



GELBER MONTHLY JOURNAL

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SUMMARY

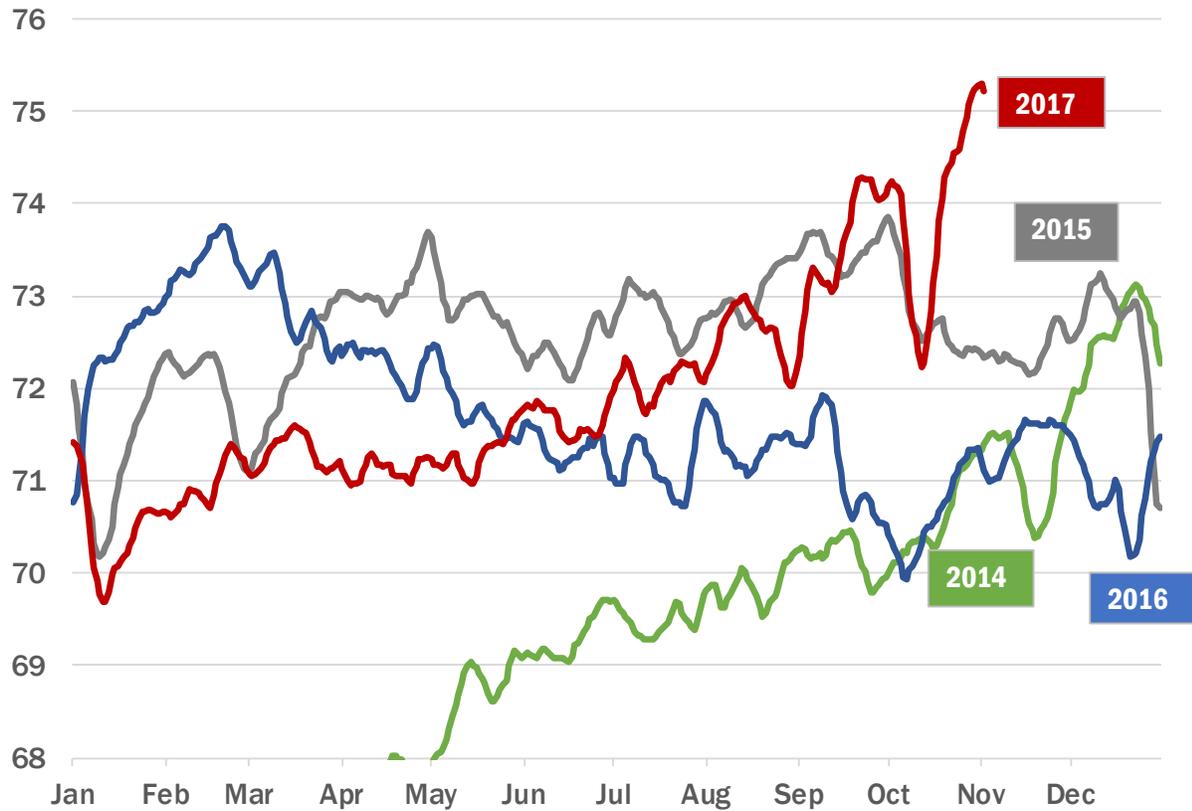
Production is booming with new records set with each passing day. Recent pipeline data has dry gas production exceeding 75 Bcf/D. Production will continue to grow in the coming months as pipeline and other infrastructure projects are completed. Production may hit 78 Bcf/D by the end of the winter season.

Not to be outdone by rising supply, demand is increasing too. Demand for LNG exports has increased with the recent completion of Train 4 at Sabine Pass and the impending start up of Cove Point LNG. Industrial demand has quietly increased year over year. Natural gas demand for power generation is maxed out due to its superior economics to coal and other fuels.

The potential for cold weather in November and storage at its lowest levels in three years will put upward pressure on prices, fighting the bearish gravity from record production. How long production pushes higher is key. Gelber's biannual forecast due later this Fall will take a deeper look into the outlook for producers.

Production Surges Higher

US Dry Gas Production - Bcf/D



PRODUCTION MOVES ABOVE 75 BCF/D

Recent pipeline data suggests that dry gas production is now averaging above 75 Bcf/D. Production may pull back some in November as pipeline companies and producers perform maintenance activities ahead of the coming winter demand season, but growing pipeline capacity this month will offset this decrease. Growing production has proven to be a formidable bearish factor in the market, making it difficult for prices to build much above \$3 in the past month.

Coming Pipeline Capacity

INCREASED CAPACITY SUPPORTS PRODUCTION

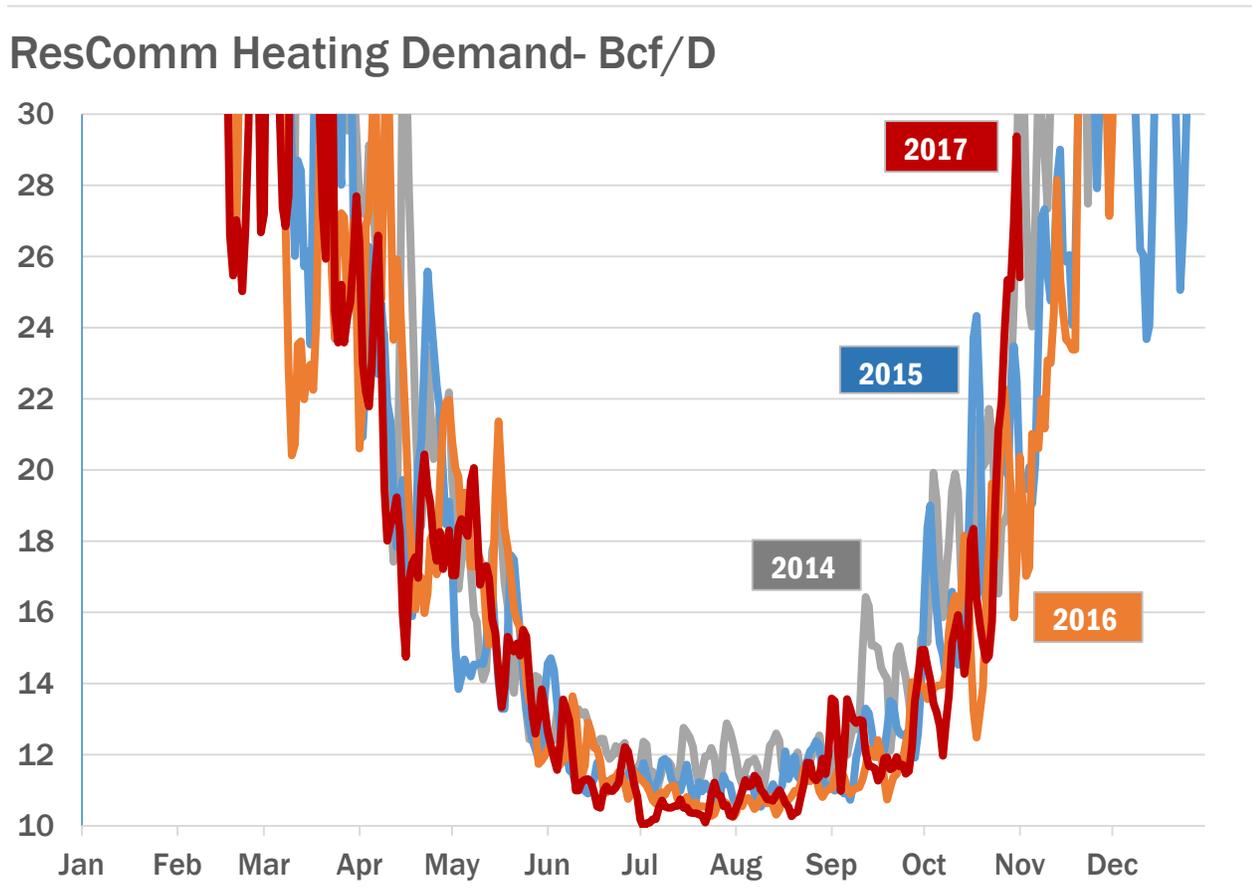
A slew of new pipeline capacity in the Northeast that is expected to come online in November will support marginal increases in production as it eases constraints on supply. The biggest addition this month will be Columbia Gas Transmission's Leach XPress project, a 1.5 Bcf/D pipeline that will carry gas 130 miles from Ohio, West Virginia, and Pennsylvania to interconnects where it will have easier access to the Southeast. Leach XPress has yet to file with the FERC for its expected in-service in early November, but it is still likely to start flows before the end of the month. Other notable Northeast projects on track for startup at the beginning of November are the Adair Southwest and Access South projects on Texas Eastern Transmission. These projects combined will allow about another 0.5 Bcf/D of gas to flow from the constrained Appalachia producing region to the Midwest and Southeast.



ROVER NOT YET OVER

One project that is missing from the list of November in-service dates is the much discussed Rover Pipeline. Not long ago Rover was still scheduled to complete Phase 2 by November, but that date has now been postponed until the first quarter of 2018. Still, limited flows on Phase 1 of Rover of nearly 1.2 Bcf/D have helped production reach its recent record highs. When complete, the pipeline will carry 3.25 Bcf/D of natural gas from the Marcellus and Utica shales to the Midwest and Canada.

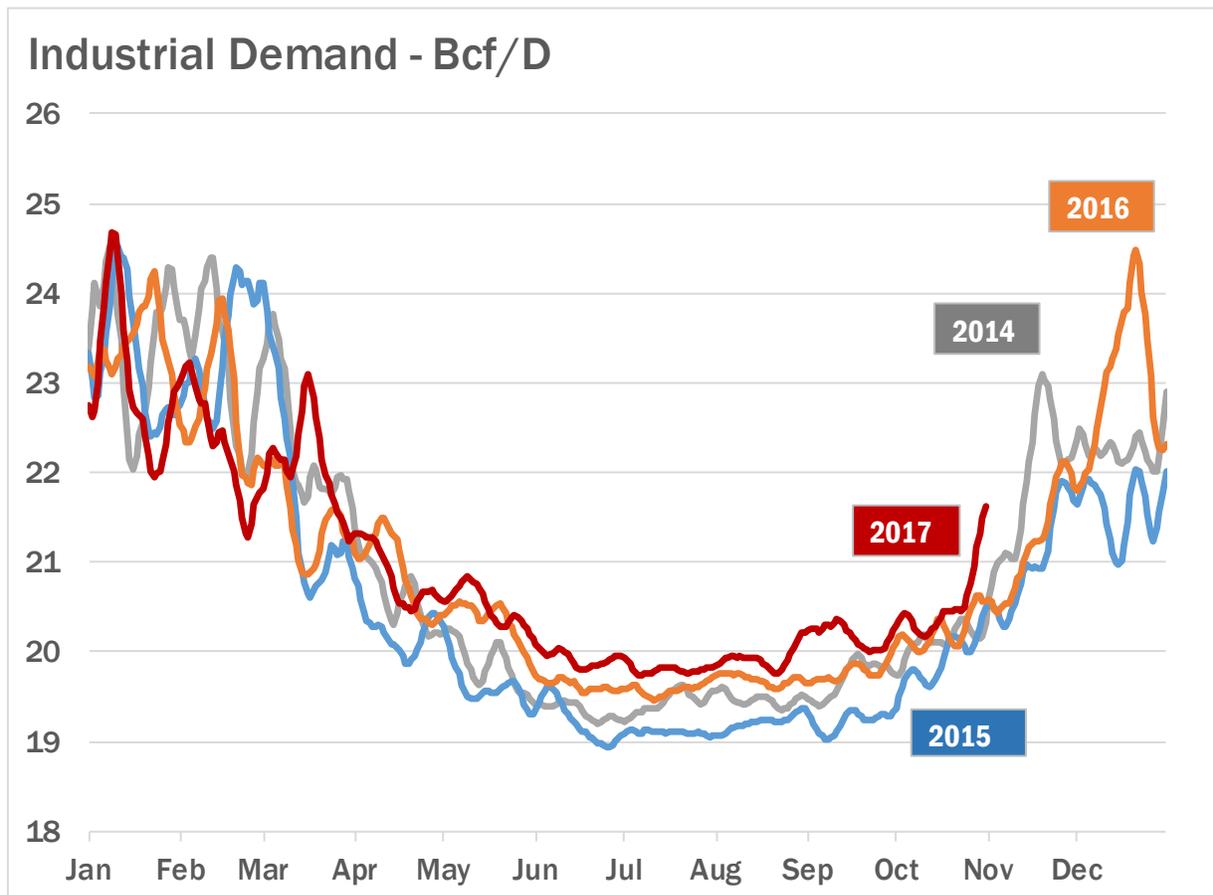
Heating Demand Gets Seasonal Swing Higher



COLDER WEATHER BOLSTERS DEMAND

Residential and commercial heating demand got its first notable uptick last weekend when it jumped above previous years with the season's first real shot of colder weather in parts of the Midwest and East. This may back off the first week of November when temperatures moderate in the eastern half of the country, but there will be more cold pushing its way in later this month. The real question for heating demand in November is how strong and sustained the winter-like weather will be in major population centers in the Northeast.

Industrial Demand Creeps Higher

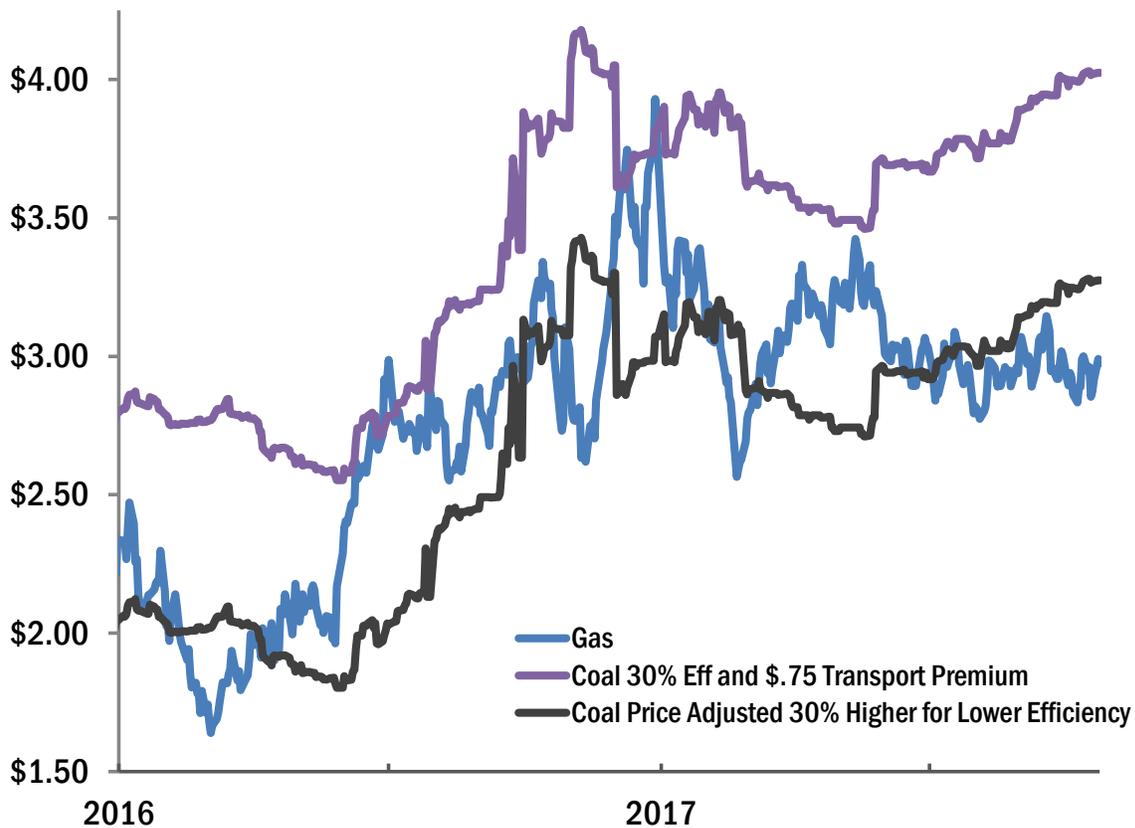


INDUSTRIAL DEMAND BUMPS UP

Similar to residential and commercial heating demand, industrial demand is seasonal and increases as the weather cools. One way or the other, heating demand gets mixed in with industrial. Industrial demand is systematically increasing due to new plant build-outs and expansions. The cold this winter is expected to be centered around the northern plains and Great Lakes where some of this new capacity has come online. With supportive colder weather industrial demand could boom higher this winter.

Fuel Switching Backs Up Power Demand

NYMEX Natural Gas vs. Eastern Rail CSX Coal - \$/MMBtu



FUEL SWITCHING TO GAS SUPPORTS PRICES

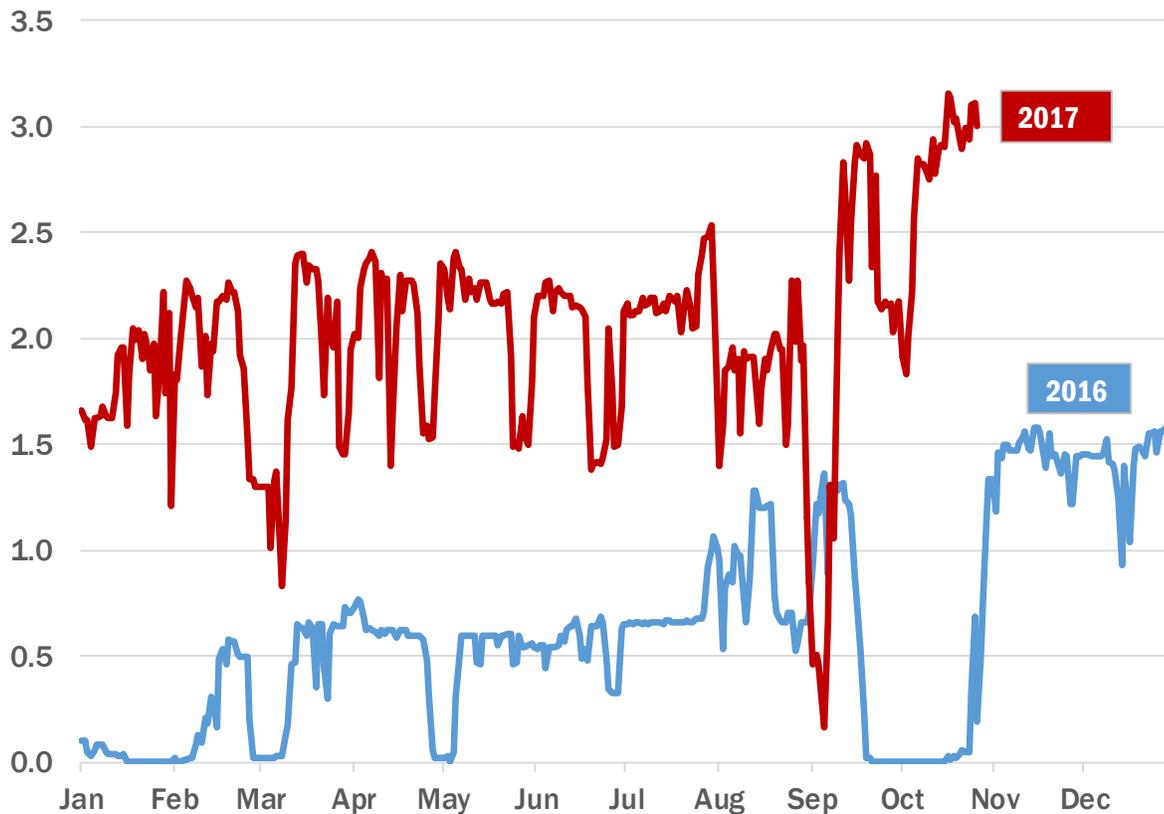
The chart above compares gas and coal prices in dollars per MMBtu terms. Throughout 2017, the lower coal conversion line has previously provided support to natural gas. As natural gas prices dip, power generators are quick to switch away from coal and use more natural gas. With coal prices recovering in 2017, power generators are switching to gas at a higher natural gas price. At current prices, coal to gas fuel switching is pretty much maxed out. High gas power generation has helped soak up record gas production. However, since gas power generation is maxed out there will little power demand added should prices fall further.

Coal Price Conversion

The above converts coal from dollars per ton to dollars per MMBtu. The black line shows coal prices in \$/MMBtu but adds a 30% factor to account for coal's inferior thermal efficiency compared to natural gas. The purple line shows coal prices in \$/MMBtu and also adds a 30% efficiency factor along with a \$.75 transport premium to account for coal's greater transportation costs.

LNG Exports Above 3 Bcf/D

Gas Demand for LNG Exports - Bcf/D



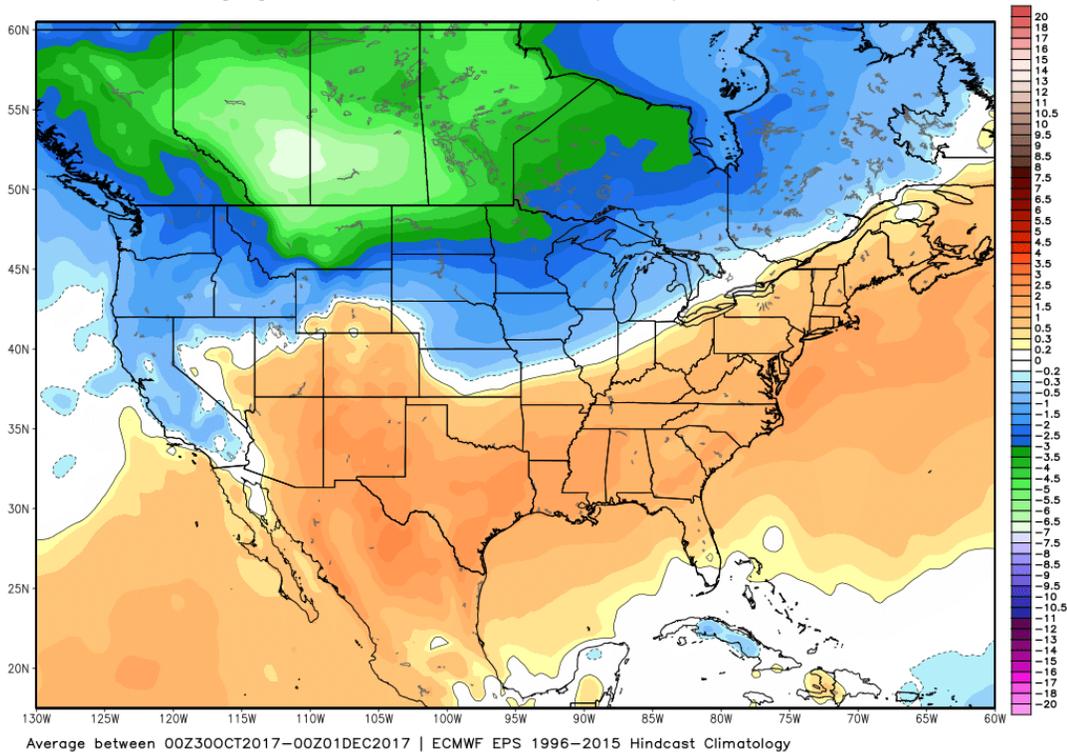
GAS DEMAND FOR LNG REACHES A NEW HIGH

Train 4 at Cheniere's Sabine Pass LNG terminal is now complete and in service. Gas flows into Sabine Pass have reached as high as 3.2 Bcf/d with this addition. This month is when Dominion Energy's Cove Point LNG terminal is set to start producing and exporting LNG. This week Cove Point has been receiving feed gas into its terminal. Cove Point will become the second large-scale LNG export terminal in operation in the US. At full capacity, the plant will utilize 800 MMcf/D. The combined consumption from Cove Point and Sabine Pass LNG will reach close to 4 Bcf/D by the end of the year.

Variable November Coming

ECMWF EPS Ensemble Mean 32-day Avg 2m Temperature Anomaly [°C]
Init: 00Z30OCT2017 -- [768] hr --> Valid on Fri 00Z01DEC2017 Day 0 - Day 32

Min|Max: -6.9° | 2.9°C

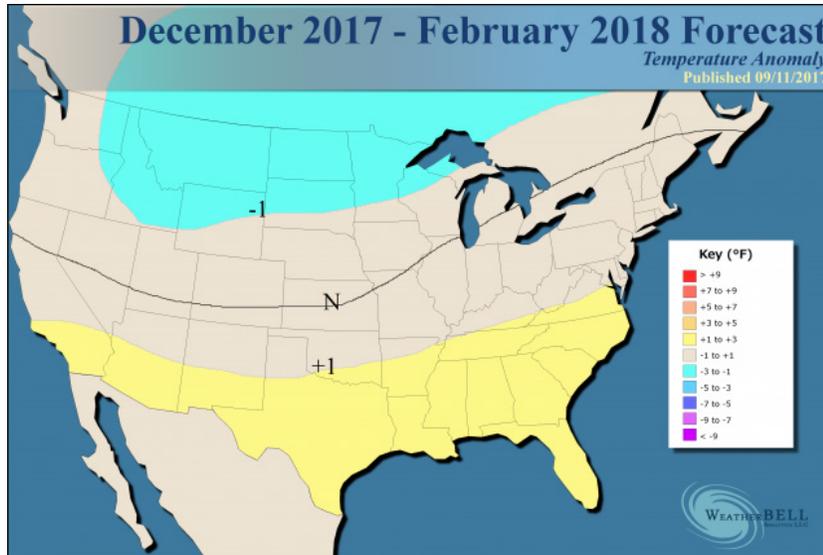


Shown above is a temperature forecast from October 30 to December 1.

FIGHT BETWEEN HOT AND COLD IN NOVEMBER

For the first time since 2014, winter-like weather may get an early jump in November. Forecasts at the beginning of the month are variable, with the cold and hot air fighting for dominance, especially in the central and eastern US. The question is, how far east and south will the cold go? The above forecast covers the month of November and indicates that below-average temperatures will have a strong hold in the northern US and Canada for most of the month. This may have the potential to push farther south and roar into population centers in the Great Lakes and Northeast at times, driving up demand for heating. In addition, the conflict between the cold and hot air may set the stage for a stormy start to winter.

Winter Preview (Reprint)

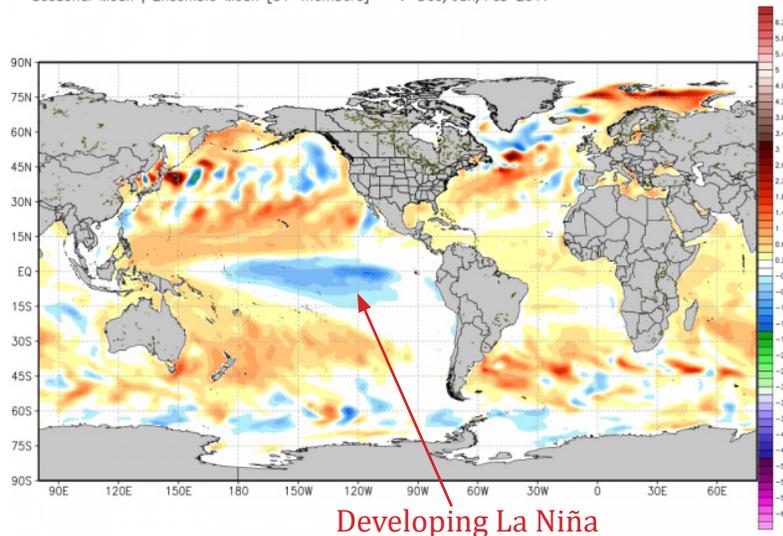


Above is a preliminary winter forecast courtesy of WeatherBell Analytics

COLDER THAN PREVIOUS TWO WINTERS

The 2017-18 winter has the potential to get off to a fast start and hold. Models and private forecasters are pointing to a colder than average winter in the northern Rocky Mountains and Great Plains with slightly warmer than average temperatures in the South. Snowfall in the North and Northwest is also likely to be above-average as well. Early forecasts are pointing to an aggressive jump on winter weather in November and December before the cold backs off a bit in January. A return to colder weather in February through March could give prices a boost as storage wears thin.

ECMWF—Seasonal Init: September 2017 Sea—Surface Temperature [°C] Anomaly
Seasonal Mean | Ensemble Mean [51—members] --> Dec/Jan/Feb 2017

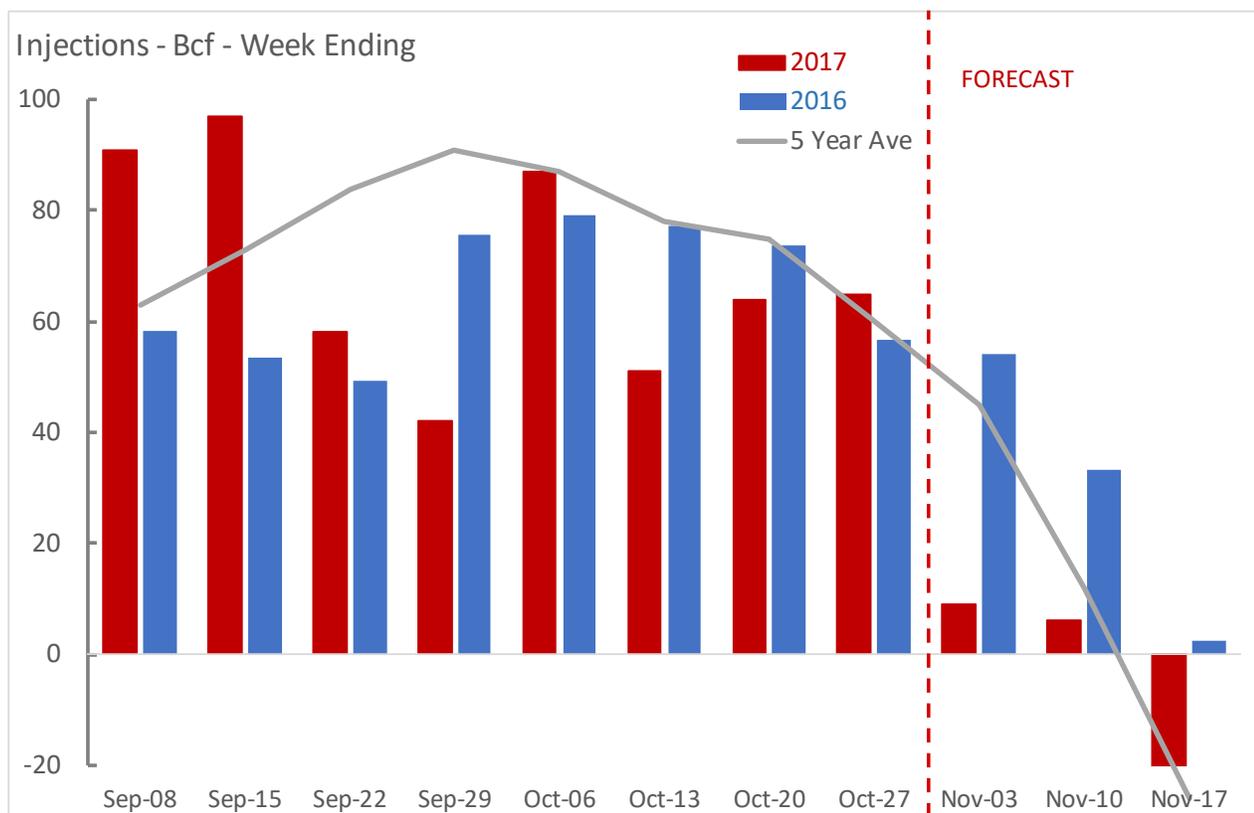


LA NIÑA MEANS INCREASED VARIABILITY

A developing La Niña has contributed to the active hurricane season this year and may evolve further to dictate winter weather as well. The La Niña is pictured in the above chart with colder than normal sea surface temperatures extending west from South America along the equator. This pattern may lead to a highly variable winter with plenty of storms and precipitation. If this forecast materializes, be prepared for a season of volatility and high prices.

GELBER & ASSOCIATES

Injection Season Comes to a Close

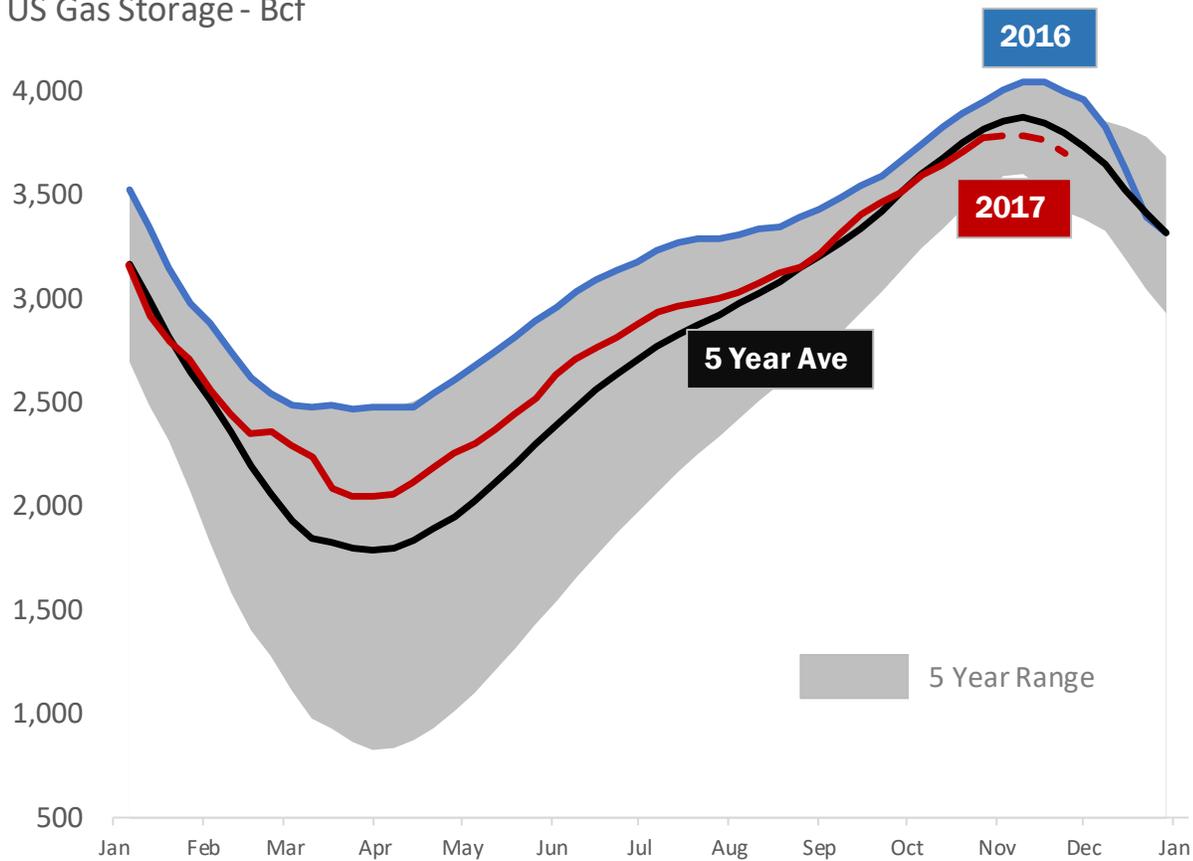


WITHDRAWALS TO START MID-NOVEMBER

October has been a month of weak injections as the pace of storage building has failed to surpass the 5-year average until the very end of the month. This trend is likely to continue with two measly injections coming and net withdrawals afterwards. Its clear that storage changes will be below last year. However, if storage changes stay below the five-year average this will send a bullish signal to the market.

Storage Remains Under 5-Year Average

US Gas Storage - Bcf

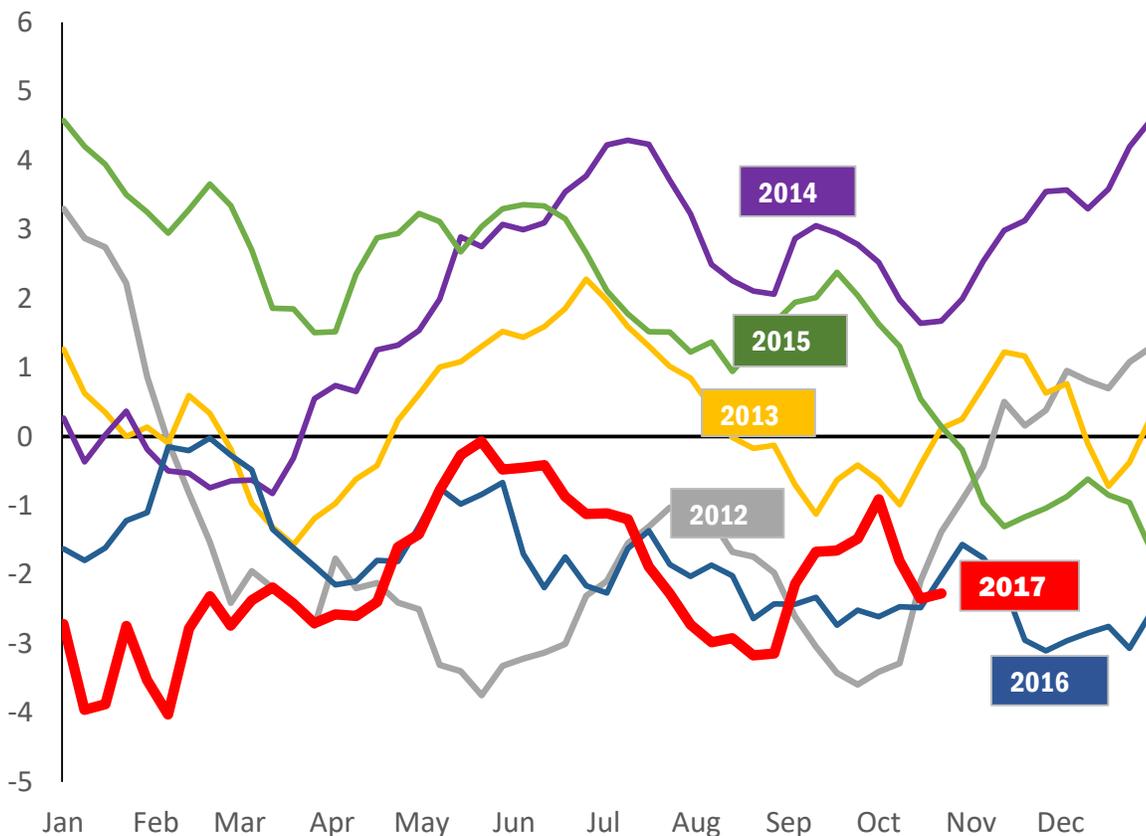


LOWEST SEASONAL LEVELS SINCE 2014

Storage dipped below the 5-year average in October with a series of weak injections. The last injection of the month came in marginally above-average but the remaining builds will likely stay far below-average before switching to net withdrawals in the middle of the month. Storage levels are expected to end the injections season right around 3.8 Tcf, below the 5-year average and their lowest level in 3 years. This is bullish for gas prices this winter.

Storage Residuals Remain Negative

Storage Model Residuals (Bcf/D)



RESIDUALS REMAIN NEGATIVE

Storage dipped below in the 5-year average in October with a series of weak injections. Injections will likely stay below-average before switching to net withdrawals in the middle of the month. This means that storage will fall further below the five-year average and put even more buying pressure on natural gas.

*Storage Model Residual Definition:

The above chart shows storage model residuals. Storage model residuals are created by subtracting Gelber's weather based storage estimate from the actual weekly storage change. This essentially removes the weather component from storage changes leaving the non-weather balance of supply and demand. Positive residuals imply an oversupplied market and negative residuals imply an undersupplied market.