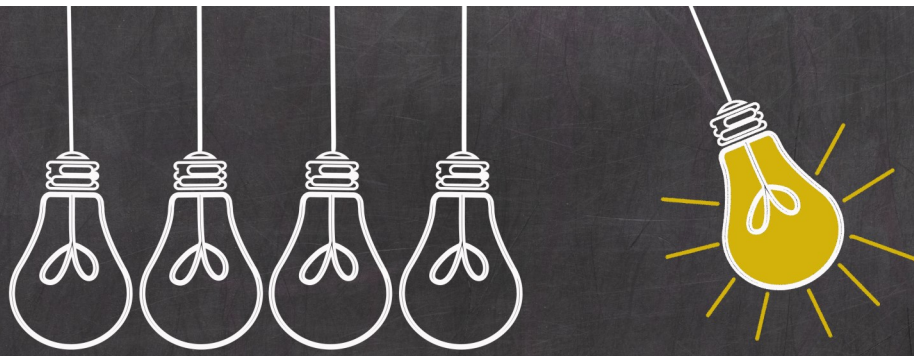


Weekly Briefing

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Where We Are On Oil And Gas Rig Counts And Production

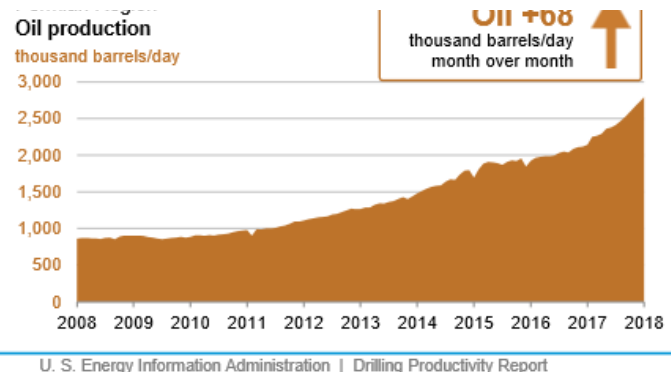
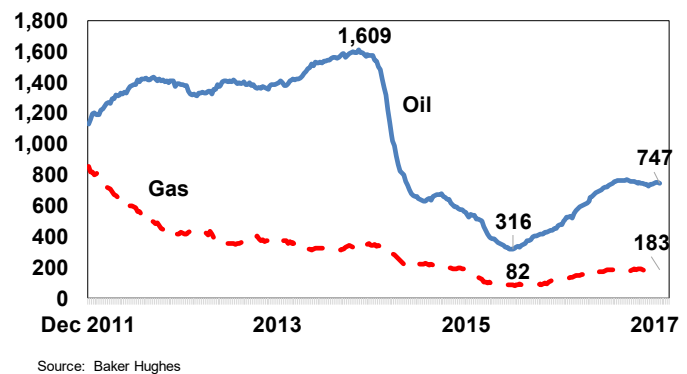
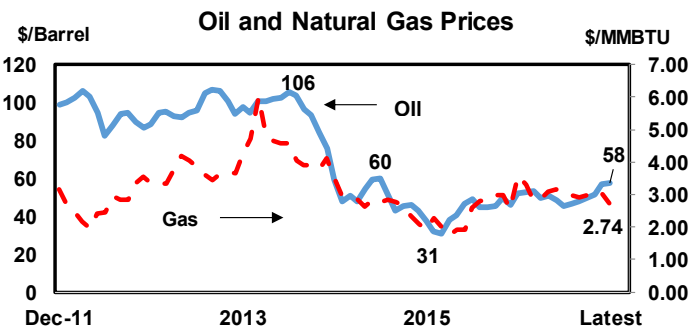
- As oil prices plummeted in mid-2014, what followed was a significant reduction in the oil and gas rig counts across the major shale regions of the U.S.
- Rig counts faltered and finally troughed in early 2016, but production in the Permian region continued to grow as new rigs benefited from technology advances.
- As oil prices firm above shale oil break evens, there is a greater tailwind behind ever higher rig counts.

The Energy Information Administration (EIA) issued its December issue of the Drilling Productivity Report this week found [here](#). This is an informative summary of recent trends in tight oil and shale gas regions. The EIA defines tight oil as “oil embedded in low-permeable shale, sandstone, and carbonate rock formations.”

- Leading up to the mid-2014 peak in crude oil prices, oil rig counts grew substantially (see top chart). During the period of pricing in the \$100 per barrel range, significant investment was made in oil rigs with the rig count peaking at 1,609 by mid-October, 2014 (see 2nd chart).
- Oil prices fell 71% during the June 2014 - February 2016 period.
- Since early 2016, oil pricing has nearly doubled and both oil and gas rig counts have increased.
- Natural gas prices also declined precipitously during the 2014 - early 2016 period and are currently trading at \$2.74 per million BTU (MMBTU), up 42% from the low in May 2016.

While there are many estimates of break-even pricing for shale oil, depending on the shale region and age of the rig, clearly an average above the \$40 per barrel range stimulates production.

- Indeed, because of expanding productivity of new wells as compared to the “scrappage” of legacy rigs, oil production continued to expand in the Permian region even when oil prices were below \$40 per barrel (see 3rd chart).
- Of the seven tight oil and gas shale regions, only the Permian region was able to increase production during the period of lower oil prices.
- With the oil and natural gas price recovery and technology advances, all seven regions are expanding both oil and gas production from the rigs in place.
- The expansion of this production has coincided with a drop in crude oil imports. [EIA reports](#) that crude oil imports peaked in 2005 at 10.1 million barrels per day (MMBD), but as of 2016 stood at 7.9 MMBD, a 22% drop.



Fracking and Public Health

“Health economist Janet Currie studied 1.1 million infants born in Pennsylvania between 2003 and 2013...and found that infants born within 1 km of a well were 25% more likely to have low birth weights than infants found more than 3 km away.” [Science Magazine](#), December 2017