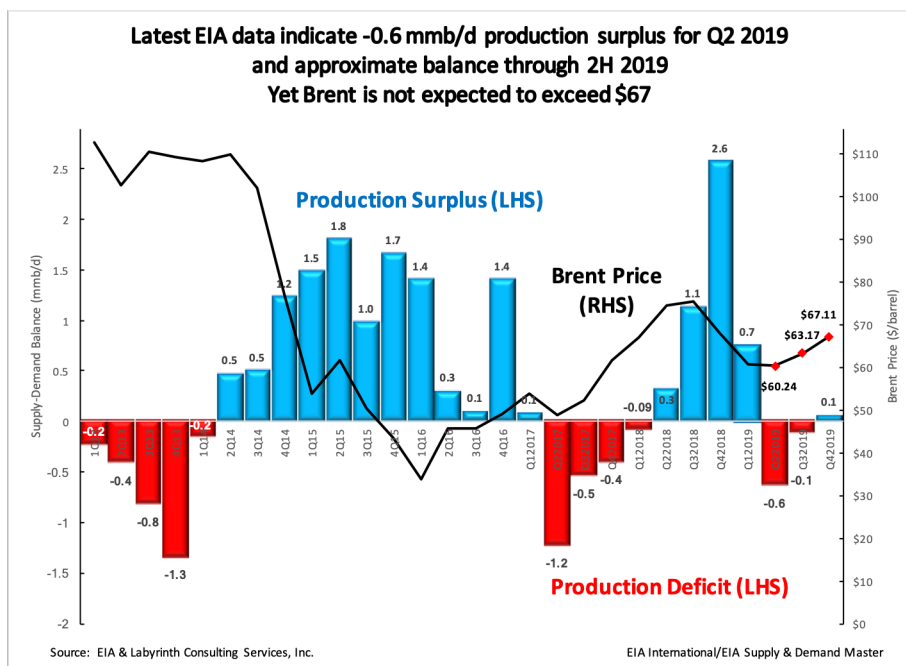


## **MacroVoices June 12, 2019**

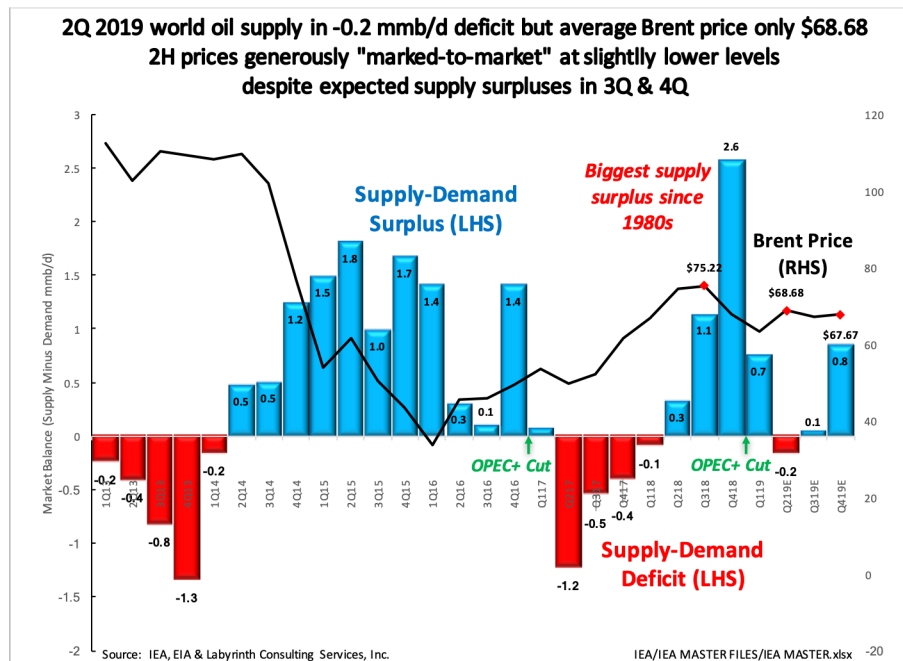
**Art Berman  
Labyrinth Consulting Services, Inc.**

## EIA forecasts low oil prices despite expected production deficits



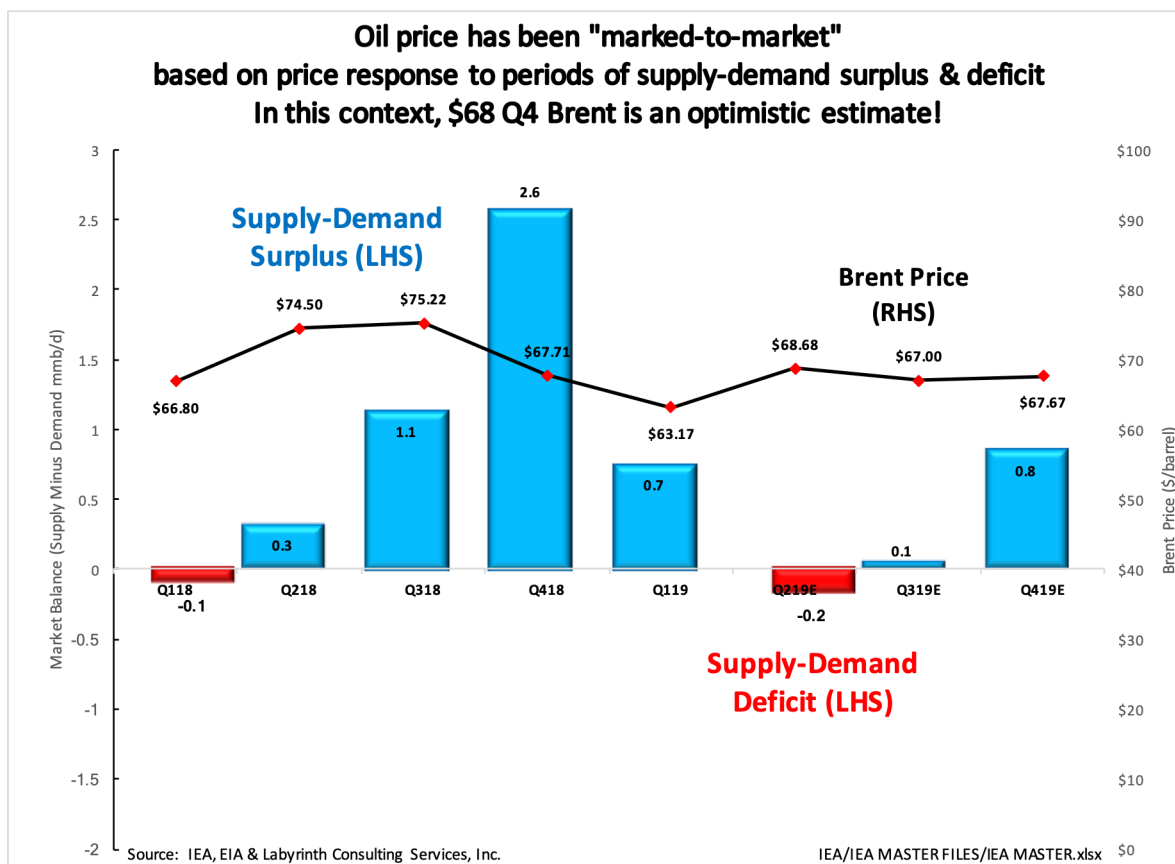
- EIA's recent STEO report shows a Q2 production deficit of -0.6 mmb/d, forecasts a deficit in Q3 and a slight surplus in Q4.
- Yet 2019 price forecast for Brent is only \$66.69 and for WTI, \$59.29.
- Why are prices so low if deficits are predicted?

## Production is not supply and consumption is not demand



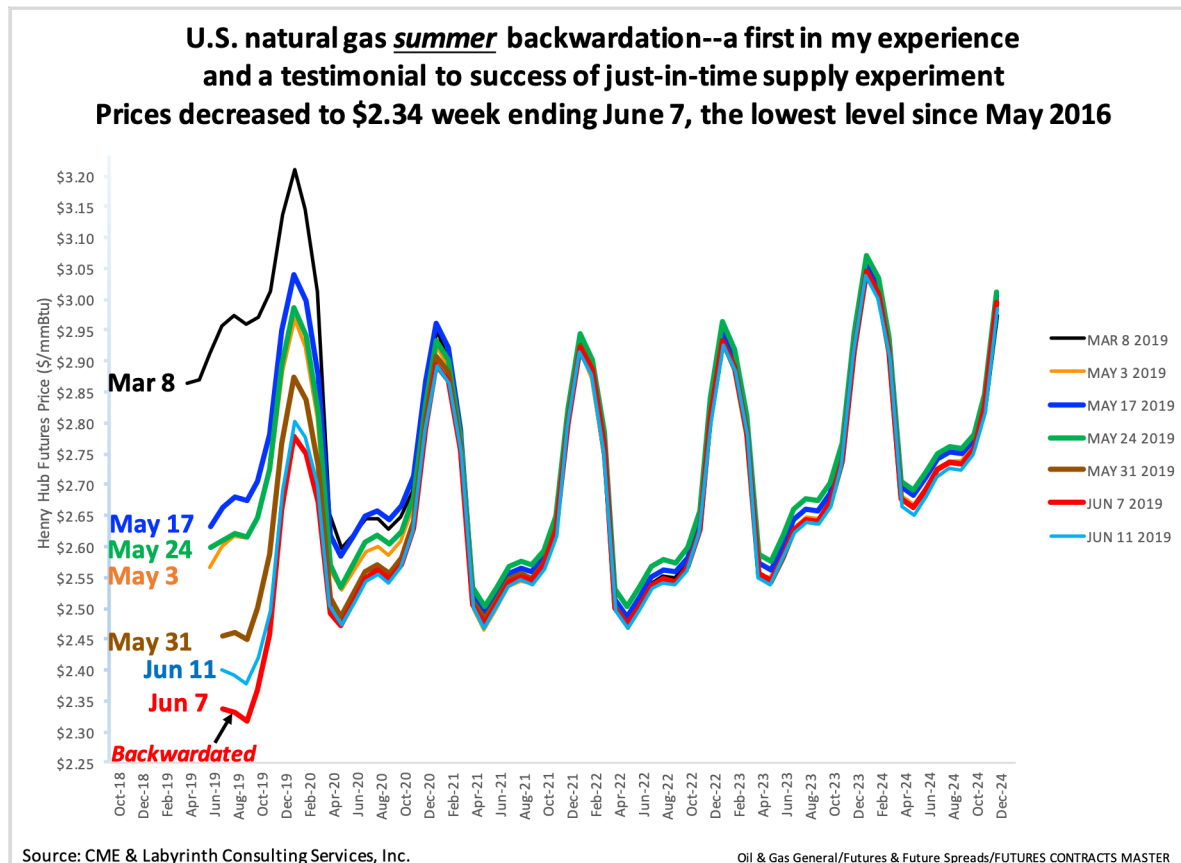
- Supply is production plus net exports plus net inventory changes; demand is consumption plus net imports plus net inventory changes. Inventory is a critical component of both.
- For 2Q 2019, a -0.6 mmb/d production-consumption deficit is only a supply-demand deficit of -0.2 mmb/d.
- For 3Q and 4Q 2019, approximate production-consumption balance is a supply-demand surplus.
- We know that China has huge oil inventories & that Saudi Arabia has been storing oil outside the kingdom.

## Crude prices have been “marked-to-market”



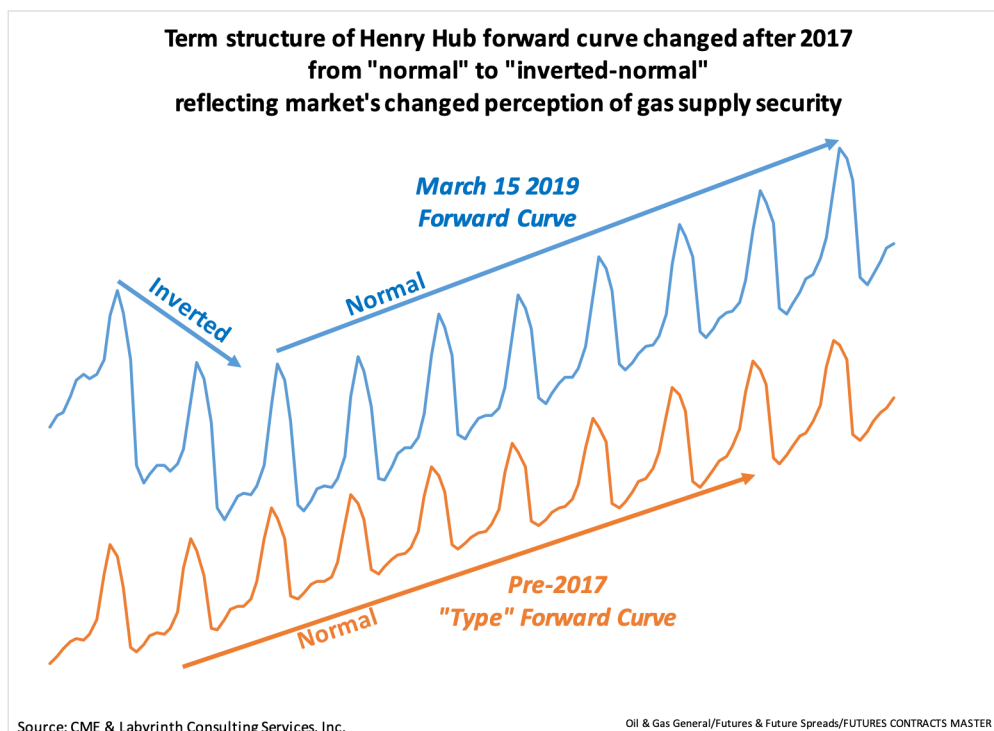
- Oil price has been "marked-to-market" based on price response to periods of supply-demand surplus & deficit.
- In this context, \$68 Q4 Brent is an optimistic estimate!

## Latest natural gas forward curves are anomalous



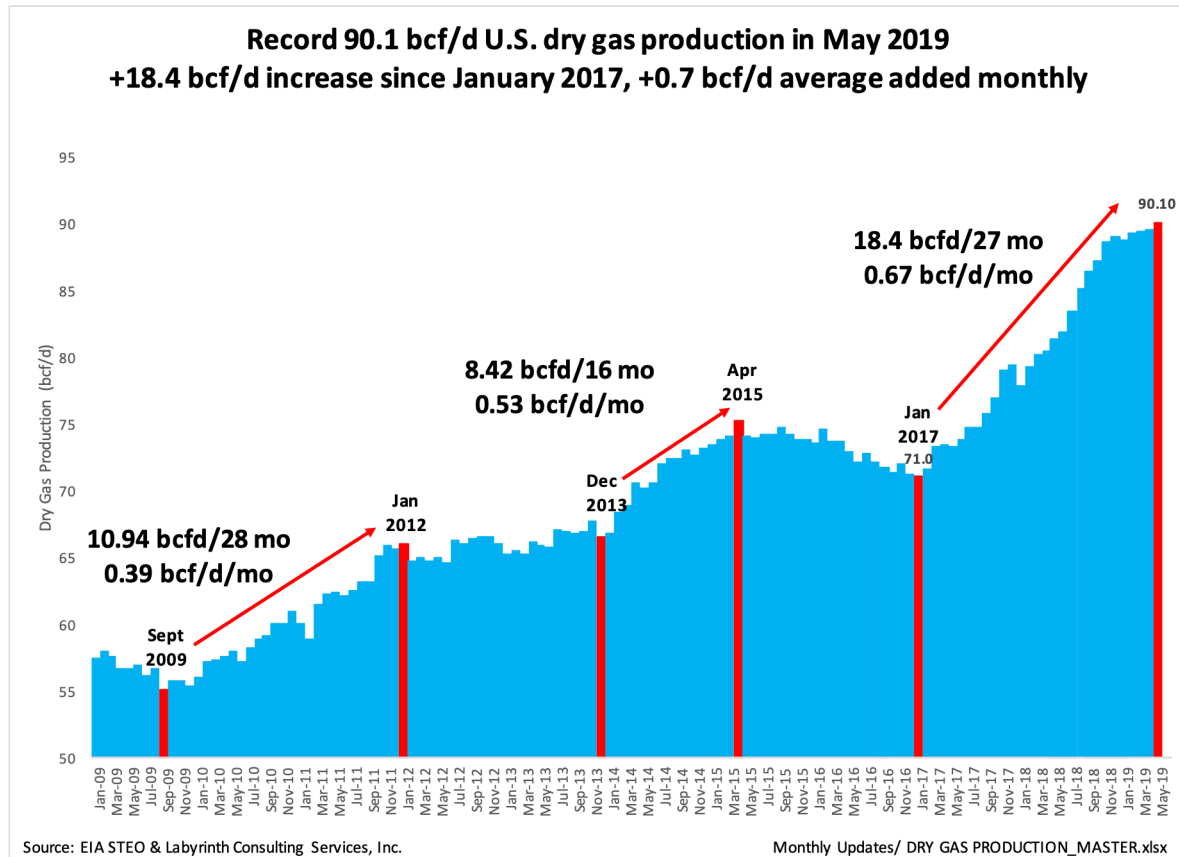
- For the last week, natural gas forward curves are anomalous.
- They show a backwardated near-month term structure.
- That's not normal during storage fill season.

## Last week of natural gas forward curves are anomalous



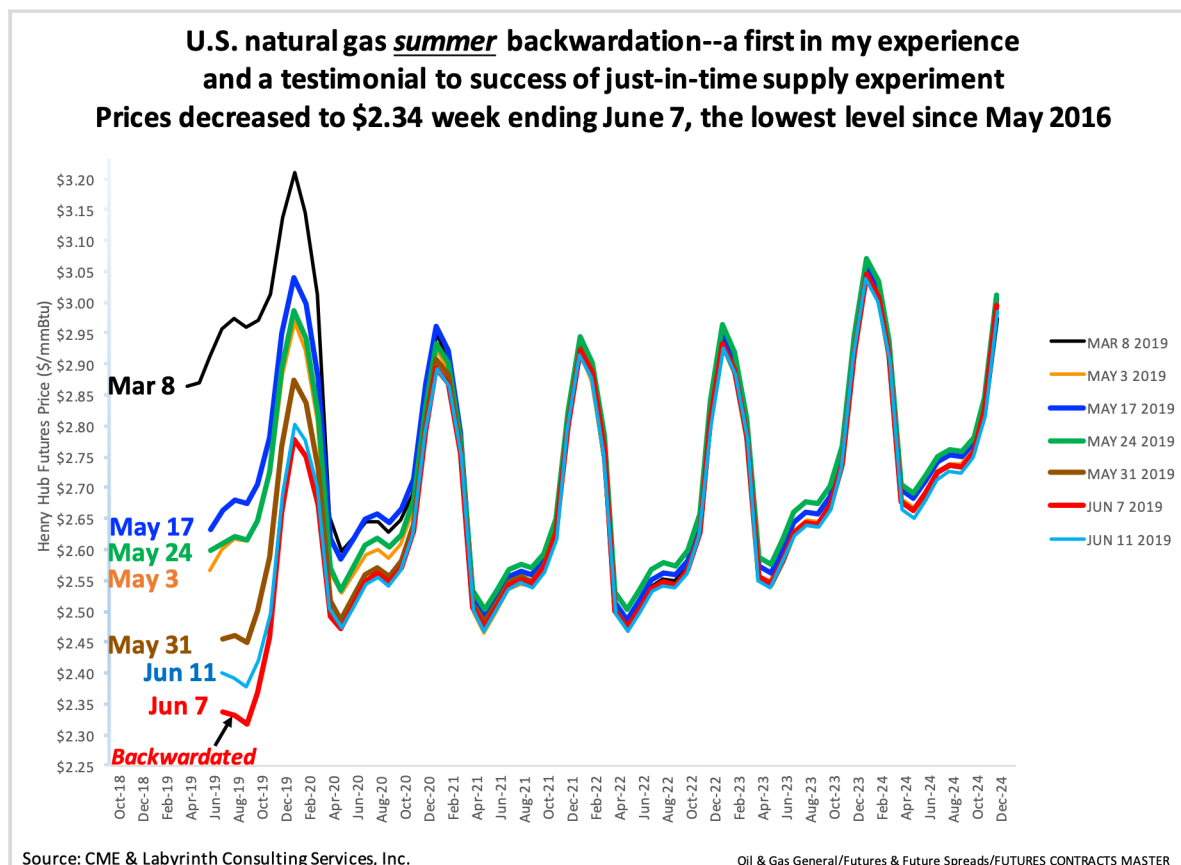
- Natural gas forward curves are different than oil curves because of extreme seasonality of supply and demand.
- Sinusoidal term structure reflects May to December storage fill “contango” & January to April storage draw “backwardation.”
- Since the surge in gas production in 2017, “normal” has been replaced by “inverted” term structure.

## Gas production surge



- Since January 2017, dry gas production has increased 18.4 bcf/d.
- That is the biggest production increase in history based on both volume and rate.
- The result has been an inversion of the forward curves & increased reliance on wellhead gas supply rather than storage (“just-in-time” supply).

## Just-in-time gas supply is a paradigm change



- Winter 2018-19 was the trial run for just-in-time gas supply.
- Despite price spikes in December, it was fairly successful.
- Backwardated near-month term structure creates no incentive to store gas during traditional storage fill season!
- That's a big deal for gas markets and producers.