

Monthly Update

December 2019

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Market Commentary

Powered By Luke Nemes, Transparent Energy and Gary Graham, Director of Energy Management

One year ago today, natural gas inventories stood at 2,793 bcf. At the time, that represented a 20% deficit to both the prior year's levels, as well as the five-year average. The 12-mo strip was hovering just above \$3, and the front-month (Jan-2018) contract was trading at \$3.82/MMBtu. As of today, that script has been completely flipped – inventories stand at 3,411 bcf, a 22% increase to levels a year ago, and almost exactly in line with the five-year average (0.3% deficit). The 12-mo strip is trading at \$2.32/MMBtu, and the front-month contract (Jan 2019) last settled at \$2.32/MMBtu. It is very rare to see the winter packages trading at or below the same price as the 12-month strip, a weakening in the normal backwardation that is typically present at this time of the year. This does not bode well for the bulls, especially when coupled with the lack of any significant lasting cold on the near-term horizon.

Further highlighting the bearish market dynamics, we can turn to a more recent price history, that of the JAN-2019 contract's recent high of \$2.98/MMBtu on November 5th. In just 7 weeks, and as we entered peak demand season, we have seen the price of that contract decrease by over 27% and it continues to slide. This all sets up for a potential move to below \$2/MMBtu in March if storage levels remain relatively unscathed throughout the winter. As we move through January, storage levels and price momentum will both be something to keep an eye on for those considering long-term supply contracts for both natural gas and power – we could be encroaching on historic lows in very short order. At a certain point, falling prices will impact production, and we've already seen Shell/Chevron write down their assets to the tune of \$2/\$11 billion, respectively, citing low natural gas prices and excess global supply. This will have rippling effects on Appalachian production and investment in LNG terminals. For now, a long-term full understanding remains a moving target, and Mother Nature will continue to be the driving force in the coming months.

On the regulatory front, FERC has finally weighed in decisively on PJM's wholesale capacity auctions, the latest of which has been delayed due to disagreement over the proper inclusion of state-subsidized generating resources. Under the plan, these subsidized resources will be subject to a Minimum Offer Price Rule (MOPR), in effort to ensure a level playing field for new market entrants. In essence, the MOPR requires these resources' bids to be considered as if they were not receiving any external state subsidies, effectively raising their price floor. Other factors to keep an eye on in 2020 are continued nuclear retirements and political undercurrents, as the U.S. presidential election is likely to be a referendum on the future of the US energy output and may inject some significant volatility into the market.

Quick Hits

- The EIA reported Thursday morning that, for the week ending December 13, U.S. inventories decreased by 107 Bcf, which turned out to be greater than the predicted withdrawal range of 68-103 Bcf.
- Total stockpiles now stand at 3,411 Bcf, up by 22.1% from a year ago but 0.3% below the five-year average for the same week.
- Weather ERCOT will likely welcome back double-digit reserve margins next year and well into the decade, according to the grid operator's latest capacity, demand and reserves (CDR) report.
 - ERCOT's newest CDR indicates its planning reserve margin will hit 10.6% in 2020 and 18.2% in 2021. The margin will shrink again after that, reaching a projected 12.9% in 2024. The grid operator has a target planning reserve margin of 13.75%.
- After hitting multi-month highs last month, the oil rally fizzled out on Friday, with prices falling almost a dollar after gaining roughly \$6/bbl since Dec 1.

Bullish Factors

- About 1.7 GW of US nuclear power generation capacity is set to retire in 2020 as plant owners continue to struggle with challenging conditions in deregulated markets, but decarbonization plans could give a boost to next-generation nuclear technology.
- Early projections for this week's storage report point to a larger withdrawal week-over-week due to cold temperatures across the northern tier of the U.S. this week.
- Natural gas market supply/demand balance is actually back into a small deficit following the recent production declines we've observed combined with record-high LNG exports.

Bearish Factors

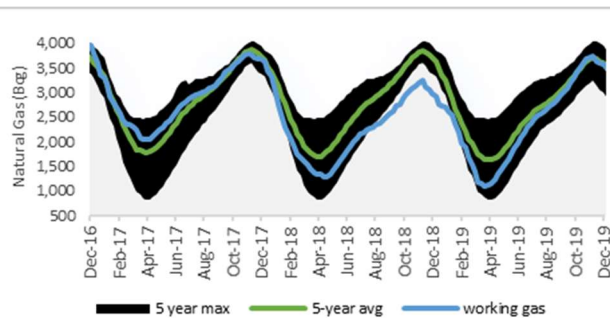
- Total U.S. natural gas supply is up 7.1% y-o-y to 103.7 bcf/d
- The weather models are showing a lack of blocking in the second half of December, setting the stage for a lack of very cold air key markets over the 11-15-day outlook.
- Natural gas prices set to finish the year, on average, below \$2.53 which would be the lowest average price since 1999.



Natural Gas

CURRENT/HISTORICAL STORAGE (Bcf)							HENRY HUB PROMPT MONTH NAT GAS SETTLEMENTS							
Region	7/12/2019	7/5/2019	% Chg.		Year Ago	5-Yr Avg.	Trade Date	Open	High	Low	Settle		% Chg.	Est. Vol
East	867	838	3.46%	▲	822	808	12/16/2019	2.296	2.377	2.285	2.341	▲	1.96%	172,574
West	1482	1432	3.49%	▲	1490	1470	12/17/2019	2.349	2.362	2.282	2.319	▼	-1.28%	169,101
Producing	1168	1142	2.28%	▲	1181	1142	12/18/2019	2.318	2.327	2.257	2.286	▼	-1.38%	193,454
TOTAL	3517	3412	3.08%	▲	3493	3420	12/19/2019	2.282	2.302	2.232	2.273	▼	-0.39%	267,527

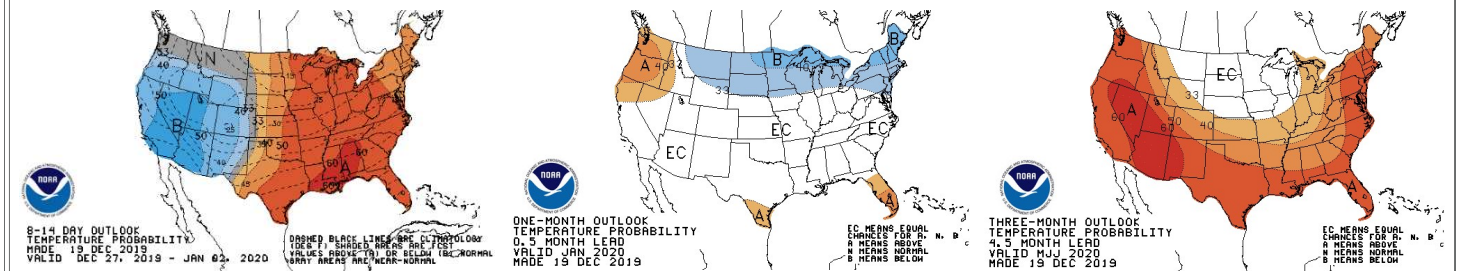
WORKING GAS IN UNDERGROUND STORAGE



ROLLING 12/24 MOS. NYMEX FORWARD STRIPS (\$/DTH)



NOAA TEMPERATURE PROBABILITY



Weekly Average Retail Electricity Price Trends (Feb Start)

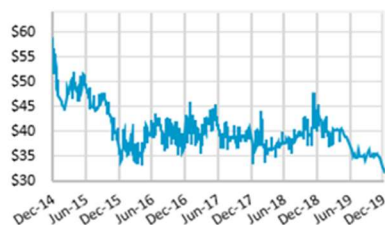
Week Ending	New Jersey	New York	Massachusetts	Ohio	Illinois	Texas	DC	Pennsylvania	Connecticut
12-month	\$0.0912	\$0.0860	\$0.1068	\$0.0494	\$0.0540	\$0.0546	\$0.0676	\$0.0597	\$0.0948
24-month	\$0.0927	\$0.0882	\$0.1059	\$0.0513	\$0.0547	\$0.0519	\$0.0699	\$0.0605	\$0.0936
36-month	\$0.0925	\$0.0887	\$0.1055	\$0.0523	\$0.0552	\$0.0499	\$0.0712	\$0.0607	\$0.0933

*actual rates may vary by usage. Rates are aggregated from sources reflecting the General Service (GS) rate class.



Forward Wholesale Electricity Price Settlements

NYISO - ZJ (NYC)



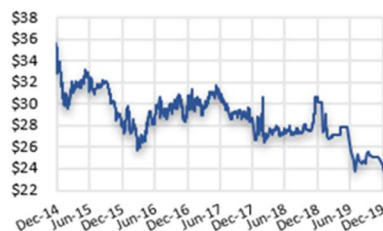
PJM - PSEG (NJ)



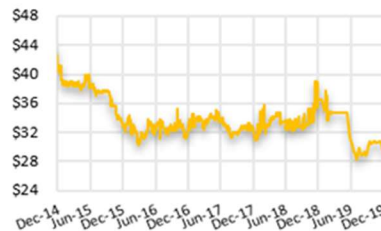
ERCOT - North (TX)

NE-ISO - MASS HUB
(Northeast)

PJM - COMED (IL)



PJM - ATSI (OH & PA)



Energy Market News

US natural gas storage volume slips by 73 Bcf to 3.518 Tcf: EIA

<https://bit.ly/2ScpbCd>

New Jersey doubles offshore wind target

<https://bit.ly/38YY83j>

Texas expected to double its solar energy output next year

<https://bit.ly/2ZbbvsG>

Baker Hughes North American rig count

<http://bit.ly/1eIov2d>

EIA Short Term Energy Outlook

<http://www.eia.gov/forecasts/steo/>

Data Highlights

WTI crude oil futures price

↑ 2.17 from week earlier

12/18/19: \$69.03 /bbl

↑ \$14.69 from year earlier

Natural Gas Inventories

↓ 107 Bcf from week earlier

12/13/19: 3,411 Bcf

↑ 362 Bcf from year earlier

Natural gas futures price

↑ \$0.043 from week earlier

12/18/19: \$2.286/MMBtu

↓ \$1.552 from year earlier

Weekly coal production

↓ 0.013 million tons week earlier

12/18/19: 12.728 million tons

↓ 2.879 million tons year earlier

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