

morning star
stock investor

MAY 2014

Crude Awakening: Relentless Shale Growth Ends the Era of High Oil Prices

by Morningstar Energy Team

Thanks to ongoing productivity improvements, cost reductions, and slowing decline rates, U.S. shale's cost-competitive growth potential is far greater than most investors realize. Shale oil has fundamentally altered the global supply picture, ensuring the industry has more low-cost resources than it needs. We believe the market must find a long-term oil price that can keep a lid on U.S. shale activity. Our new 2020 Brent crude oil price forecast is \$60 per barrel—down from our previous projection of \$70/barrel.

We anticipate continued declines in development and operating costs at the marginal end of the cost curve, without which a significant volume of resources risks becoming economically stranded. Higher-quality oil sands and offshore projects have no choice but to reduce costs—otherwise, U.S. shale will produce these marginal resources right off the supply curve. Because low oil prices have cut industry investment so deeply, it could take time before long-term challenges become apparent to investors. Indeed, stalling supply and growing demand are setting the stage for a medium-term oil price recovery. But higher prices will restart the shale growth machine; when that happens, the industry is in for a crude awakening.

Morningstar's Updated Crude Oil Price Forecasts (\$/bbl)

| | 2015 | 2016E | 2017E | 2018E | 2019E | 2020E |
|-------|------|-------|-------|-------|-------|-------|
| Brent | 54 | 41 | 47 | 55 | 70 | 60 |
| WTI | 49 | 39 | 45 | 53 | 65 | 55 |

Supply Outlook

- We project U.S. crude production to decline 6% in 2016 and another 2% in 2017. While the lowest-cost producers could begin to increase activity at an oil price of \$45/barrel, this price is well below the level required to reignite overall U.S. volume growth.
- Oil production outside OPEC and the United States will not increase for the rest of the decade, as lower oil

prices have resulted in underinvestment in producing fields and a dearth of new project sanctions. Consequently, we expect consensus supply projections to be reduced even further.

- Oil markets will be meaningfully short of supply in 2019 unless investment increases markedly in the near term. We believe the stage is being set for a medium-term oil price recovery to \$70/barrel Brent. However, this price level should incentivize rapid capital spending growth in U.S. shale plays, pushing Brent back down to \$60/barrel by 2020.

Demand Outlook

- Oil demand risks are skewed to the downside. We expect oil demand to approach 100 million barrels per day by 2020. However, developing countries face a variety of economic challenges—from slowing growth in China to commodity exporters' gaping budget deficits—that we don't believe have been adequately captured in consensus oil demand forecasts. Our projection for global demand growth through 2020 is 15% (750,000 barrels/day) below consensus.

Investment Implications

- **Upstream:** Our analysis indicates that share prices for exploration and production companies are baking in a long-term oil price of \$70/barrel. Upstream stocks may appreciate in the short run as industry fundamentals improve, but we're bearish on the longer-term outlook.
- **Services:** Valuations in the oil services industry seem rich given major structural headwinds. Consensus expectations for improving results in 2017–18 appear far too optimistic considering the very weak outlook for upstream investment activity and structural overcapacity facing many end markets.
- **Midstream:** While far from immune from near-term industry headwinds, U.S. midstream fundamentals are likely to hold up better than any other energy sub-sector. Future growth in shale oil and gas volumes will eventually require more infrastructure. We would focus on the handful of midstream firms with solid balance sheets and distribution coverage ratios. ■■■

Victims of Success: Prolific Utica and Marcellus Cap Natural Gas Prices

by Morningstar Energy Team

We've lowered our long-term U.S. natural gas price forecast (Henry Hub) from \$4 per MMBtu to \$3 per MMBtu. We expect a lower marginal cost of production resulting from slowing declines in associated gas volumes linked to oil production as well as improved productivity and resource potential in the Marcellus and Utica shales. Simply put, we see mounting evidence that U.S. shale producers can survive (and in a few cases, thrive) at much lower natural gas prices than we previously thought possible.

Three main factors drive our conclusion. First, production declines across oil-rich plays continue to slow, which means more robust associated gas volumes. Second, prices for drilling and completion services are likely to remain under pressure due to overcapacity. Lastly, we now have a much more bullish stance on potential production from the low-cost Utica Shale region. With so many drilled-but-uncompleted wells across the Utica and its neighbor, the Marcellus, no more than 50 rigs would be required in these regions to meet almost all incremental U.S. gas demand through 2020. Accordingly, we now view the Utica and Marcellus as the price-setters on the U.S. supply curve, with breakeven levels around \$3/MMBtu.

Similar to our oil price outlook, we see potential for a near-term rally in natural gas prices, particularly over the next few quarters. A combination of midstream infrastructure constraints in the Northeast and record usage of natural gas for power generation could alleviate oversupply conditions. However, we expect the Utica and Marcellus to impose a cap on domestic natural gas prices over the longer run.

Morningstar's Updated Natural Gas Price Forecasts (\$/MMBtu)

| | 2015 | 2016E | 2017E | 2018E | 2019E | 2020E |
|-----------|------|-------|-------|-------|-------|-------|
| Henry Hub | 2.60 | 2.13 | 2.85 | 2.90 | 3.00 | 3.00 |

Supply Outlook

- Low-cost supply from the Marcellus and Utica, as well as associated gas volumes from oil-rich regions, should drive U.S. gas production to 89 Bcf/day by 2020, compared with 75 Bcf/day in 2015. The ongoing shift to horizontal drilling, along with faster cycle times and improved completion methods, should enable higher volumes with lower capital expenditures.
- The availability of up to two years' worth of drilled-but-uncompleted well inventory across the Marcellus and Utica should allow these regions to produce more than 27 Bcf/day by 2020 using an average of just 30–40 rigs over the next five years. The Northeast will remain short of pipeline capacity through mid-2017, but beyond that date there should be sufficient infrastructure to move volumes to market without much of a price discount.
- We believe there is enough natural gas in the Marcellus and Utica to meet the entirety of U.S. demand for 10–15 years at \$3 per MMBtu or less. The vast extent of this resource implies a relatively flat natural gas supply curve.

Demand Outlook

- We expect U.S. residential and commercial natural gas consumption to be roughly flat through 2020. Natural gas consumption for power generation should see a significant uptick in 2016 thanks to low gas prices relative to coal, but we don't see this as a major contributor to long-term demand growth.
- The primary drivers of natural gas demand growth include pipeline exports to Mexico, liquefied natural gas exports, and modest growth in industrial consumption. We forecast 13 Bcf/day of incremental demand through 2020. Dependence on exports leaves natural gas usage vulnerable to global macroeconomic and supply/demand conditions.

Investment Implications

- Gas-leveraged exploration and production stocks are currently trading at levels that imply a more bullish long-term natural gas price than our \$3/MMBtu forecast. As a result, there are few compelling opportunities for equity investors at this time. ■■