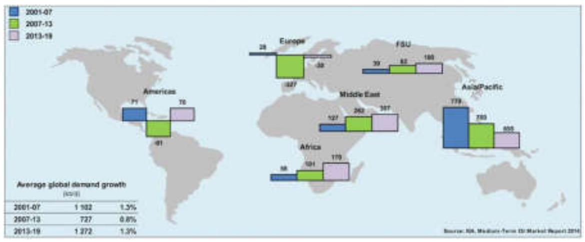

Figure Caption: Growth in global oil demand. Asia and Middle East will continue to dominate as Europe and the Americas finally recover from the Great Recession and vehicle gasoline efficiencies continue to improve. Source: IEA Oil Market Report

Dr. James Conca is an expert on energy, nuclear and dirty bombs, a planetary geologist, and a professional speaker. Follow him on Twitter @jimconca and see his book at [Amazon.com]

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