OIL MARKETS: INVESTMENT AND SECURITY CHALLENGES IN A WORLD IN TRANSITION

Dr Ivan Marten, Senior Partner and Managing Director,
Vice Chairman Energy Practice, Boston Consulting Group (BCG)

When we talk about oil and gas people tend to think about transportation (oil) and power generation (gas) but oil and gas is much more than that, it is embedded in our daily lives: the medicines we take, the sport shoes we use, the clothes we wear, the toys our children play with…, products we use every day and we cannot live without them.

We need investments to be able to provide energy to a growing population and we need to have security of supply but there are many sources of uncertainty: demand, supply, technology, regulation, geopolitics…

For some time, many of us in the industry have been referring to $50 as a "downturn", but now after almost three years, we need to accept that, for now at least, oil markets move in a fundamentally new band. The picture looks relatively stable but we should look a bit deeper behind the numbers, that paint a picture where the future could be significantly more volatile than the recent past.

Of course, the main effect of recent lower prices has been to dramatically reduce upstream final investment decisions and capital investments – and as a result, a supply hole may be emerging. Upstream capital investments fell by 44% in the two years after 2014 before recovering slightly by 9% this year, driven almost exclusively by North America.

But the effect of this fall is that, from 2019 onwards, we see severely declining volumes from new projects and after 2020 new project volumes will fall well below historical demand growth requirements of around 1.4M bbl/d.

Decline is a critical issue as production from today's oil producing assets will decline approximately 50% by 2030, further stressing supplies. This is a critical issue at a company level – majors, for example, need to replace an average of 1.2B boe/year - a company the size of Anadarko - just to stay in place volumetrically.

And not only has the absolute level of oil and gas investments been falling but also the relative share of global energy investments has fallen, from a historical average this century of almost 70% to only 56% last year. The implication is that the recent investment mix has been increasingly oriented towards lower carbon sources, but typically those focused on electrification, rather than mobility.

Now turning to demand, for most of the last 3 years, demand growth has remained strong – and that strength is projected to continue.

Unfortunately, we can see that lower prices have reduced the crucial focus on efficiency in many markets. For example, in 2016 a record 17.55 million new vehicles were sold, of which an astonishing 63% were SUVs, up from 50% in 2013, and the best-selling vehicle in the US last year was a pickup truck – over 800,000 were sold – that's 93 every hour.

So, will a shift to oil alternatives ease the pressure? Probably not. If we analyze the anticipated demand growth over the next ~20 years we can see that of the ~15 million bbl/d of growth segments, 80% comes from segments in which it is challenging to find oil substitutes for all applications – freight, petrochemicals and aviation.

We have seen that the supply picture could be challenging, and demand is likely to remain strong. The issue is: what could fill the gap?

In recent years, shale has been positioned as the large, flexible supply source that has changed the game in terms of supply but we believe that the picture is more complex – shale is certainly an important and fast-growing source and we doubt its ability to balance the market alone in the long term.

The reason is a lack of scale and accelerating underlying declines. In December 2014, shale was able to add gross production of 490,000 bbl/d but due to strong underlying decline, net additions were only 167,000 bbl/d and whilst many have reported a strong recovery in shale in 2017, the numbers remain similar. In May, this year shale added 421,000 bbl/d but the additions, net of declines, were just 123,000 bbl/d – barely enough to cover today's strong demand growth.

So, our sense is that OPEC and other supply sources will return to playing a critical role in balancing an increasingly complex and stressed market.

In conclusion, we have now been in a structurally new oil price band for almost three years due to 4 main reasons: strong investments bringing new supplies on stream early in this downturn, inventories which have been built far above historical averages, relatively few supply outages compared with the recent past, and finally the perception of flexible supplies available from the US. However, demand growth is now clearly strengthening but often in areas where oil substitution is challenging such as petrochemicals and aviation. As the market rebalances the supply outlook is more uncertain and potentially volatile. Production discipline and natural declines are bringing markets and inventories into balance, but underinvestment may be leading to a serious supply hole post 2020 and the ability of shale to fill the gap is unclear.

Going forward we see three imperatives for AMER countries to prosper in this environment: to maintain regional competiveness by locking in the cost reductions of the last 3 years, to shape policy and process to enable faster, shorter-cycle investments better suited to today's market and to ensure that fiscal policies are aligned with the new market.