Lies, damn lies, and commodity forecasting!

An $85/bbl oil price outlook is maintained for 2016, as weak oil prices, balance sheets, and significantly reduced drilling activity will create a net, non-OPEC supply decline in 2016. For North American natural gas, it is much the same story—less drilling activity makes for less gas production growth in 2016, and a much tighter market.

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Global oil prices have fallen more than 50% since mid-2014, Saudi Arabia is sitting on the sidelines, and global demand remains the monster in the closet. OPEC's Thanksgiving Day "commodity massacre" set the stage for another leg down in oil prices, when the organization opted to make no change to current production targets, nor did they set plans for an extraordinary meeting in February. Essentially, OPEC said "See you in June," which gave neither support nor leadership to an increasingly oversupplied market, Fig. 1.

The current oil market oversupply was driven by slowing demand growth, combined with ongoing significant supply growth, driven by the big ramp in U.S. onshore production, Fig. 2.

But wait, there's more. The challenge in an oversupplied commodity market is that it takes time for fundamentals to change in response to a price signal, Fig. 3. Make no mistake—cutting oil prices in half is a strong signal to producers, but unless prices are so low that production gets shut-in, a supply response takes months to materialize. While supply levels sort themselves out, inventories build, and the downward pressure on prices intensifies.

Figure 4 shows that the supply-and-demand outlook worsens for the next two quarters before it improves later this year. Expect first-half 2015 inventory builds to be significant, until the impact of today's low prices starts to impact U.S. production growth.

How do we get from a market that is oversupplied, to one that is undersupplied in 2016? Non-OPEC supply transitions from 1.0-plus-MMbopd growth to declines by 2016, led by both the U.S. and Russia. Although we expect global demand growth may move higher than last year's 600,000 bopd, on the back of the stimulating effects of low refined product prices, our current model only assumes a similar, modest 0.6% average global growth rate. If a re-acceleration of growth occurs back to, say, 2013 levels of 1.2-MMbopd growth, global markets could tighten quickly.

How does supply correct itself in 2016? Low oil prices are creating an environment, where many individual wells are not economic to drill, while stretched company balance sheets require spending within current-year cash flows. Forced, rapid activity reductions are the result. Although forecasting drilling activity

Fig. 1. Crude oil price accelerated downward following OPEC's decision to not cut production in late November 2014.

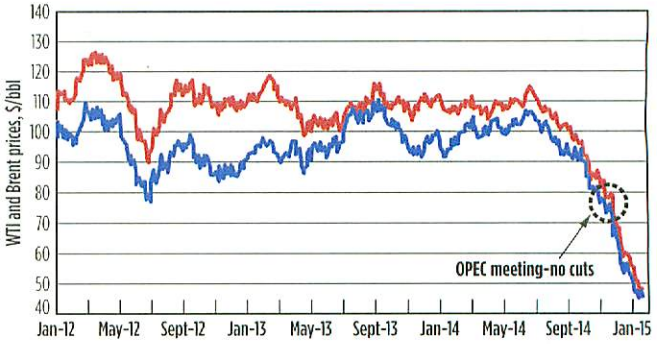


Fig. 2. U.S. crude oil production is expected to grow to 9.010 MMbpd through 2015, but depressed pricing will cut into that growth by 2016. However, production is expected to rebound in 2017, and will reach nearly 11.5 MMbpd by 2020.

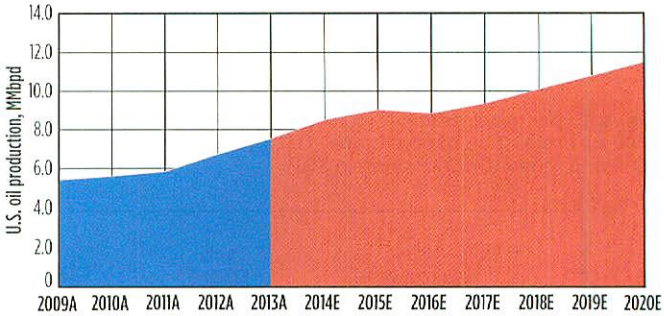


Fig. 3. Multiple years of high crude prices drove a supply response that, when coupled with slowing demand in 2014, moved the global crude market into oversupply. A sharp drop in price is the result.

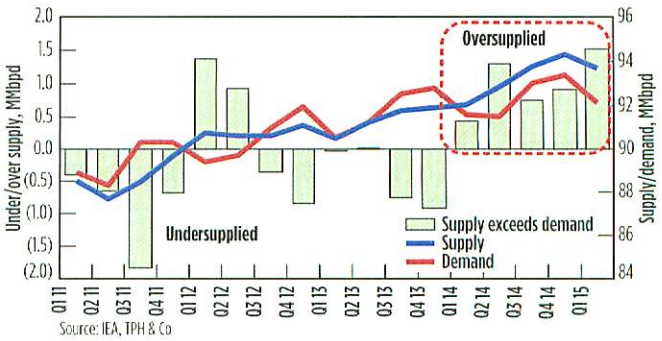


Fig. 4. Crude prices cannot move back up until the over-supplied market condition is corrected. A correction through reduced supply growth takes time.

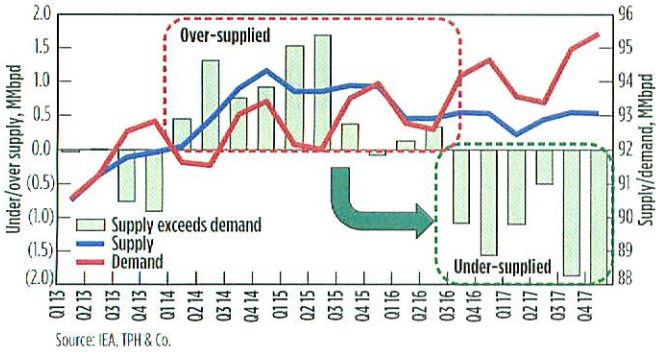


Fig. 5. The U.S. land rig count may drop nearly 900 units in 2015, but it should rebound in 2016, as crude price improves.

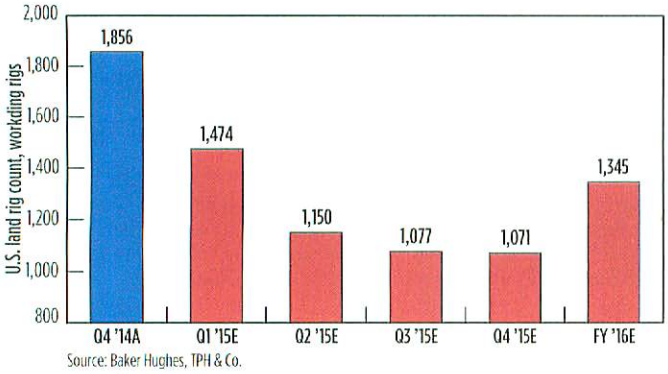
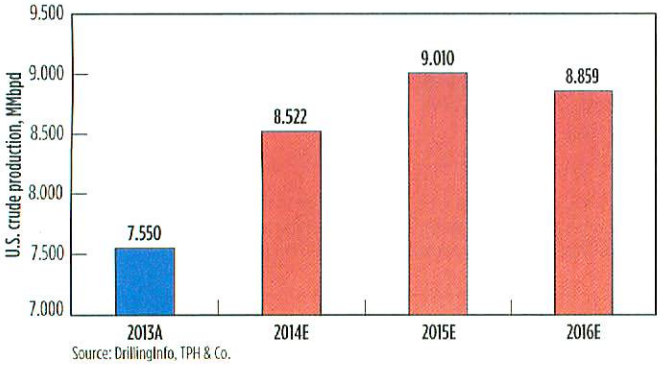


Fig. 6. Expected drastic cut in 2015 rig count materially impacts 2016 oil production expectations. U.S. production growth slows 2015 and move to contraction in 2016.



in this dynamic environment is difficult, we believe that in any reasonable scenario, U.S. land drilling activity (Fig. 5) will be cut sufficiently to slow 2015 U.S. production growth, and move the trajectory to declines by 2016, Fig. 6.

Other considerations. Global demand is more challenging to forecast than global supply growth. Our base-case assumes global demand growth muddles though with an eye toward re-acceleration. However, the recovery will be pushed into 2017, and further, if global demand contracts and OPEC inaction mean that non-OPEC declines are the sole driver to balance the market.

Fig. 7. The strengthening of the U.S. dollar has coincided with the decline in crude oil prices, showing a strong correlation between commodity values and currency rates.

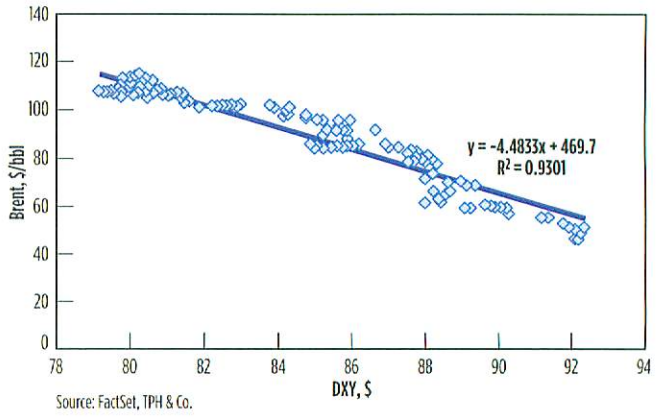


Fig. 8. Growing northeastern U.S. gas production has driven the increase in total nationwide gas output.

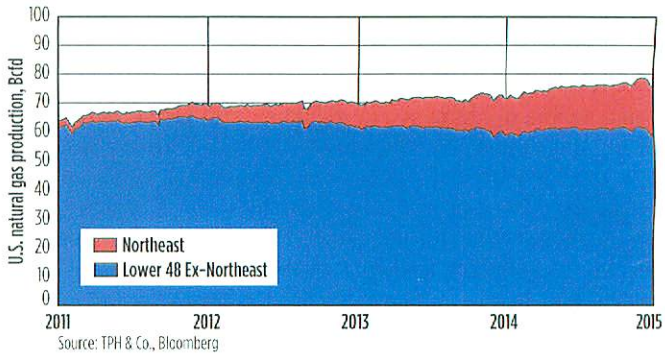
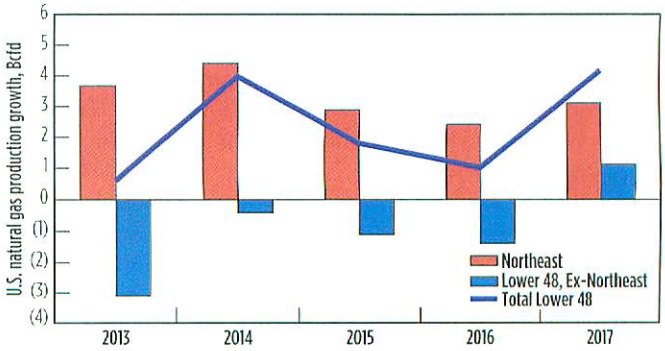


Fig. 9. The combination of slowing Northeastern production growth, and outright declines in the U.S. balance, leads to a sharp slowing of overall U.S. natural gas supply growth by 2016.



Low oil prices have spurred more discussion of global deflation. This has caused more stimulus discussion in Europe, and a stronger U.S. dollar. The strong dollar puts downward pressure on crude oil prices—this was true in 2008 and 2009, as well. So, if you want to be a commodity forecaster (and get it right to the $1/bbl), you need to be able to forecast currency movements.

While Fig. 7 highlights the strong relationship between the crude price and U.S. dollar strength (r=93%), we are comforted by the limited magnitude of the relationship (y=4.5x).