Will Southern California's Gas System Survive Winter?

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Data Sources Used in This Publication
National Oceanic and Atmospheric Administration
Federal Energy Regulatory Commission
EOXLive
Southern California Gas
California Gas and Electric Utilities

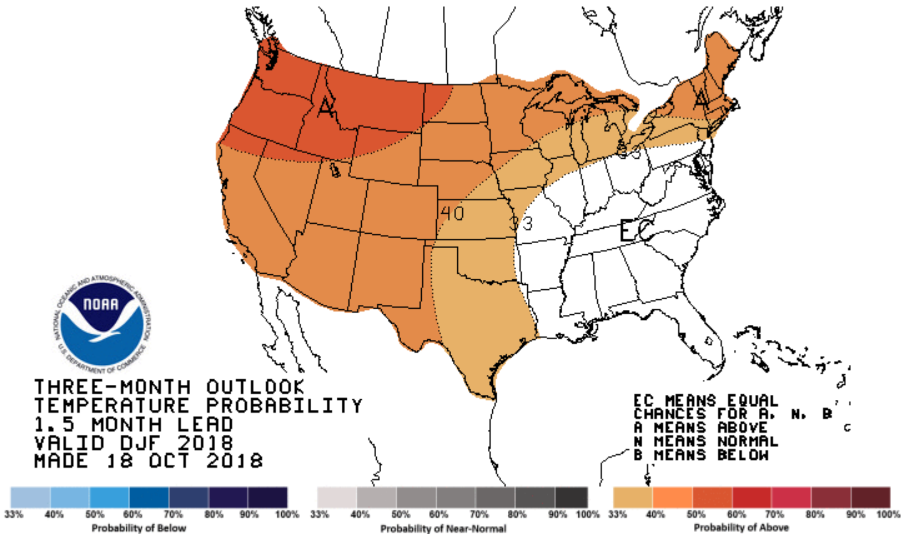
FERC Energy Market Assessment

The 2018-19 Winter Energy Market Assessment presented to the Federal Energy Regulatory Commission on Oct. 18 highlighted three regions with gas pipeline constraints resulting in higher risk of volatility this winter. Two of the three regions—New York and Boston—are perennial concerns when winter temperatures crank up heating demand as well as power generation. The third—Los Angeles—is far less prone to winter challenges. However, restrictions at Southern California Gas' Aliso Canyon storage facility and continued import constraints on Lines 4000 and 235 are setting up a tighter market. This note looks at Southern California's natural gas market coming into winter, as well as prospects for the remainder of the season.

Weather Forecast

The National Oceanic and Atmospheric Administration published its winter outlook on Oct. 18. Not only does it expect temperatures to be above average for the northern and western parts of the country, but it also forecasts a 70%-75% chance of El Nino conditions developing in the fall and winter (Exhibit 1). Depending on its strength, El Nino typically results in wetter-than-average conditions in the south and drier conditions in the north as well as milder temperatures across large swaths of the United States. If the forecast is correct, California may be one of the biggest beneficiaries of the expected milder winter. NOAA's monthly heating degree forecast for California is 516, 501, and 410 heating degree days respectively for December, January, and February, which is 24, 26, and 29 heating degree days lower than the historical norms.

Exhibit 1 Seasonal Outlook (December-February)

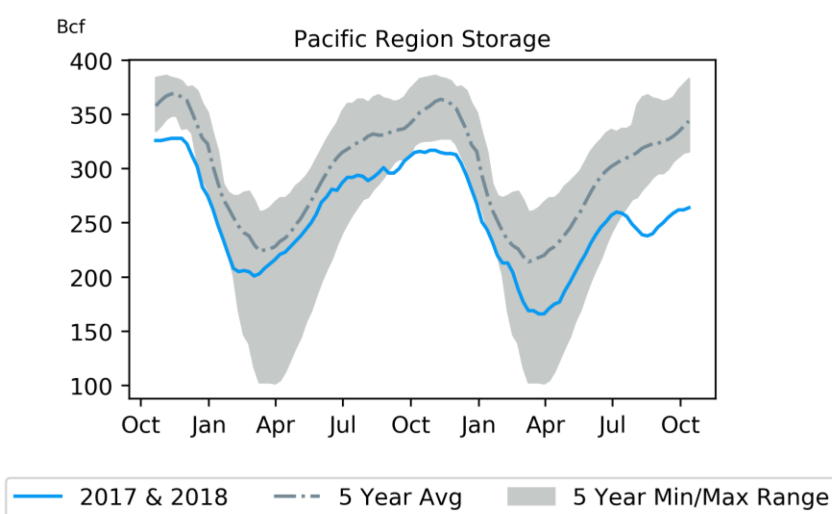


Source: NOAA

Natural Gas Storage

A milder-than-normal winter is welcome news to the region, considering the issues affecting natural gas supplies. The Energy Information Administration Weekly Natural Gas Storage Report from Oct. 18 shows 264 billion cubic feet of working gas in storage for the Pacific region, 80 bcf below the five-year average of 344 bcf (Exhibit 2). Compared with other parts of the country, where storage has trended at or just below the five-year range, the Pacific region stands out considerably in its deviation from recent history.

Exhibit 2 EIA Weekly Pacific Storage (as of Oct. 12)



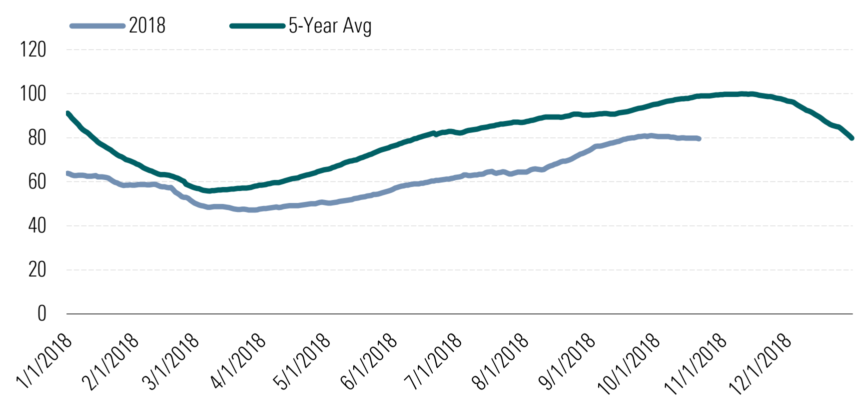
Source: EIA/Morningstar

Like natural gas storage levels in the Pacific region as a whole, Southern California's inventory levels are also below the five-year average (Exhibit 3) but higher than they were at this point last year by around 13.6 bcf. Although levels are higher this year, California continues to experience two major infrastructure challenges refilling storage.

Aliso Canyon

The first challenge concerns Aliso Canyon, which experienced a leak in October 2015 and continues to operate with significant restrictions. According to a risk assessment filed by the California Energy Commission, the state's natural gas supply system remains unable to meet its 1-in-10-year peak cold day gas demand forecast of 4.96 bcf without Aliso Canyon. A working gas in storage limit of 34 bcf is still in place at the damaged facility, which is 60% lower than its 84 bcf capacity as well as additional withdrawal restrictions imposed by the California Public Utilities Commission. The CPUC has said withdrawal of natural gas from Aliso Canyon can only occur as a last resort to meet system reliability.

Exhibit 3 Southern California Storage as of Oct. 22 (bcf)



Source: SoCalGas

Pipeline Constraints

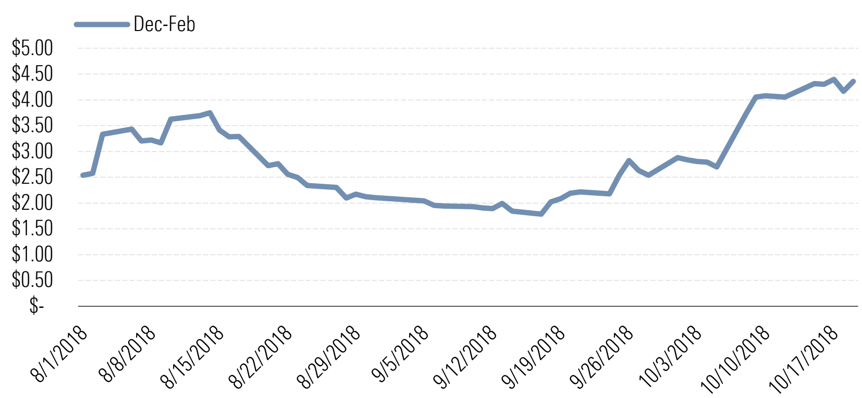
The second infrastructure challenge facing California gas this winter comes from continued pipeline constraints. Unplanned work on Line 4000 and Line 235 at the tail end of last year led SoCalGas to reduce capacity into the Northern Zone by 1.0 bcf/d, which has put additional stress on the remaining pipeline system. There is no known end date to the work, with SoCalGas saying Line 235 could be back online in its best-case scenario by April 2019, and work to bring Line 4000 back to full capacity would start shortly thereafter. These lines are a key feeder into Southern California, bringing natural gas from the El Paso system into the state. The limited capacity on these lines has required SoCalGas to find alternative supplies such as increasing supply at Otay Mesa on the California-Mexico border.

Expectations of continued pipeline constraints are probably the reason for the 13.6 bcf higher inventory compared with a year ago, but concerns remain about meeting reliability. While SoCalGas plans to implement a few adjustments and mitigations to fulfill a system sendout of 4.0 bcf/d, that volume falls short of the 1-in-10-year peak cold day forecast demand of 4.96 bcf/d. Any unplanned outages or higher-than-expected demand could force the use of emergency inventories held at Aliso Canyon, leading to higher prices and the implementation of other emergency measures to maintain a reliable system.

Stronger Prices

Basis prices at SoCal Citygate for December, January, and February are significantly higher this winter than they were for the same contracts at this point last year, proving that the infrastructure constraints in the region are weighing on the minds of market participants (Exhibit 4). SoCal Citygate prices for the above three months moved up from $1.78/mmbtu in mid-September to around $4.36/mmbtu today, and with no resolution to the infrastructure issues in sight, the Southern California market is likely to remain highly sensitive this winter. Primary drivers for price going into the winter will come from changes to the milder seasonal forecast and any additional unplanned outages on the pipeline system.

Exhibit 4 SoCal Citygate Basis Futures: December-February ($/mmbtu)



Source: EOXLive

Saved by the Weather

California has hobbled along with limited storage at Alisa Canyon and the string of pipeline issues feeding the state with much-needed natural gas since the fall of 2017. However, in this past summer with higher temperatures, natural gas dailies moved well into the $20-$30 range with similar constraints in place. The question is whether prices will continue moving up as they have in the past two high-demand seasons. The key lies in the weather. With the last two degree day forecasts for California trending warmer, the Southern California Gas system may have bought itself some extra time. Knowing Southern California cannot cover a 1-in-10 peak temperature cold day with the slew of mitigations in place, the milder winter may be the one saving grace for the region. With heating degree days expected to fall below the 30-year historical average and the stronger probability of El Nino, natural gas demand should be somewhat subdued this winter. However, forecasts can and often do change. Although the system is capable of meeting demand on a one-off cold day, any sustained cold will result in a struggle to meet demand and restock in case of future weather anomalies. If temperatures shift colder this winter and additional pipeline constraints materialize, California may enter uncharted territory.

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