Returning To Market Balance: How High Must Prices Be To Save The Oil Industry?

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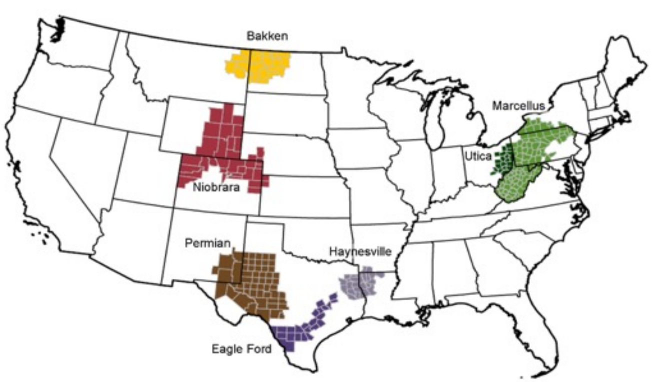
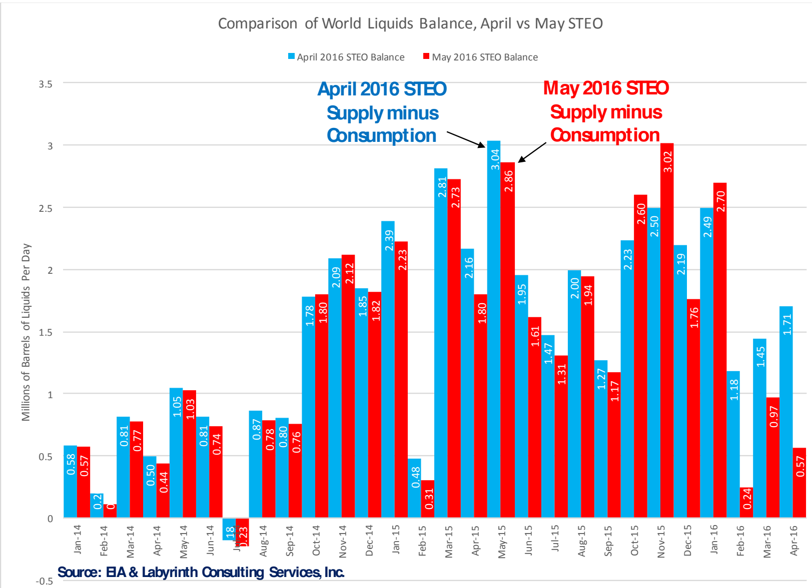
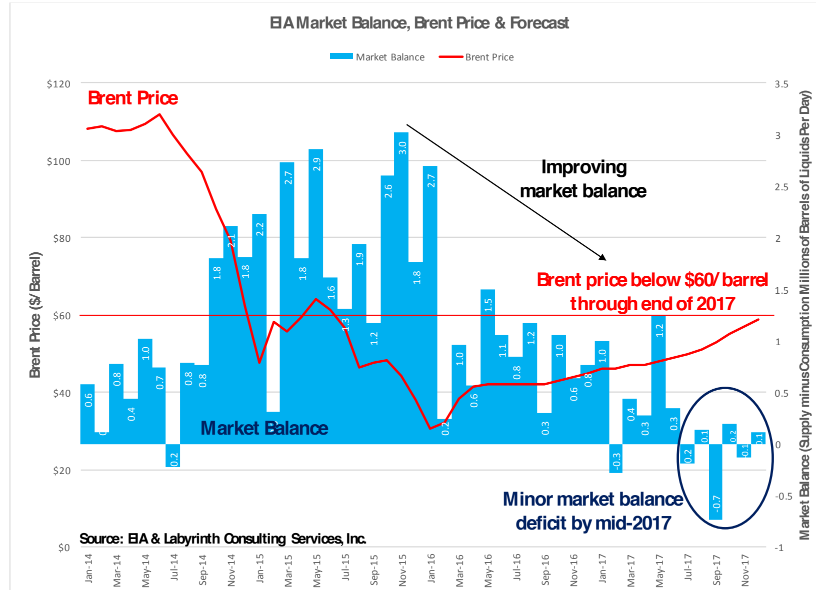
How High Must Prices Be To Save The Oil Industry?

- The global oil market is returning to balance more quickly than previously expected.
- That should mean higher oil prices but how high must prices be to save the industry?
- The price rally that began in late January-early February 2016 seems to have substance although outsized inventories should limit upward price movement.
- Recent outages in Kuwait, Nigeria, Venezuela and Canada have underscored the fragility of supply despite the prevailing production surplus.
- The weak global economy will be an important check on price recovery.
- Data suggests that oil producers need prices in the $70-80 range to survive. That is unlikely in the next year or so.
- If a weakened world economy cannot support those prices, we may see supply dwindle in a few years to levels that cause price spikes that cannot be absorbed.
- Without timely price relief, the future looks grim for an industry on life support.



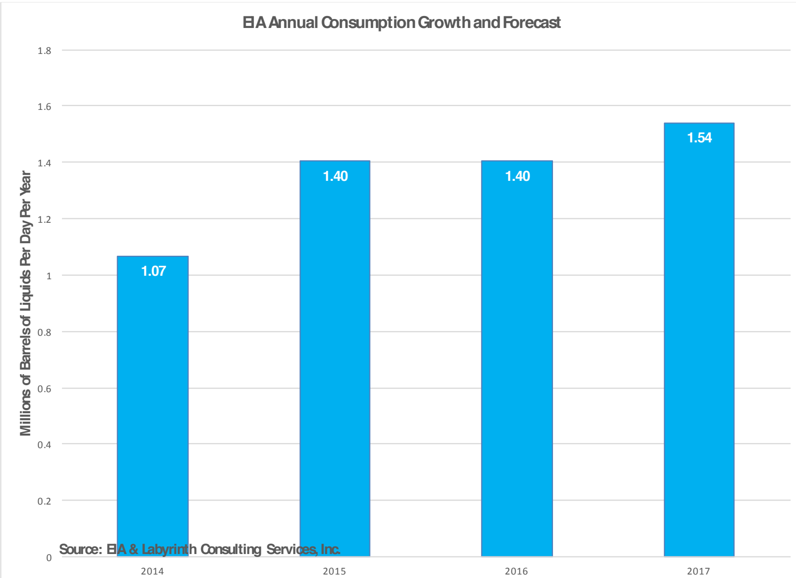
Oil markets are much closer to balance than previously thought

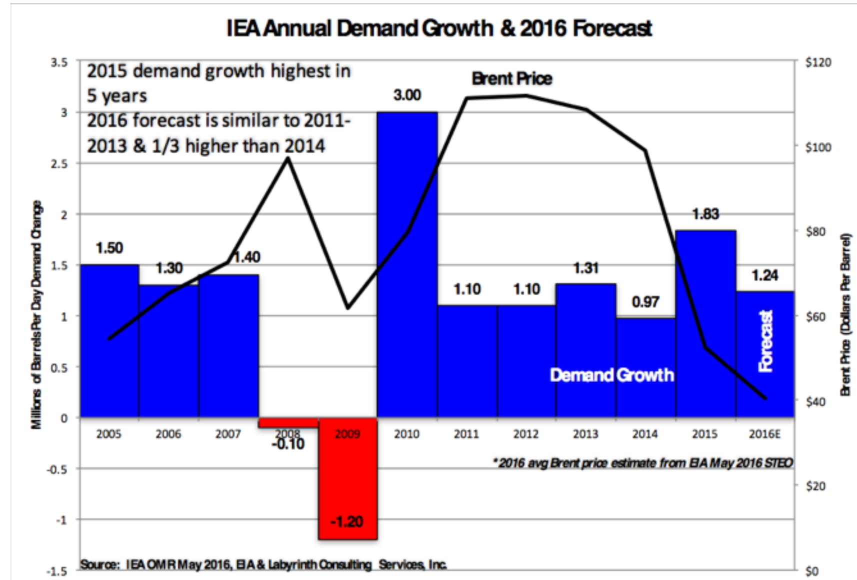




- Major EIA revisions to world oil consumption data provide a new perspective.
- The world was over-supplied by only 570 kbpd of liquids in April compared to EIA's earlier estimate for March of 1,450 kbpd.
- That March estimate has now been revised downward to 970 kbpd.
- February's over-supply has been revised downward from 1,180 to 240 kbpd.
- Market balance has been slowly and generally improving since November 2015.
- The biggest concerns for a durable price recovery are outsized inventories and a weak global economy.

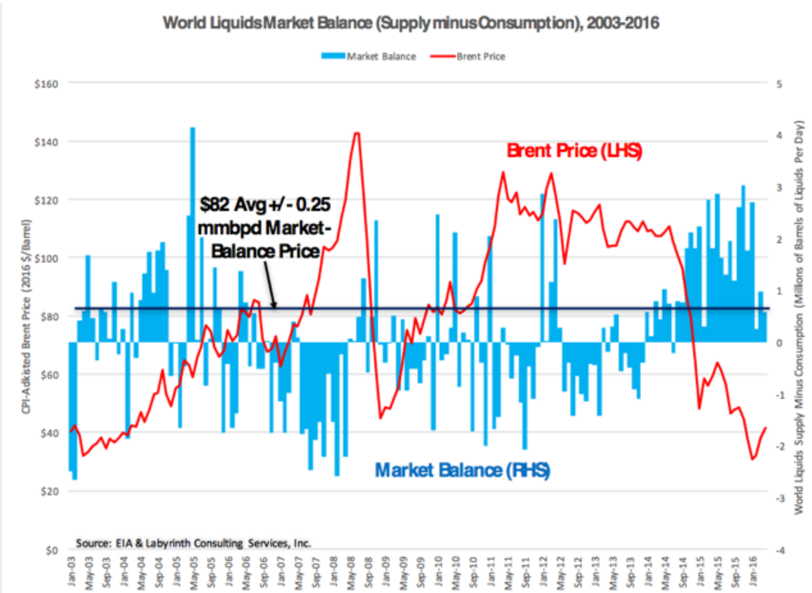
Consumption & Demand Growth

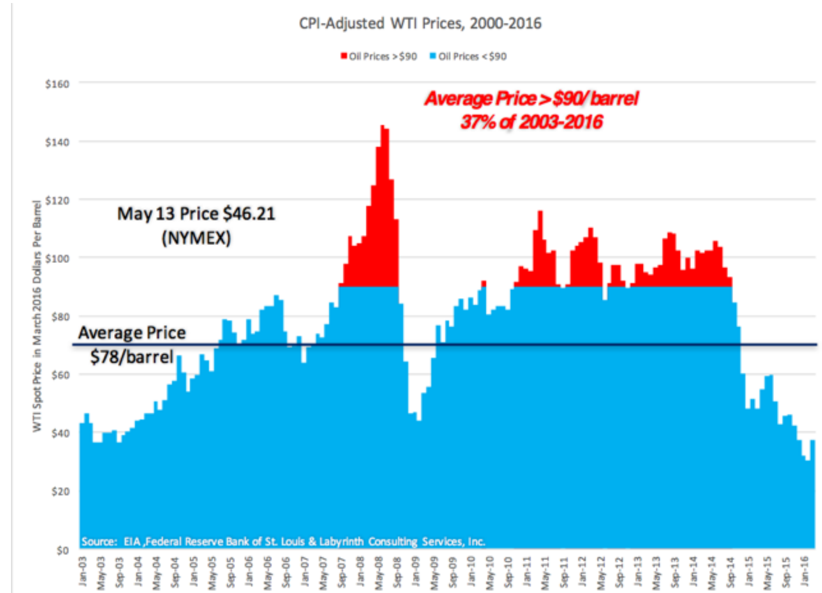




- EIA adjusted world *consumption* growth for 2016 upward to 1.4 mmbpd.
- Its estimate for 2017 is now a very strong 1.54 mmbpd.
- IEA *demand* estimate for 2015 is 1.83 mmbpd—strongest demand growth since 2010 after recovery from negative growth during 2008-2009 Financial Collapse.
- IEA acknowledges strong 1.41 mmbpd Q1 2016 demand growth but maintains is 1.24 estimate for full-year 2016 because of concerns about the global economy.
- Demand growth because of lowest real oil prices since the 1990s.
- Demand is like reserves—a quantity at a price.
- I share IEA's concern especially at higher average oil prices.

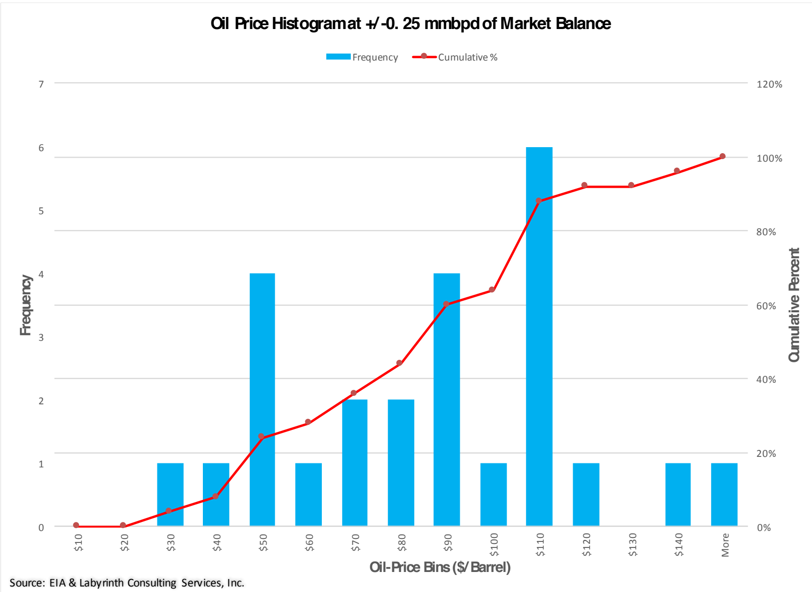
What Does Market Balance Mean For Price?

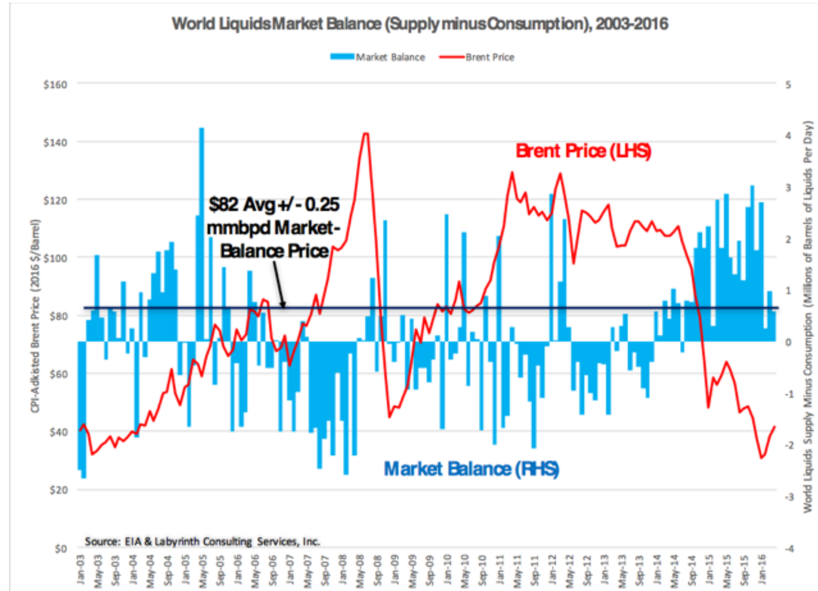




- Oil markets are never in balance. Producers always over-shoot or under-shoot with supply.
- Balance is simply a zero-crossing from one state of disequilibrium to the next, from surplus to deficit and back again.
- Since 2003, oil market within +/-0.25 mmbpd of balance 16% of the time. The average price (2016 dollars) for that near-market balance rate was $82 per barrel.
- But that was essentially the average oil price of $78 per barrel for the entire period.

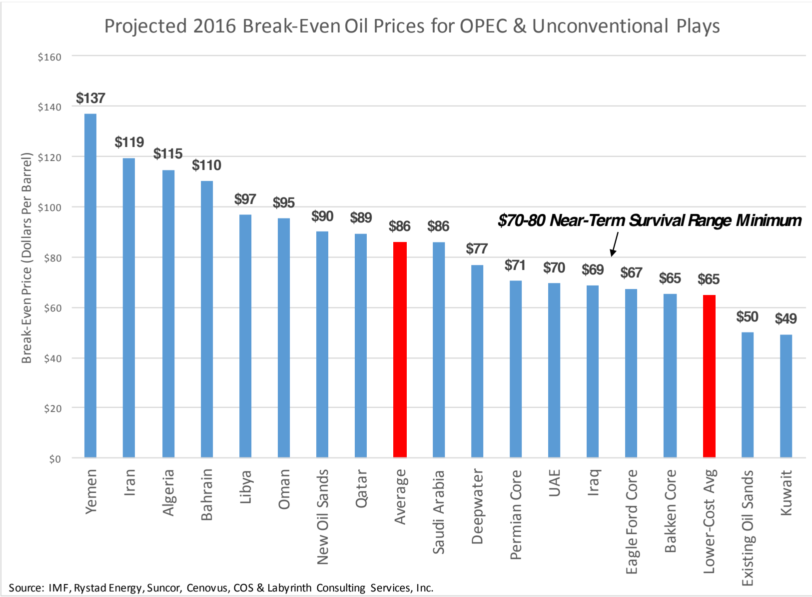
What Does Market Balance Mean For Price?





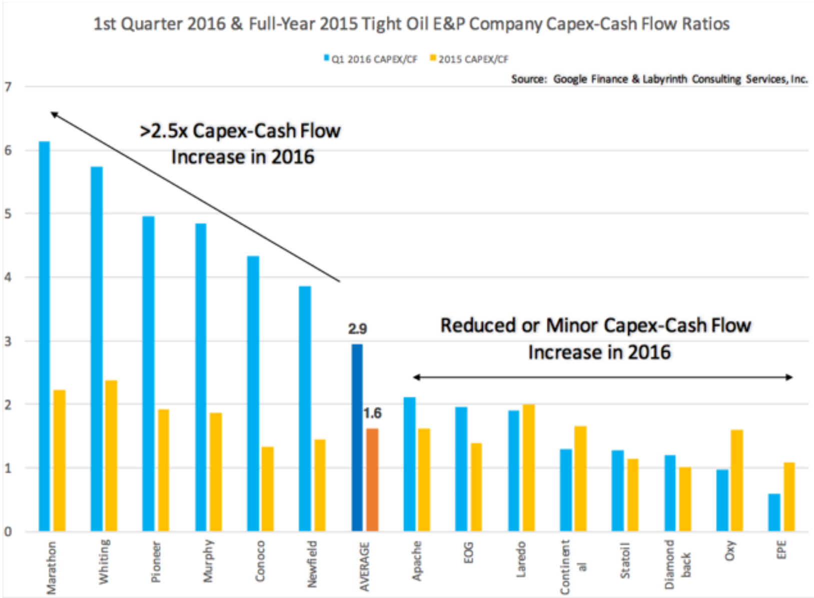
- Market balance occurred in every monthly average oil-price except $130 per barrel.
- Although prices above $90 per barrel represent 37% of near-market balance prices from 2003 to 2016, oil prices also averaged more than $90 per barrel 36% of the time during that 15-year period.
- Market balance reflects whatever price the market deems necessary to maintain supply at the time.
- No clear causal relationship between market balance and specific higher or lower oil prices.
- Balance merely represents the midpoint between prices on either side of the disequilibrium states that it demarcates.
- We think $90-100 was normal but the market was in deficit. Moving toward market balance and being on the deficit side of market balance are hardly the same thing.

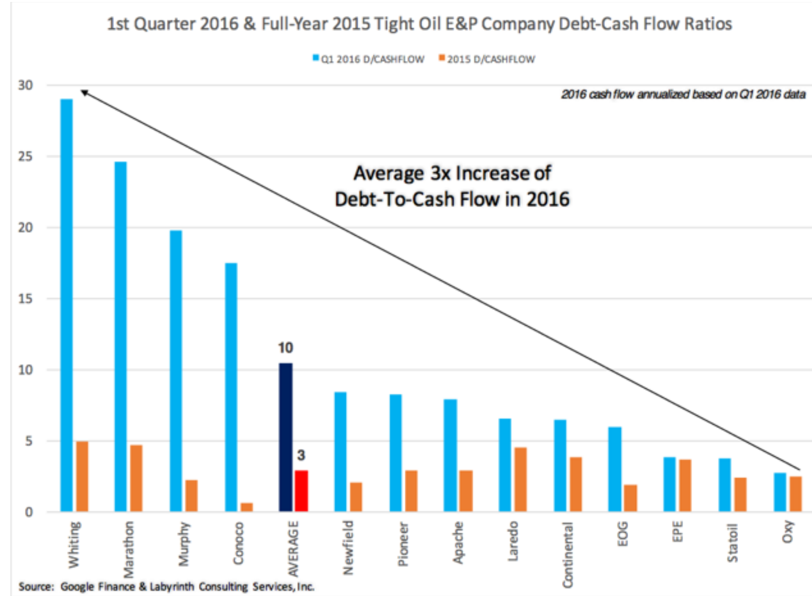
The Price Producers Need



- Lower-cost oil producers of the world need $50-80 per barrel and an average price of $65 per barrel to break even.
- $70-80 is a minimum price range for near-term survival of more efficient producers—some will still lose money at those prices.
- Existing Canadian oil sands projects, and Bakken and Eagle Ford Shale core areas are among the very lowest-cost major plays in the world.
- For all of the OPEC rhetoric about the high cost of unconventional oil, few OPEC countries are competitive with unconventional plays when OPEC fiscal budgetary costs are included.

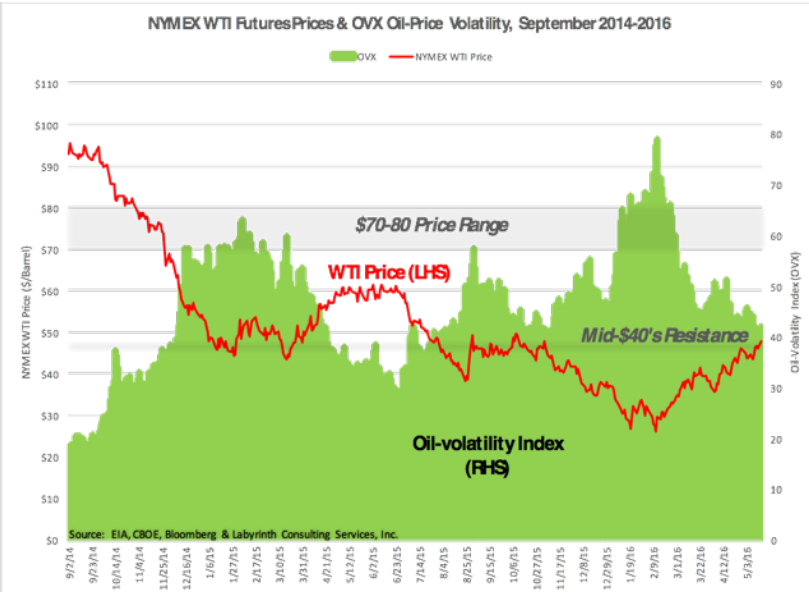
Tight Oil Companies on Life Support

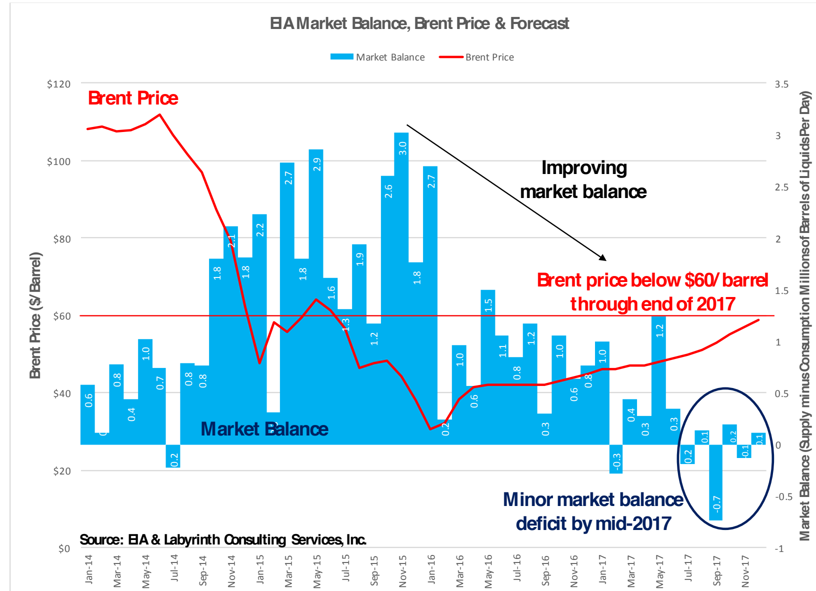




- All tight oil-weighted companies that I follow had negative cash flow in the first quarter of 2016 except EP Energy and Occidental Petroleum.
- Nine companies increased their capex-to-cash flow ratios compared with full-year 2015 results and six increased that ratio by more than 2.5 times.
- Companies spent $1.90 in capex for every dollar they earned. In 2015, they spent $0.60 above what they earned.
- Average debt-to-cash flow ratio for tight oil companies increased more than 3-fold to 10, up from 3 in 2015.
- Energy industry average 1992-2012 was 1.53 and 2.0 was a standard threshold for banks to call loans based on debt-covenant agreements.

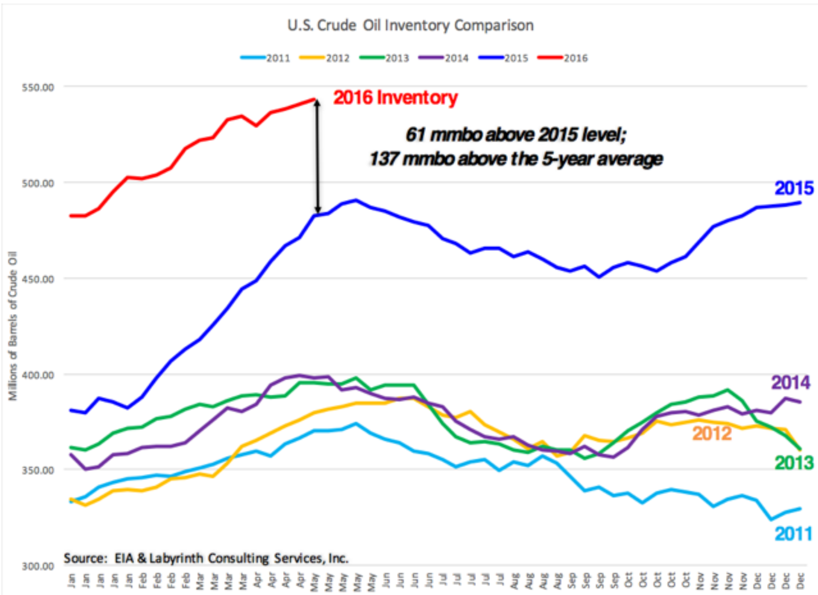
How High Might Oil Prices Go?

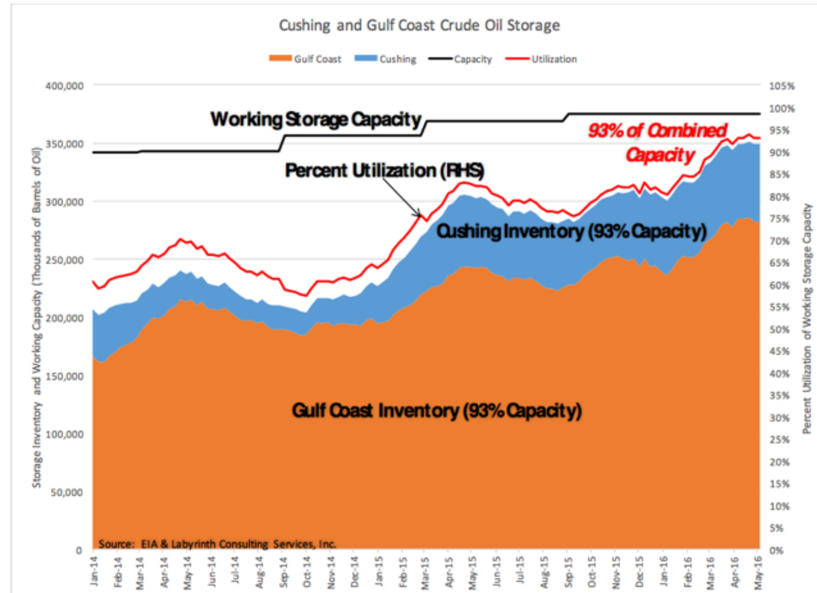




- Current prices around $48 per barrel a big improvement from January when prices were < $30.
- Nevertheless, all producers–companies and exporting countries alike–are failing and probably need sustained prices in the $70-80 per barrel range to survive.
- That is a stretch from the mid-upper $40's resistance level of the past 10 months or so.
- EIA's forecast data suggest a minor supply deficit by the second half of 2017.
- Brent forecast, however, is to remain below $60 per barrel.

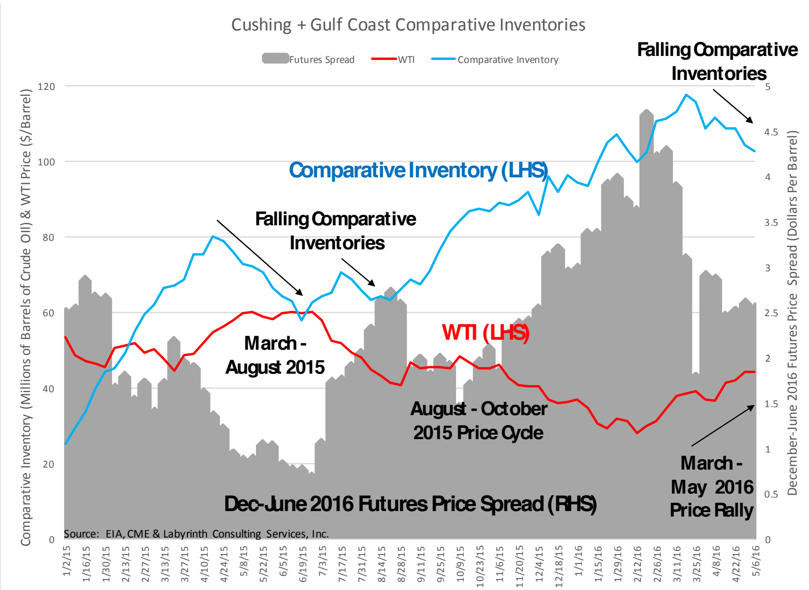
Inventories Remain a Serious Obstacle to Sustained Higher Prices

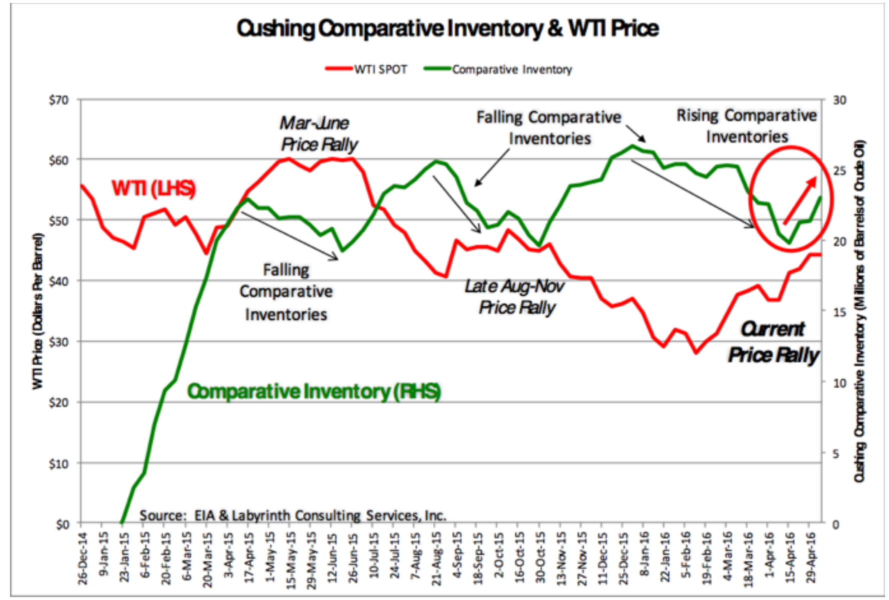




- U.S. stocks are near record high levels of 543 million barrels: 61 million barrels more than at this time in 2015 and 137 million barrels more than the 5-year average.
- OECD stocks are also at record levels of 3.13 billion barrels of liquids.
- Cushing and Gulf Coast combined storage is at 93% of working capacity.
- Cushing continues to increase.
- It is difficult to imagine $70-80 oil prices until this overhand dissipates and that may take a year assuming it is falling now.

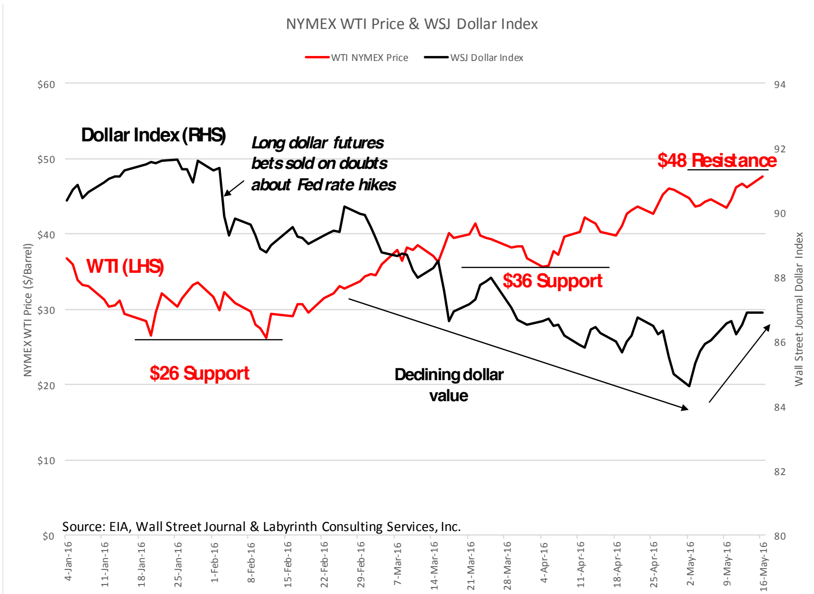
Good News/Bad News About Comparative Inventories

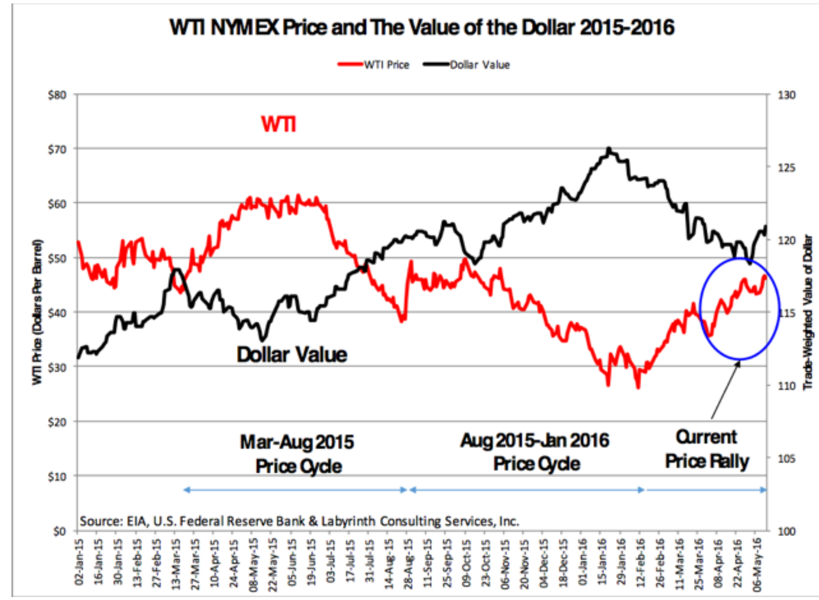




- Comparative inventory is determined by comparing current stocks with a moving average of stocks over the past 5 years.
- The two previous price cycles in 2015 were both characterized by falling comparative inventories. When C.I. patterns reversed, prices fell.
- The current price cycle shows a decrease in comparative inventories for combined Cushing & Gulf Coast.
- Front-to-back futures spreads typically fall with decreasing inventories because short-dated contracts gain value compared to longer-dated contracts.
- The past two cycles ended because producers increased drilling and production at higher prices.
- Cushing stocks typically control WTI price and comparative inventories at Cushing are rising.

Strength of the U.S. Dollar and Oil Prices

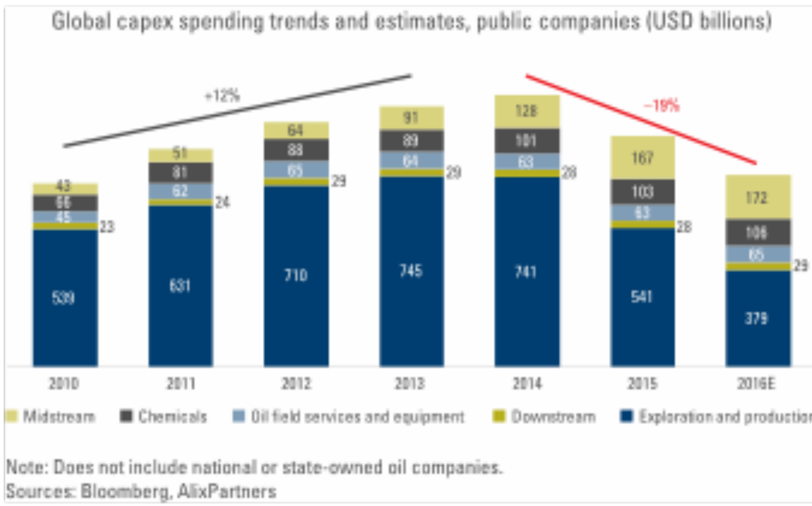




- A negative correlation between the value of the U.S. dollar and world oil prices: a globally connected economy in which countries compete for investment based on interest rates and currency valuation.
- Oil transactions are denominated in U.S. dollars as the world reserve currency.
- Higher U.S. interest rates favor investments in the U.S. economy over commodities like oil. When the dollar is strong, oil prices are generally lower and vice versa.
- The correlation between oil price and the dollar is especially strong since 2015 and partly explains price cycles.
- The latest price rally began after the Federal Reserve Bank indicated that further interest rate increases in 2016 were unlikely.
- Dollar has been strengthening recently but oil prices continue to rise. Look for a short.

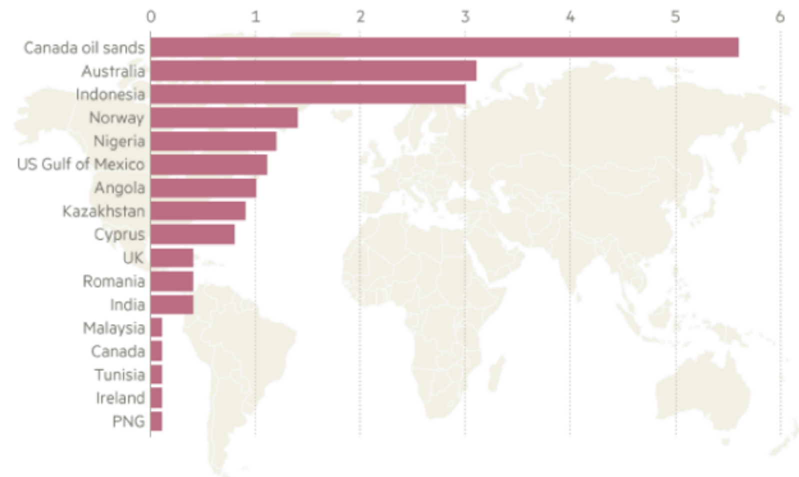
The Big Picture On Oil Prices: Under-Investment

FIGURE 2: Capex cut by 20% in 2015, with more in store for 2016



Deferred commercial oil reserves

Barrels of oil equivalent (bn)



Source: Wood MacKenzie

- Large reduction in E&P investment in 2015 and probably even greater in 2016.
- Deferred investments in 2015 equivalent to 20 billion barrels of reserves.
- Global E&P estimated capex for 2016 is 44% (-$412 billion) of 2014.
- A substantial supply deficit will result in the not-too-distant future.
- A price spike seems unavoidable.

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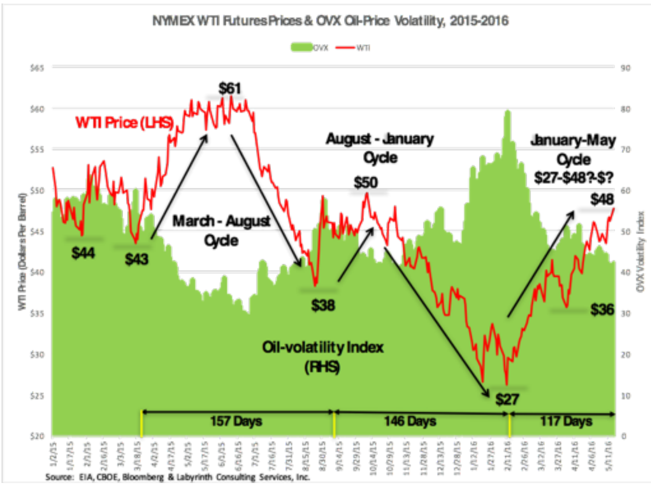

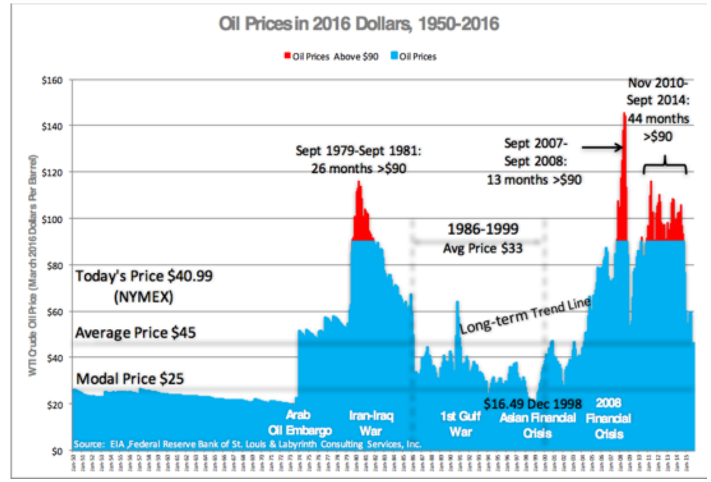

- The current price rally seems to have substance although inventories are a concern.
- The global market appears to be moving quickly toward balance with higher consumption growth.
- Recent outages underscore fragility of supply.
- Under-investment during 2015 and 2016 means much higher oil prices in a few years.
- Anticipation of future supply deficits are moving prices higher.
- Expect similar high price volatility and price cycling with several upward-trending 4-5 month cycles.
- Prices must eventually reach the $70 to $80 per barrel range to restore balance sheets enough that investment may resume. Difficult to imagine in 2016 or 2017 without supply interruptions or an OPEC production cut.
- A weak global economy and weaker demand at higher oil prices are the biggest risks to oil-price recovery.
- A return to market balance does not necessarily mean that prices will return to the $70-80 range.
- If a weak economy cannot support those prices, we may see price spikes that cannot be absorbed. That may bring a traumatic end to the Age of Oil.
- People will have to learn to get by with less in a future based on lower energy-density fuels and lower economic growth potential than oil has provided.