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“The future influences the present just as much as the past.”—Friedrich Nietzsche

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The current oil market struggle is between forces to rebalance supply and demand (OPEC) and forces to recalibrate the business to operate at lower cost (US tight oil operators). This struggle impacts the shape and performance of future E&P portfolios and investments. As a part of this struggle, short cycle U.S. shale barrels have fundamentally changed the structure of oil markets and the nature of upstream investment.

Near term, thanks to OPEC’s agreement to cut production, oil markets are slowly rebalancing. But led by the Permian basin, US oil production is expected add 1.6 MMb/d along with other non-OPEC producers who will add another 0.8 MMb/d from 2017 - 2019 thus offsetting most of OPEC’s cuts. In a base case scenario WTI oil prices are expected to average below $50 again during 2018 before oil demand and inventory reductions finally kick in to boost WTI into the mid-$50s during 2019.

An oil market conundrum creates a near-term Pushme-pull you cycle in oil markets. If oil drops into the mid $40’s US capex slumps along with tight oil production. If oil prices rebound into the mid $50s capex accelerates and US tight oil surges. But US tight oil production – expected to add 1.9 MMb/d - is not enough to meet the projected 12.3 MMb/d call on new oil production between 2019 and 2023. Moreover, sanctioned conventional projects only account for about a third of the projected demand. Supplies could tighten if capital is not forthcoming to boost additional project sanctions and higher prices will be needed to support expansion of additional tight oil production.

Longer term, 41 MMb/d will be needed to meet projected 2040 oil demand. The global petroleum industry has reduced full-cycle costs by about 25% since 2015 in a “great cost reset” to reposition profitability in a low cost world. This cost reset is critical as the onset of $80 oil prices, which is thought to stimulate adequate investments to meet 2040 demand, is not expected until 2030. Scenarios also indicate the onset of peak oil demand could occur during the 2030s as the transformation of transportation fuels accelerates. Peak demand triggers other long term strategic implications for the petroleum industry.

With the Permian Basin as the model, the rise of Super Basins could substantially alter the future of exploration. The prime driver for the rebound in Permian Basin production was the application of horizontal technologies in the Wolfcamp shale while production from tight conventional reservoirs accounts for 20 percent of the new production. Remaining Permian Basin resources are estimated to be 65 to 70 billion barrels – almost twice the cumulative production to date. During 2017 Permian Basin oil production surpassed the previous peak of 762 MMbbl set in 1973. Similar successes in the Williston Basin Bakken-Three Forks, the smaller Denver Basin Niobrara and other examples of oily super basin potential. The Appalachian Basin, which is dominating US gas supply growth, is the model for a gassy Super Basin. Internationally, companies are pursuing bypassed and underperforming opportunities in large mature basins as a means to reduce risks and project cycle times.

Global gas markets also are oversupplied. With huge U.S. gas resources that breakeven at less than $4.00/Mcf, associated gas and the Appalachian Basin will cover most near and mid-term demand growth. Power generation and LNG exports are expected to be lead gas demand growth but renewables challenge gas for new power generation and excess LNG supplies will last five years or more. Gas exports to Mexico and expanding chemical processing are bright spots for gas and NGL demand.