Trend Macrolytics, LLC
Donald Luskin, Chief Investment Officer
Thomas Demas, Managing Director
Michael Warren, Energy Strategist

MACROCOSM

150 Million Barrels To Go

Monday, January 22, 2018

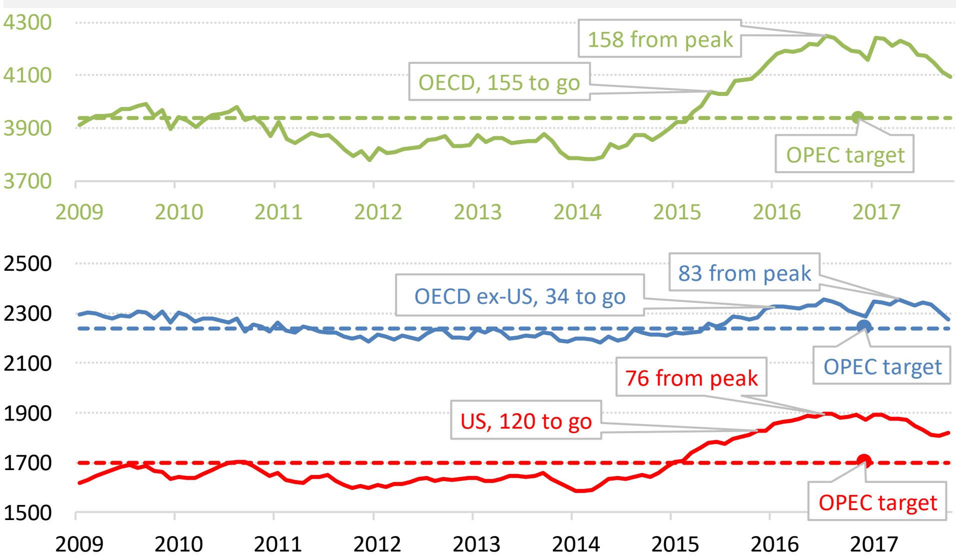
Michael Warren and **Donald Luskin**

US production moves to all-time highs, yet the global petroleum market keeps tightening.

With WTI crude touching $64.89 last week, we'll take the "gimme" on our $65 price target (especially with Brent having traded above $70). So let's move on. Where do we go from here? While it's less *emotionally* fraught now, it's more *intellectually* challenging to make a conviction-call here than it was while we felt so wrong last spring, when WTI was as low as $42. *Then* we were confident it was priced to perfection and could only go higher (see "Is Oil Priced to Perfection Again?" May 9, 2017). *Now there are more crosscurrents. Let's review what we know we know.*

- *The bulwark of the bull case for oil is that supply and demand enters 2018 closer to being balanced than at any time since March 2015* – which was the last time OECD petroleum stocks were at the 5-year average that is the target of OPEC's extended production cuts (please see the chart below).
- *Closer, but there is further to go.* While OECD stocks are 158 million barrels off their peak in mid-2016, they are still 155 million above OPEC's target (again, see the chart below). US stocks have 120 million barrels still to fall, and OECD ex-US have 34.

Stocks of crude oil and petroleum products Millions of barrels



Source: JODI, TrendMacro calculations

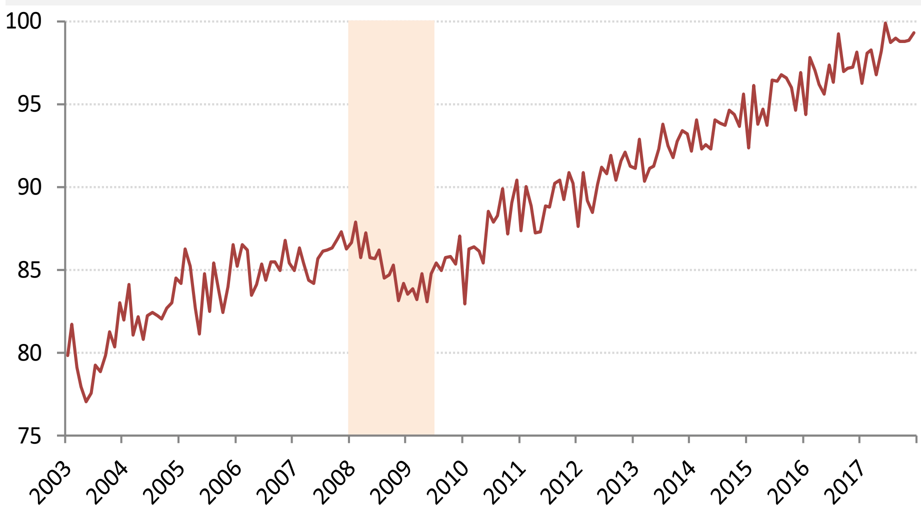
Update to strategic view

OIL, US RESOURCE STOCKS: The OPEC production cuts are finally working. OECD petroleum stocks have tightened, with about half the distance to OPEC's target still to go. New pipelines coming on line now will improve takeaway capacity in the Permian, permitting more production growth than last year. Operators can easily achieve that by completing their swollen inventory of drilled-but-uncompleted wells, all while maintaining the illusion of "discipline" that Wall Street demands, which should be a plus for stock prices. For the first half of 2018 we are nudging our expected price range higher, to a range from $60 to $70, with upside over-shoots expected. After the Saudi Aramco IPO we will re-evaluate based on Saudi's revealed intention for managing the balance of volumes and price.

[Strategy dashboard]

- The logic that led us to predict that OPEC and Russia would extend the production cuts (see [“Oil: From Priced to Perfection, to Perfect Storm”]() November 27, 2017) still holds. The cuts are finally working, and there’s no economic reason – or sufficiently strong non-economic reason – to not keep them in place as planned, while they carry out the second half of the still-uncompleted job of reducing OECD stocks by about 300 million barrels. [OPEC and Russia both signaled as much today]().
- Yes, there is always cross-talk among the cartel’s fractious members. Iran’s oil minister Bijan Namdar Zanganeh [has said]() he doesn’t want to see oil trade above $60. But of course he *does*, and so do all the other members, whose welfare-state budgets have frayed to the breaking point for more than three years now since oil last traded above $100 in mid-2014. Iran just likes to tweak its regional rival Saudi Arabia – the nation with the strongest motive of all to keep prices up: its coming IPO of Saudi Aramco.
- Tweaking is all it is, because Saudi is the only OPEC member that has the capability to quickly increase production from here. There’s little that Iran or any OPEC member other than Saudi, can do to lower prices anytime soon by increasing production. The welfare-state budget demands of the last three years have driven widespread underinvestment in the capital-intensive game of developing oil resources.
- Meanwhile, political instability in Libya, Nigeria and Venezuela are a constant Sword of Damocles – with the specter of unrest arising in Iran, and risky political infighting in the mighty Saudi itself, as potential black swans.
- While these factors all work to limit the supply-side, the demand-side keeps relentlessly growing (please see the chart below). We think the [Energy Information Administration’s forecast]() for 1.7 million barrels/day consumption growth is conservative. As the synchronized global acceleration of growth continues through 2018

World crude oil consumption Millions barrels/day **Recession**



Source: DOE EIA, TrendMacro calculations

Contact TrendMacro

On the web at
[trendmacro.com]()

Follow us on Twitter at
[twitter.com/TweetMacro]()

Donald Luskin
Chicago IL
312 273 6766
[don@trendmacro.com]()

Thomas Demas
Charlotte NC
704 552 3625
[tdemas@trendmacro.com]()

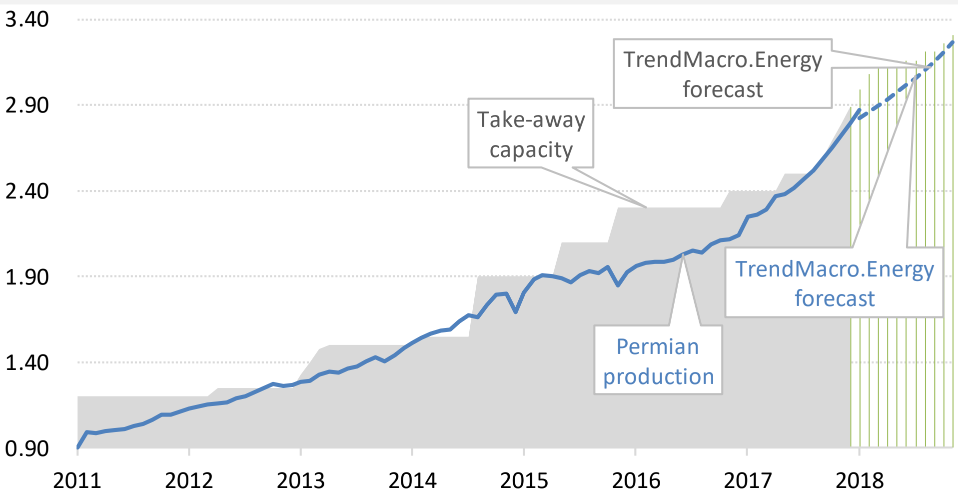
Michael Warren
Houston TX
713 893 1377
[mike@trendmacro.energy]()

[About us]

(see “2018 Outlook: From Denial to Acceptance” December 29, 2017), we have no doubt that oil demand will only accelerate too (perhaps especially among emerging economies that are most petroleum-intensive).

- If OPEC’s cuts stay in place, then how is EIA’s 1.7 million barrels/day of forecasted consumption growth going to be satisfied?
- *As a stylized thought experiment, we could say all the global demand growth will come out of OECD inventories – in which case drawdowns would reduce petroleum stocks to OPEC’s target in just 91 days.*
- *EIA forecasts that US production growth will be 680,000 barrels/day in 2018 – moving to all-time highs – but in our thought experiment that only buys another 146 days.*
- We think the target of 680,000 barrels/day US production growth is attainable. We think 540,000 can come from just the Permian play.
- Crude production in the Permian increased, on average, by 398,000 barrels/day in 2017 over 2016. But that was constrained by three factors.
- First, prices were lower in 2017 than we think they will be in 2018.
- Second, as production ramped up after the 2015-2016 slump, it was constrained by pipeline takeaway capacity that grew, on average, by only 195,000 barrels/day (please see the chart below).

Permian crude production and pipeline capacity Millions of barrels/day

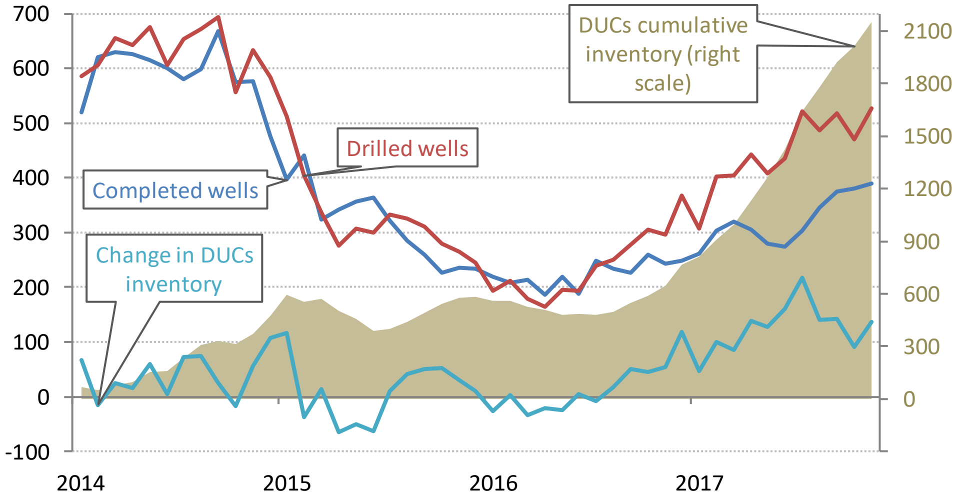


Source: DOE EIA, TrendMacro calculations

- Two new pipelines are coming on line this year – the 460,000 barrels/day Midland to Sealy, and the 200,000 barrels/day Permian Xpress III. Together, that’s 640,000 barrels/day of new takeaway capacity – somewhat *more* than we think Permian production can increase to take advantage of. That factor is no longer a constraint.
- Third, production in the Permian was constrained last year by the culture of “discipline” to produce profits rather than volumes, which US explorers and producers were forced by Wall Street to adopt after the crisis years of 2015 and 2016. That culture led to a frugal drilling regimen, in which drilled-but-uncompleted wells (DUCs) left

over from the go-go years of 2011 to 2014 were inexpensively completed, and most new wells were completed immediately, leading to no net growth in DUCs for two years (please see the chart below).

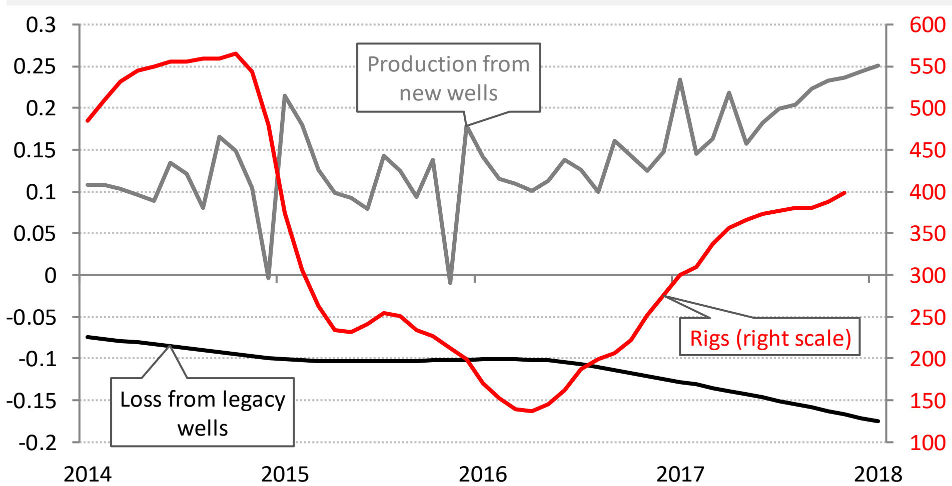
Permian drilling activity Number of wells



Source: DOE EIA, TrendMacro calculations

- It is said that this culture persists, but in the Permian at least, the somewhat higher prices that obtained in 2017 were enough to break it. The number of DUCs in the Permian increased by more than 1,500 last year (again, please see the chart below).
- *Given the large growth in DUCs last year in the Permian, operators wouldn't have to drill a single new well to meet our production forecast and exploit the new takeaway capacity that has come on line. All they'd have to do is complete the ones they've already drilled. And because completing is so much less expensive than drilling, Wall Street might even mistake it for "discipline." That should be a positive for stock prices.*

Permian production decomposition versus rigs Millions of barrels/day



Source: DOE EIA, TrendMacro calculations

- To be sure, Permian shale producers are up against severe "decline curves" (please see the chart on the previous page). That means, today, every barrel of production from new wells has to offset 0.7 barrels of depletion from existing wells.
- So it's a death-race – or you could just call it a classic manufacturing process, in which the factory constantly has to be replenished with new inputs (see "I Have Seen the Future, and It Fracks" February 24, 2015). At least in the Permian – the most forgiving shale play at today's level of technology development – that race is being won, with net production at all-time highs, with only 80% of the rigs deployed in the go-go years (again, please see the chart on the previous page) – and throwing off DUCs, too.
- *We think the shale revolution is alive and well, at least at these prices (and as time goes by, and productivity improves, it will live at lower and lower prices).*
- But for now, remember, in our stylized thought-experiment, we've only accounted for 91 days of 2018 demand growth (from inventory draws) and 146 (from US production growth). *That leaves 127 days for non-OPEC non-US production growth to cover – which works out to another 595,500 barrels/day. Where is that going to come from?*
- *If OPEC and Russia don't end their production quotas early, there's really no place it can come from – Canada, Brazil and Kazakhstan would be the biggest factors, but they can't close the gap. And if the cuts are ended early, then only Saudi, or to some smaller extent Russia, could make any difference.*
- *So we are forced to think that, all else equal, the course of least resistance for oil prices is higher as inventories fall and the supply/demand balance gets tighter and tighter.*
- After the Saudi Aramco IPO is priced and out the door, we'll have to re-evaluate. At that point, Saudi may want to go for volumes rather than price – although, if they are thinking straight, they'll want to optimize the present value of volume-times-price which may well argue for lower volumes.
- We'd been thinking that oil would trade during 2018 in a range from $55 to $65, with episodes of over-shoot on the upside (again, see "Oil: From Priced to Perfection, to Perfect Storm"). For at least the first half of the year, we're going to nudge that up to a range from $60 to $70, again allowing for episodes of even higher over-shoot.

Bottom line

The OPEC production cuts are finally working. OECD petroleum have tightened, with about half the distance to OPEC's target still to go. New pipelines coming on line now will improve takeaway capacity in the Permian, permitting more production growth than last year. Operators can easily achieve that by completing their swollen inventory of drilled-but-uncompleted wells, all while maintaining the illusion of "discipline" that Wall Street demands, which should be a plus for stock prices. For the first half of 2018 we are nudging our expected price range higher, to a range from $60 to $70, with upside over-shoots expected. After the Saudi Aramco IPO we will re-evaluate based on Saudi’s revealed intention for managing the balance of volumes and price.