

NEWSLETTER

OUR ENERGY MANAGER

Summary

Natural Gas

- Natural gas prices fell in December on weather and storage
- LNG exports 31% higher in 2019
- Gas production up in 2019, anticipated decreases in 2020
- State news: California and New York
- Storage now above 5-year average

Power

- Power commodity prices fell in December
- Clean energy initiatives may result in increased power prices to customers
- FERC PJM ruling may spell higher prices, negative impact on clean energy initiatives
- State news: Texas, Virginia, Maryland, Ohio and New Jersey

Weather

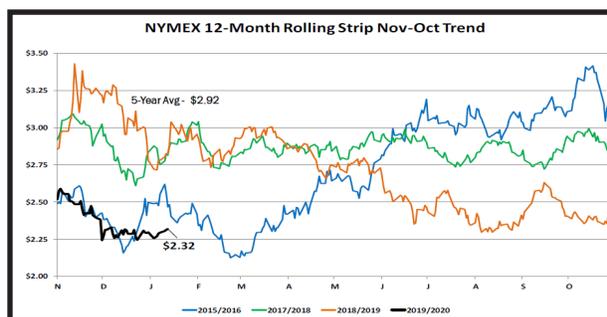
- 2019 second hottest, wettest year on record
- January: roller coaster from warm to cold
- February: cooler, wetter weather forecasted

Natural Gas

December started out bearish as warmer-than-normal temperatures kicked off the Thanksgiving weekend for much of the country. Prices followed this trend for much of the month, despite a cold snap mid-month, which increased demand, and a higher-than-expected storage withdrawal during the same week. The January 2020 futures contract traded downward throughout December, starting at \$2.281/Dt on the 1st only to settle at \$2.158/Dt on December 27th, the last trading day of 2019.

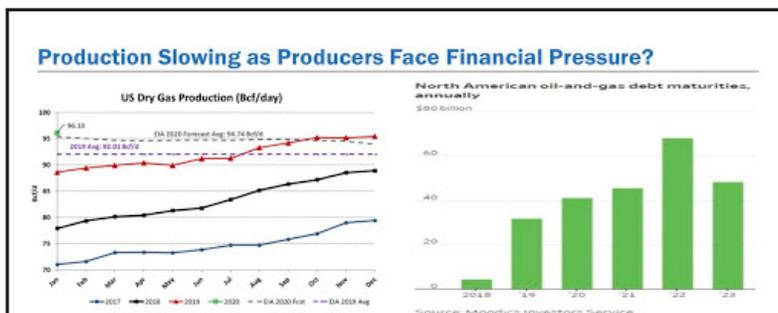
Prices started off flat then fell in the first half of January, with the February contract settling at \$2.003 on January 17th.

New reports show that LNG exports were up in September 31% over the previous year. LNG exports continue to grow as new projects come on line, reaching a new average high of 8 BCF/day in December, an



NYMEX Futures Pricing (\$/MMBtu)	Week Ending 01/03/20	Week Ending 12/27/19	W-o-W
NYMEX Prompt (Feb)	\$2.13	\$2.28	(\$0.15)
NYMEX 12-Month Strip	\$2.31	\$2.27	\$0.04
Winter (Nov 19-Mar 20)	\$2.33	\$2.36	(\$0.03)
Summer 2020 (Apr-Oct)	\$2.67	\$2.27	(\$0.40)
Calendar 2020	\$2.43	\$2.41	(\$0.02)
Calendar 2021	\$2.42	\$2.53	(\$0.12)

Gas production estimates for January range from 94-96 BCF/day, up from 87 BCF/day last year. At the same time, gas rig counts fell 40% in 2019 and are currently at 119. Combine this with increased pressure from Wall Street and investors to show stronger returns and we could see a decline in natural gas production, as well as some merger activity as producers try to refinance debt.



State by State

In California, repairs to one of SoCal gas' pipelines are complete and the line has been restored to full operating capacity, which will allow SoCal to bring in more natural gas from the Southern part of its system, which, along with increased withdrawals from the Aliso Canyon storage, has put downward pressure on natural gas citygate prices. December 2019 prices averaged \$5.42/Dt, compared with \$8.13 in December 2018. Overall, natural gas and electricity reliability should also increase with the new developments, although there could still be some risk with peak summer or winter loads.

In New York, downstate interruptible natural gas customers served by National Grid experienced the first supply disruption on December 18th. Interruptible and temperature-controlled customers were given notice to switch to their alternate fuel or face steep penalties from the utility.

Power

Warmer temperatures and forecasts weighed heavily on power prices in December. Overall, power commodity prices fell throughout the month with the exception of Texas, which saw increased demand and constraints on renewable power. Even the mid-month cold snap was not enough to have a substantial impact on prices, as generators again switched from natural gas to coal in the Midwest and Pennsylvania. While power commodity prices are lower, customers may still see an increase in total power prices, which is primarily driven by state-mandated clean energy initiatives.

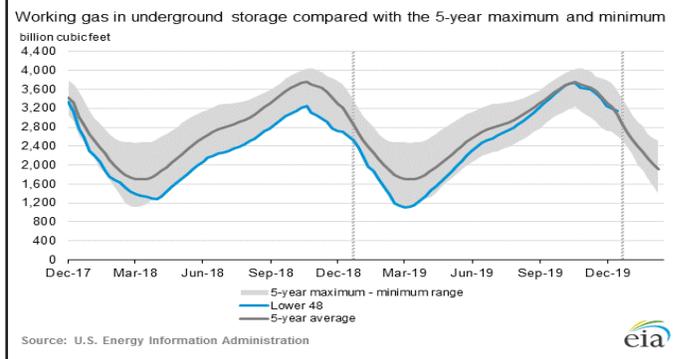
For January, power commodity prices have increased slightly across most of the U.S.

In Texas, ERCOT released its biannual Capacity, Demand and Reserve (CDR) report, which shows that Texas anticipates having enough generation to meet winter and spring power demand. One thing to note is that the majority of the growth in generation capacity is from renewables (wind and solar). The lack of planned new natural gas generation capacity could lead to reliability issues and higher prices in the region.

In Virginia, the state approved a plan that gives non-residential customers served by Dominion Virginia the opportunity to purchase power from a third party supplier without having to meet a minimum usage requirement. The new rules allow all non-resi-

Natural Gas Storage

For the week ending January 3, 2020, natural gas inventories ended at 3,148 BCF, which is 19.8% higher than this time last year and 2.4% above the 5-year average. Natural gas is still within the 5-year historical range. The consensus for the end of season inventory is 1,800 BCF based on current forecasts.



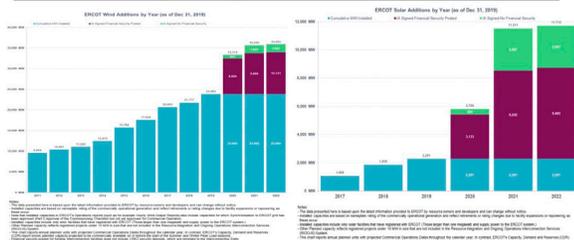
dential customers to purchase 100% renewable power from a third party as long as the utility does not offer a competing service. Once Dominion has a 100% renewable power rate, only customers with a minimum annual usage of 5MW will be eligible for any third-party supply.

The Federal Energy Regulatory Commission (FERC) issued its long-awaited ruling on the capacity rules in the PJM region. The new rules require PJM to include state-subsidized load requirements, which will raise the price floor for wholesale power. The fear is that it may prevent new, higher-priced renewable generation from being competitive with fossil fuel generation, which could have a negative impact on meeting state mandated clean energy targets. PJM operators have 90 days to comply with the new rules.

In other legislation, Virginia and Maryland have introduced clean energy bills requiring 100% of power to come from clean energy sources by 2050 and 2040, respectively. In Ohio, the legislature has proposed legislation that would allow townships to block previously approved wind projects, while in New Jersey, a proposed amendment to the constitution that would ban fossil fuel power plants is not expected to come up for vote until 2021.

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Renewables Expanding in ERCOT



- Renewables continue to expand with 23.9 GW of wind and 2.3 GW of solar installed in 2019 but not all projects for 2020-2022 will get built.
- Meanwhile, a cumulative total of only 813 MW of new gas-fired generation from 2020-2029 underlines the reliability issues ERCOT will face, and on a national level, that growth in gas-fired generation demand could be limited.

Customer Takeaway: The reserve margin increases in ERCOT for summer 2020 and 2021, but it is driven by growth in renewables. Summer 2020 could see volatility and higher index prices as the scarcity pricing adder (ORDC) shifts another 0.25 standard deviation higher.

Source: ERCOT

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RTC Forward Power Prices versus All-Time Contract Lows



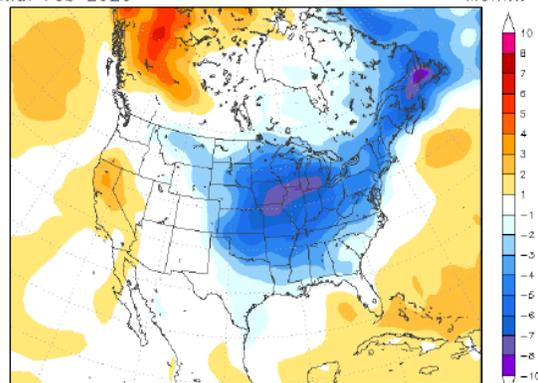
Weather

2019 was the second hottest, wettest year on record, with year-end temperatures at above-normal levels for much of the U. S. 2020 started out with an initial forecast of warmer-than-normal weather for January, which seemed to be confirmed with record high temperatures in New York City and Boston. All this changed in mid-January and mid-range (6-10 and 8-14 day) forecasts now show below-normal temperatures for much of the country.

As we get into February, meteorologists are starting to agree that the month will be colder than normal. If we see the colder-than-normal weather, we can expect greater withdrawals from storage and potentially see an increase in natural gas prices.

American Model February Forecast

2 m Temperature Anomaly (F) (4 mems, last 4 cycles) CFS-MONTHLY
Valid: Feb 2020 Month: 1



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StormVistaWxModels.com

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Short-Term Weather

