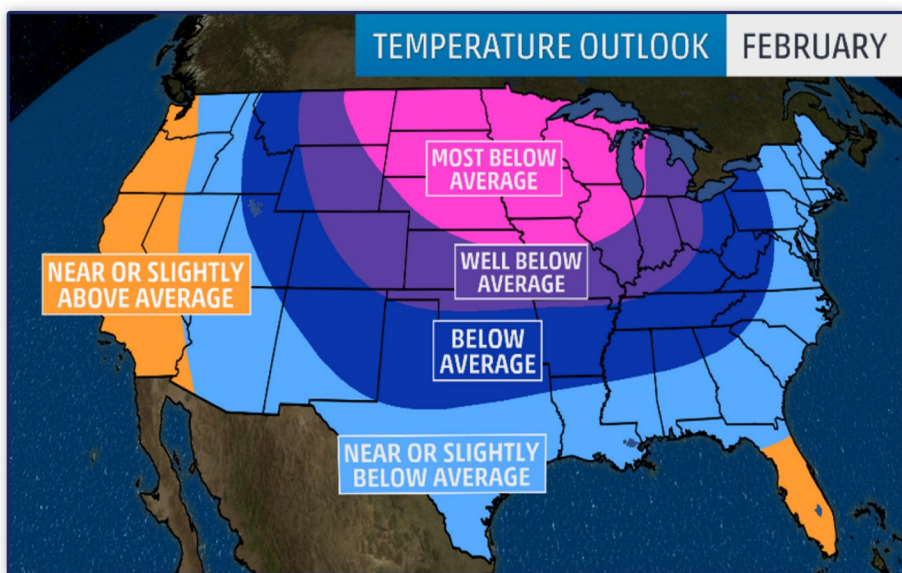


### Market Summary

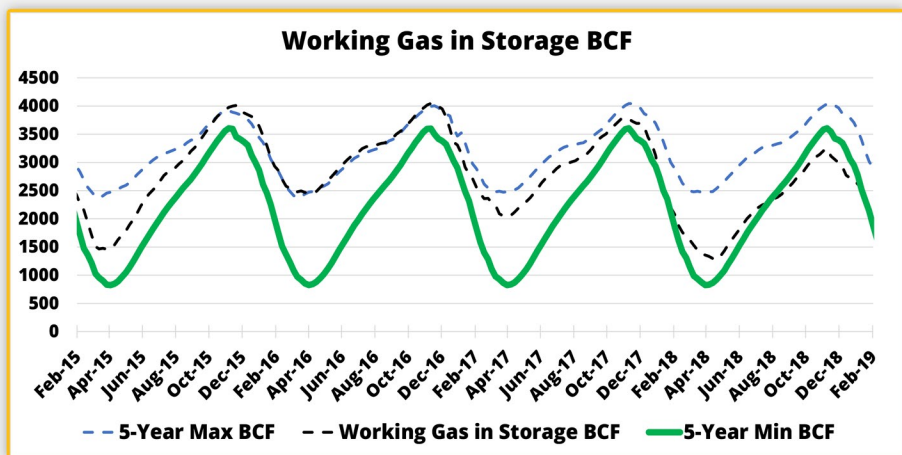
February's Polar Vortex proved no match for U.S. natural gas, with prices falling and production hitting an all-time high. The unexpected outcome illustrates the broader volatility affecting the 2018-2019 winter season.

### Weather



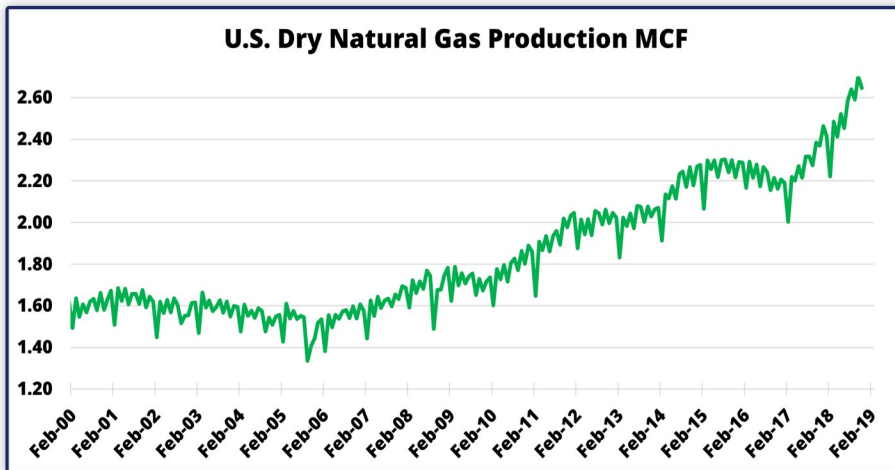
- Early February prices fell 7% while the Polar Vortex gripped much of the Midwest and Northeast in a deep freeze. Forecasts call for warmer than normal weather to quickly replace the Polar Vortex.
- The market has moved predicated on weather as December futures prices fell 36% (biggest monthly percentage decline since 2003) after November's 41% climb – biggest since 2009.
- Mid-January saw a 16% gain day over day as cold spells continued the price rally – biggest one day percentage gain since mid-November.

### Storage



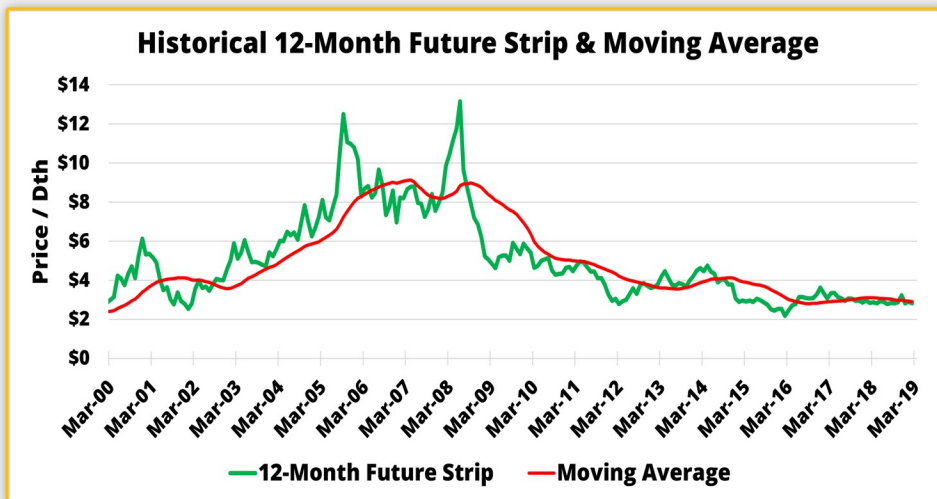
- New York and New England states are ground zero for infrastructure and pipeline issues. With oil and gas supplying the bulk of energy through at least 2050, the midstream infrastructure has not kept up in this region.
- Net withdrawals from storage totaled 173 Bcf for the week ending January 25, compared with the five-year average net withdrawals of 150 Bcf and last year's net withdrawals of 126 Bcf during the same week. Working gas stocks totaled 2,197 Bcf, which is 328 Bcf lower than the five-year average and 14 Bcf lower than last year at this time.

# Production



- In light of the Polar Vortex, natural gas demand hit an all-time record of 150 Bcf/d, half of which was for heating. This surpasses the previous record of 143 Bcf/day set in January 2018.
- Natural gas fueled 35% of total U.S. electricity generation in 2018, up from 24% in 2010. It is expected to grow to 37% by 2020, replacing coal-fired alternatives.
- Production freeze-offs occur when temperatures drop below 32°F in producing fields, causing water and other liquids in above-ground gathering lines at the wellhead to freeze and block the flow of natural gas.

# Pricing



# Bidweek

Month	12-Month Strip	NYMEX
Nov. '18	\$2.953	\$3.190
Dec. '18	\$3.240	\$4.714
Jan. '19	\$2.806	\$3.642
<b>Feb. '19</b>	<b>\$2.806</b>	<b>\$2.950</b>

Wholesale Prices per Mmbtu

# Noteworthy

- Exxon Mobil and Qatar Petroleum will finance a +\$10 billion project to export liquefied natural gas (LNG) from the Texas Gulf Coast.
- A federal judge has concluded Pacific Gas & Electric (PG&E) violated its probation related to the deadly San Bruno, California, gas pipeline explosion in 2010, and suggested he may adopt further restrictions on the utility before next fire season. The hearing came a day after PG&E filed for Chapter 11 bankruptcy protection. The utility is facing uncertainty on multiple fronts, including a proceeding where California regulators are considering the possibility of breaking up the utility.
- Michigan Governor Gretchen Whitmer committed her state to the U.S. goal under the Paris Climate Agreement to reduce greenhouse gas emissions 26-28% below 2005 levels by 2025. The commitment was one of three executive orders from Whitmer on energy and environmental policy.
- The Senate Environment and Public Works Committee voted to confirm Andrew Wheeler, acting administrator at the Environmental Protection Agency (EPA), as permanent head of the agency.
- North, Central, and South America installed 11.9 gigawatts (GW) of wind power capacity in 2018.