

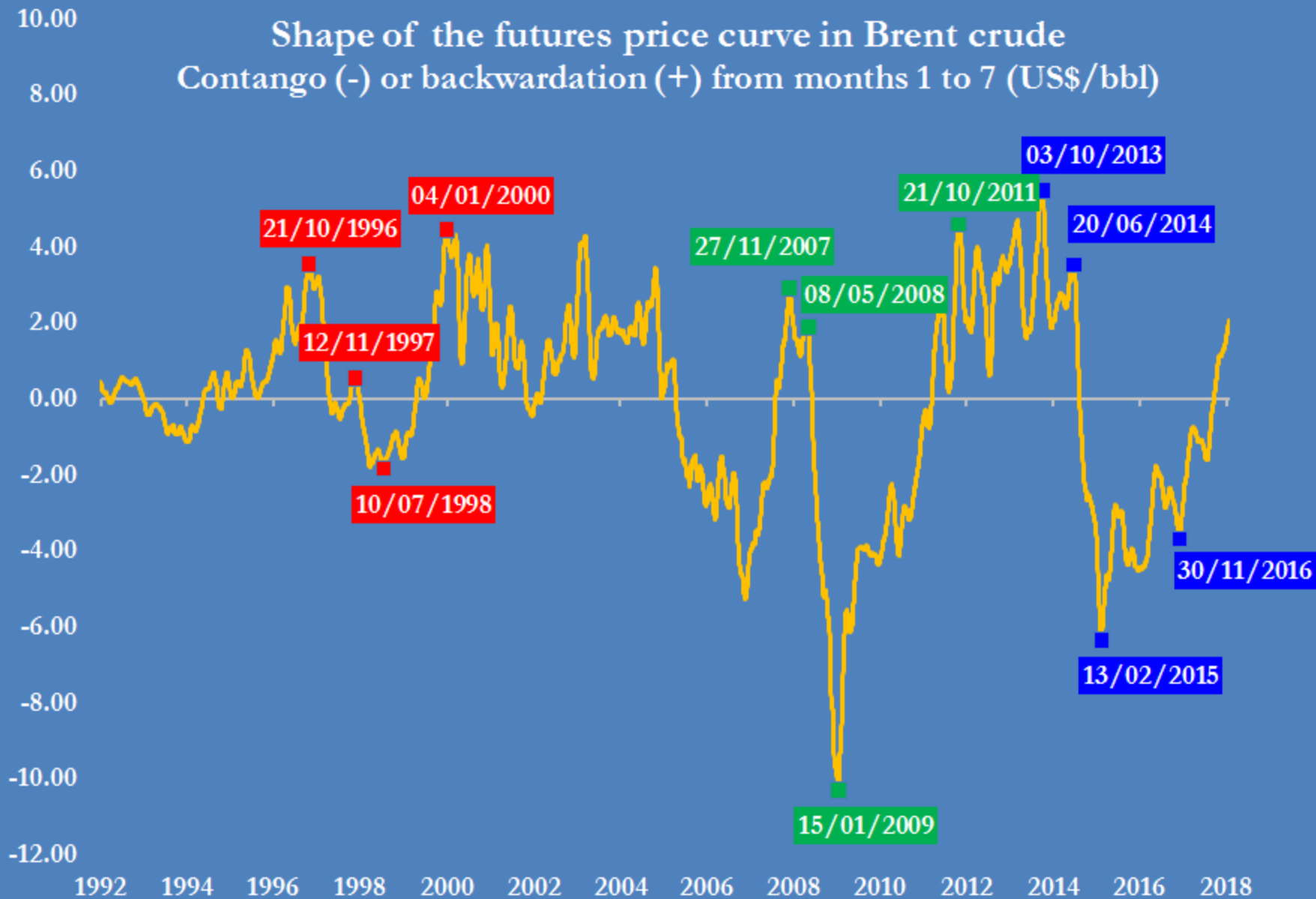
Crude oil calendar spreads and stocks

Selected indicators

JOHN KEMP
REUTERS
25 January 2018

Shape of the futures price curve in Brent crude

Contango (-) or backwardation (+) from months 1 to 7 (US\$/bbl)

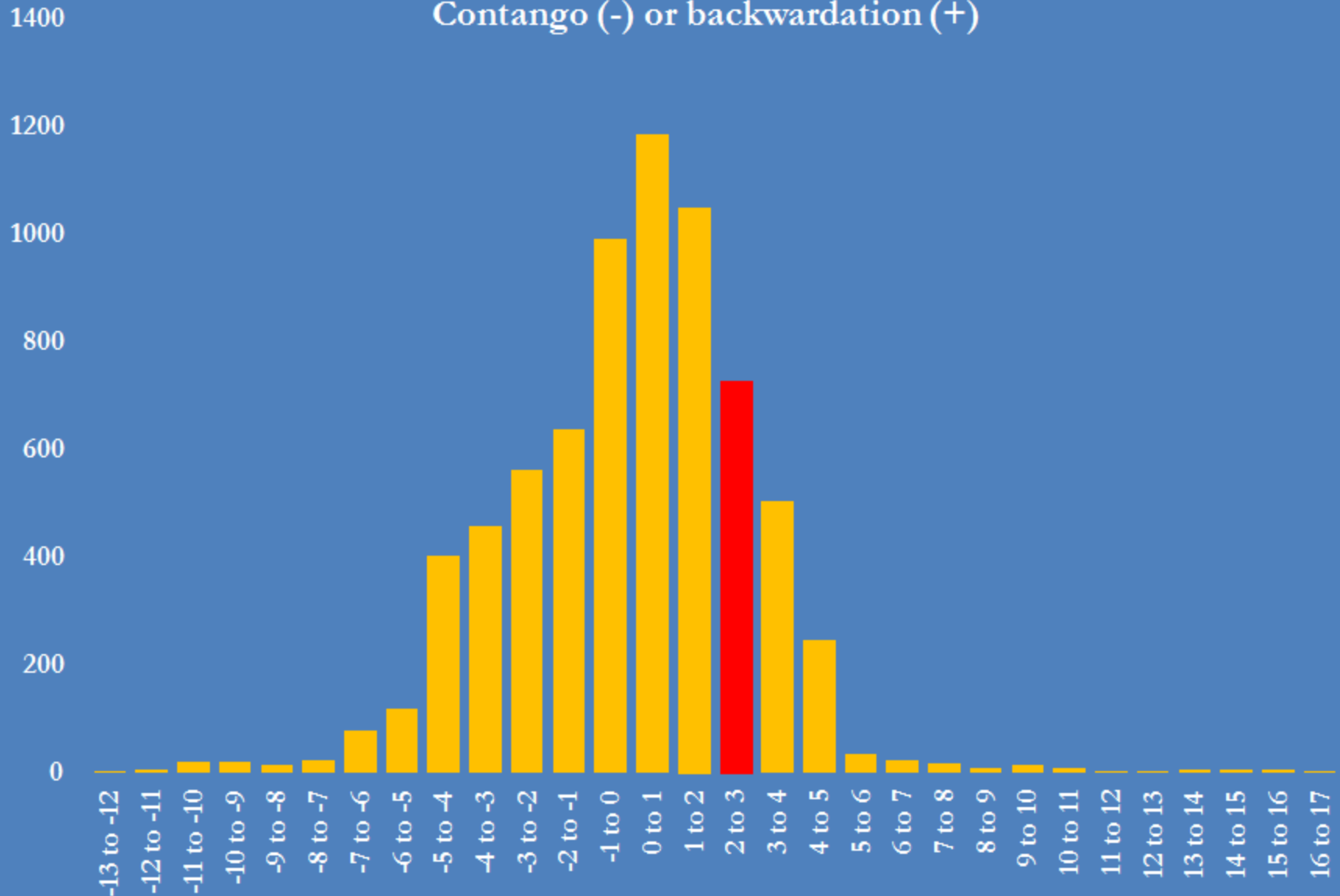


Price difference between 1st listed contract month and 7th listed contract month for Brent futures (U.S.\$/bbl)
Contango (-) or backwardation (+) averaged over 30 days

Source: Thomson Reuters Eikon, ICE Futures @JKempEnergy

Brent calendar spread from month 1 to month 7

Frequency distribution (daily) 1990-2018, US\$ per barrel
Contango (-) or backwardation (+)

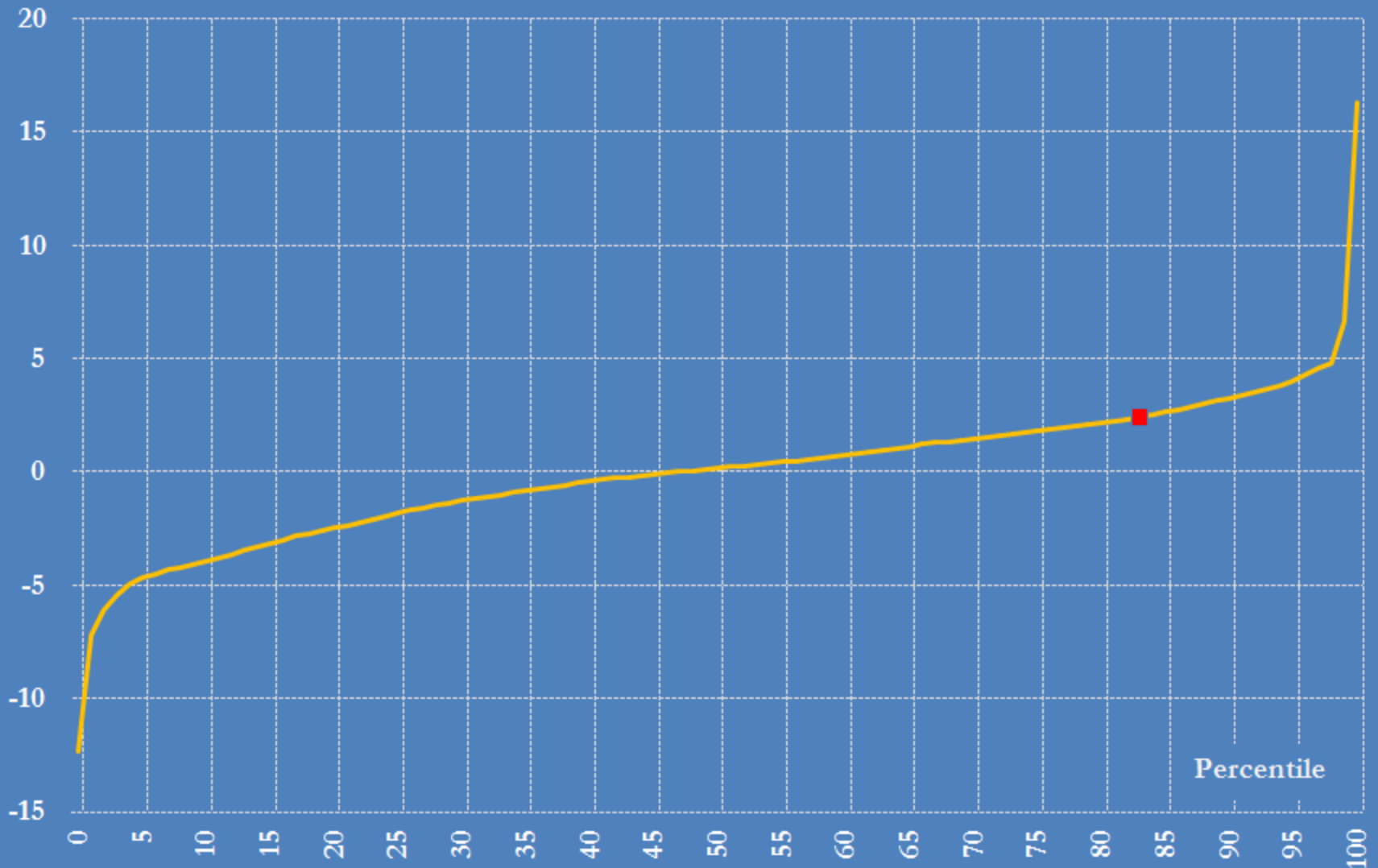


Brent calendar spread from month 1 to month 7

Percentiles 1990-2018, US\$ per barrel

Contango (-) or backwardation (+)

U.S.\$/bbl



Brent calendar spread from month 1 to month 7
Frequency distribution (daily) 1990-2018, US\$ per barrel
Contango (-) or backwardation (+)

Percent

2.50

2.00

1.50

1.00

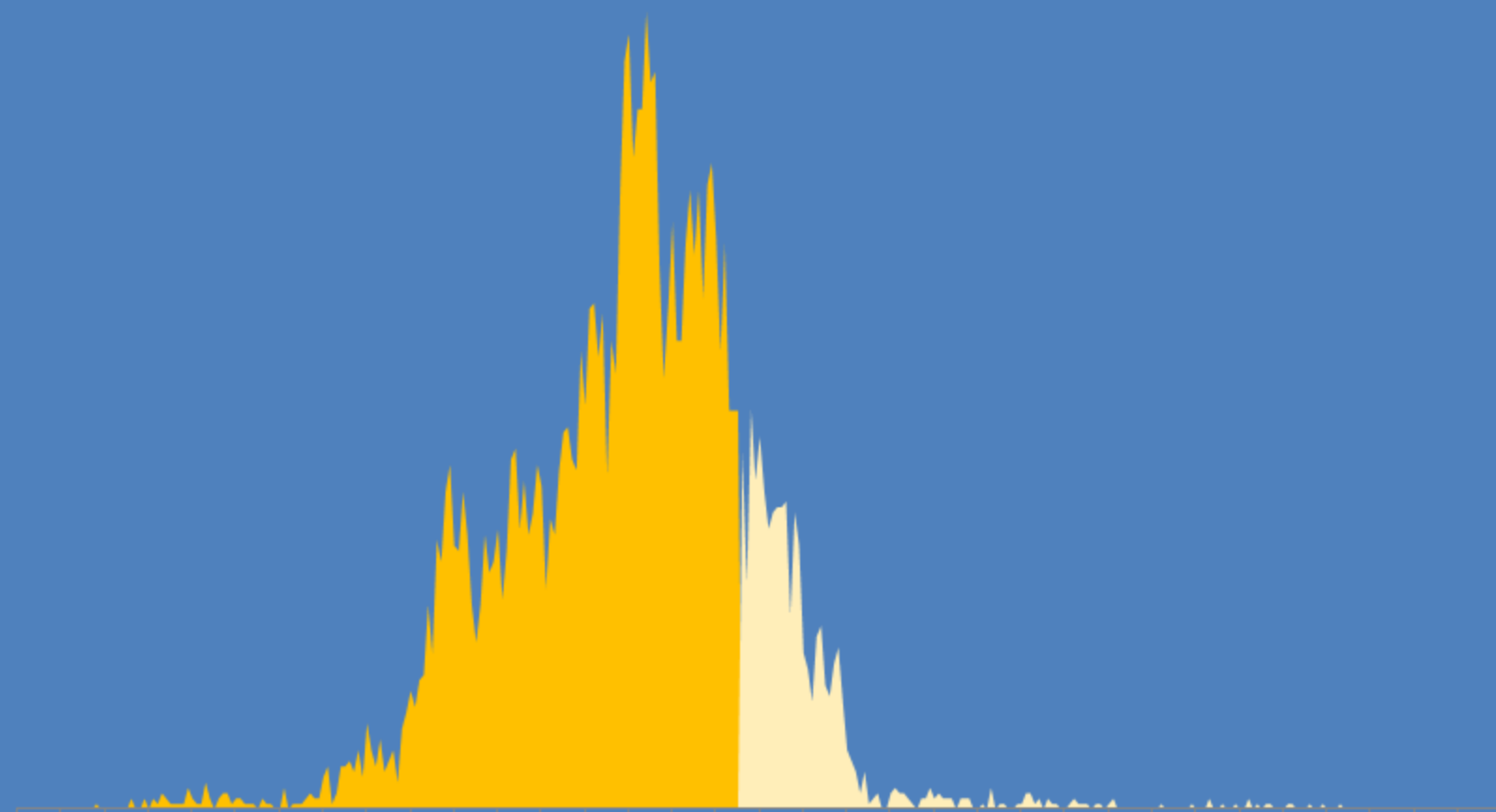
0.50

0.00

-14 -13 -12 -11 -10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

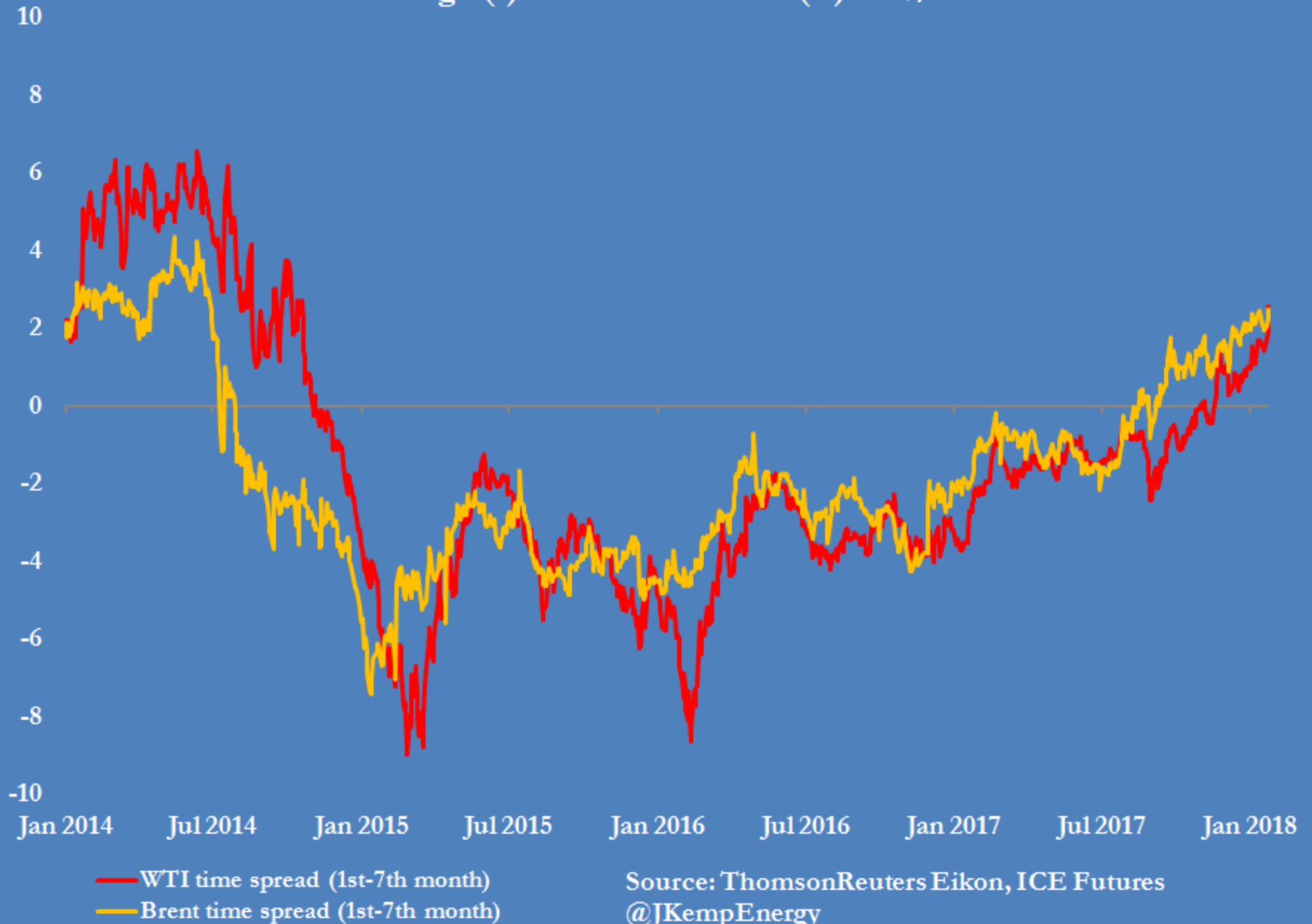
Source: ICE Futures Europe
@JKempEnergy

Calendar spread U.S.\$/bbl



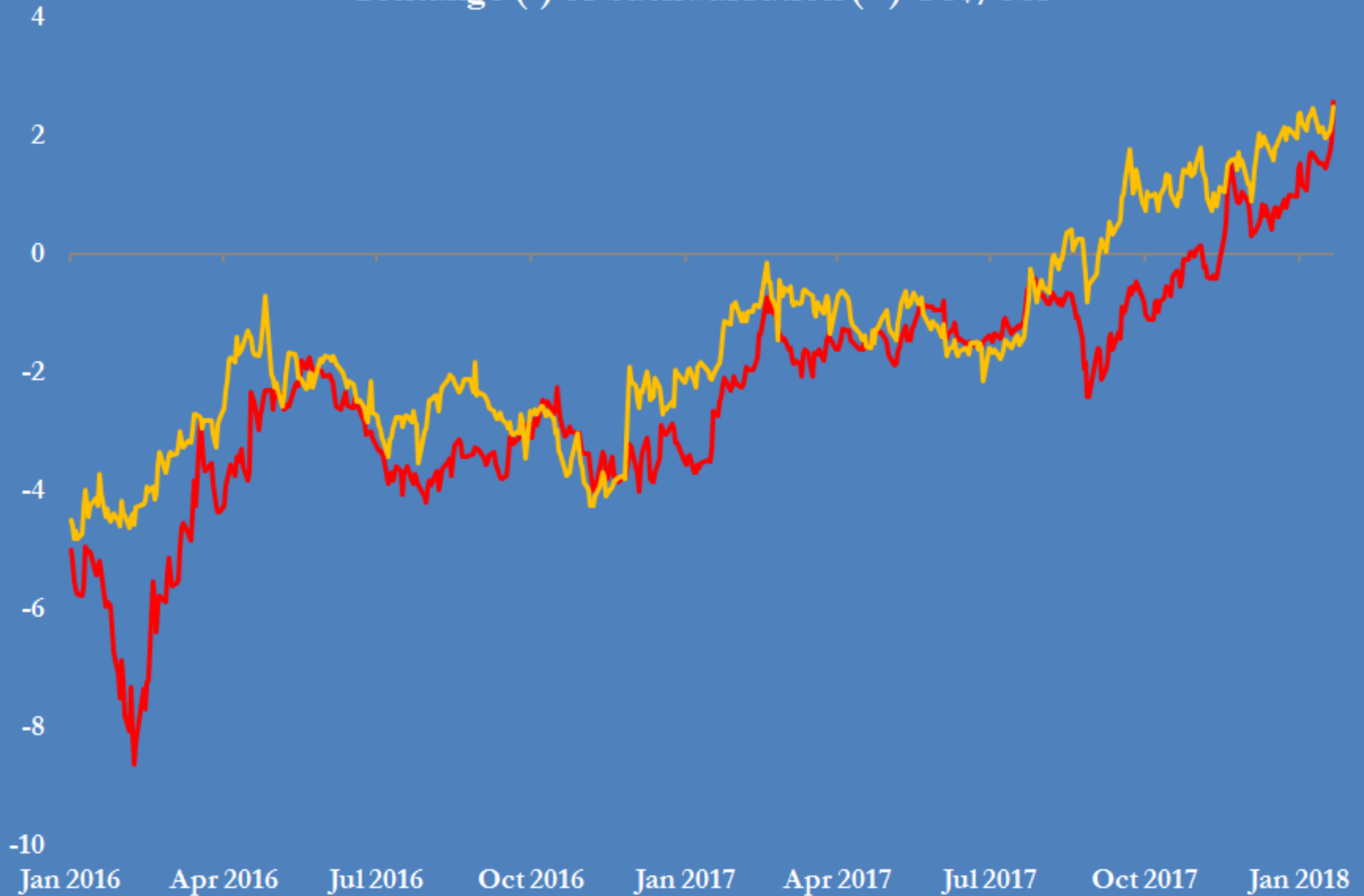
WTI and Brent Time Spreads

Contango (-) or backwardation (+) US\$/bbl



WTI and Brent Time Spreads

Contango (-) or backwardation (+) US\$/bbl

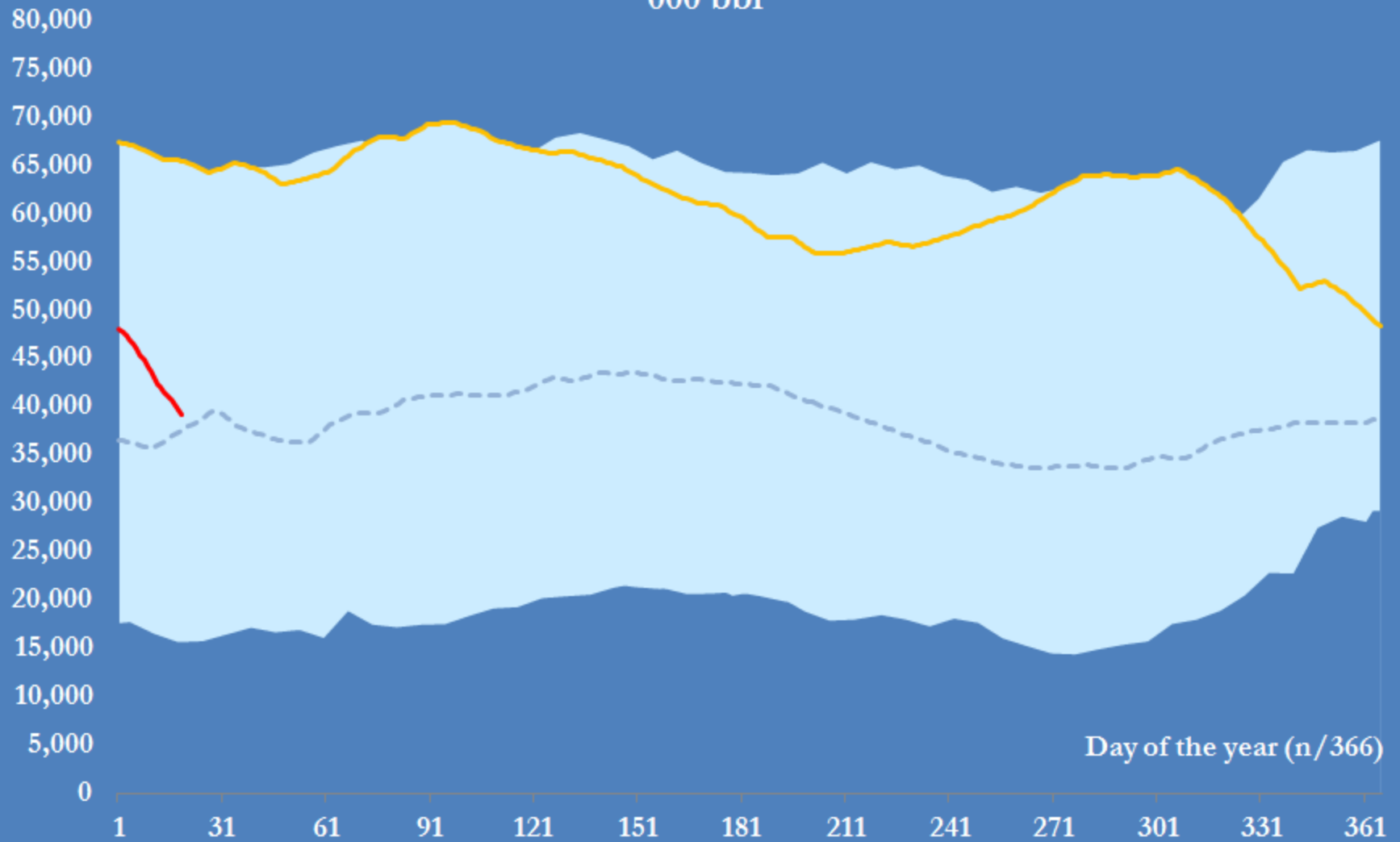


— WTI time spread (1st-7th month)
— Brent time spread (1st-7th month)

Source: ThomsonReuters Eikon, ICE Futures
@JKempEnergy

Commercial crude stocks at Cushing in the United States

000 bbl

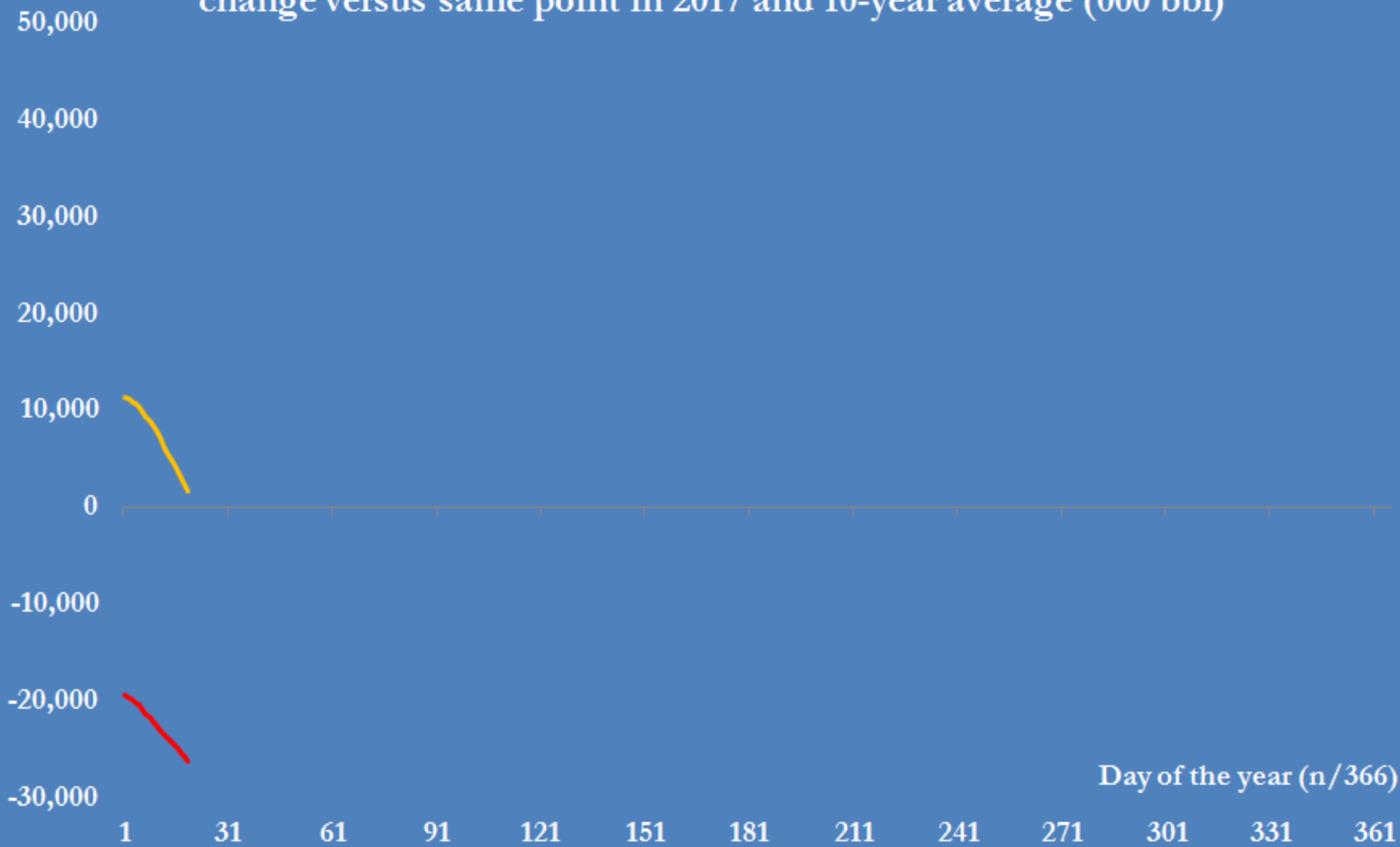


- 10-yr range (max-min)
- 10-yr median
- 2018
- 2017

Source: *Weekly Petroleum Status Report*, U.S. Energy Information Administration

@JKempEnergy

Commercial crude stocks at Cushing in the United States change versus same point in 2017 and 10-year average (000 bbl)



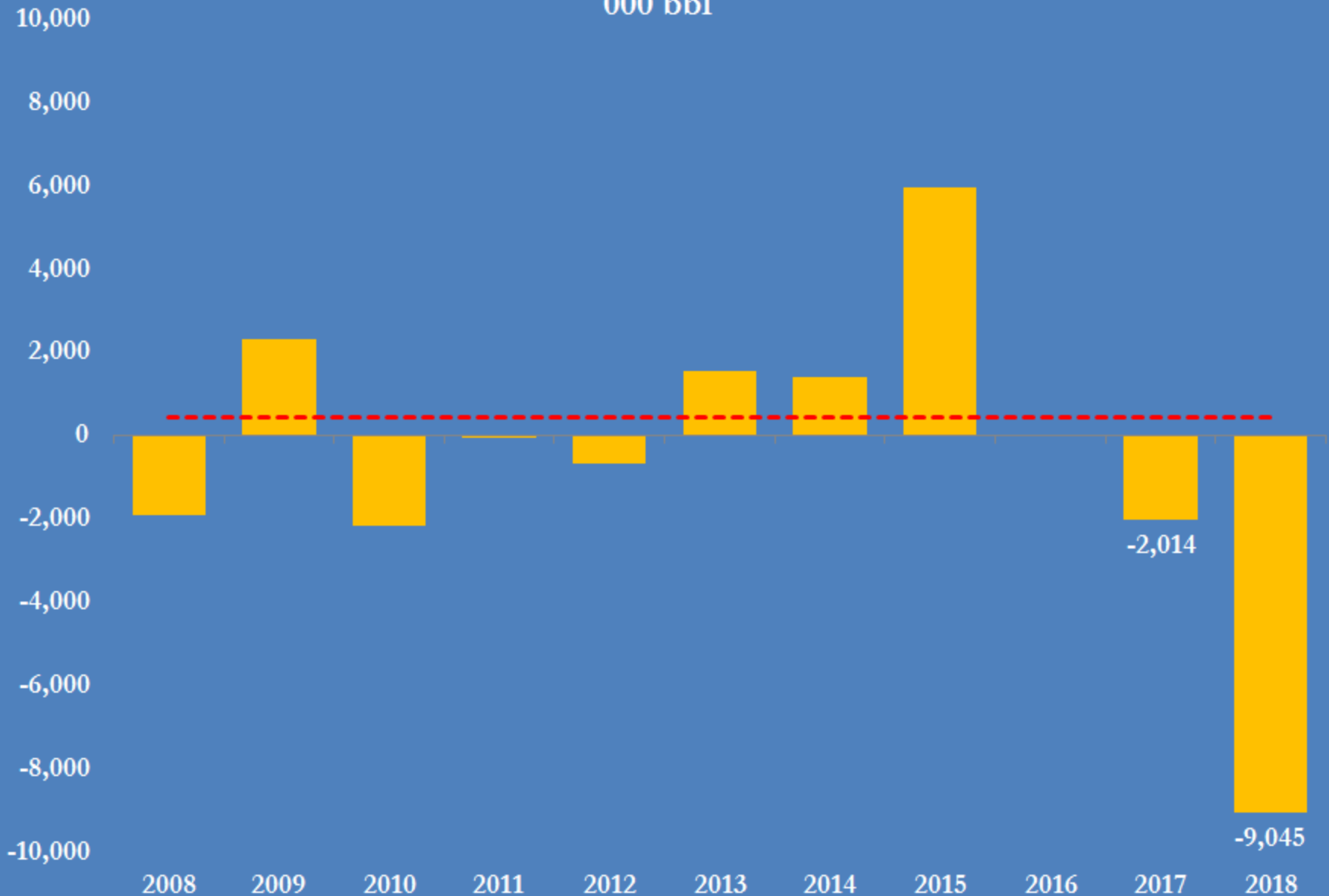
— 2018 versus prior year
— 2018 versus 10-year average

Source: *Weekly Petroleum Status Report*, U.S. Energy Information Administration

@JKempEnergy

Cushing crude stocks: change between Dec 31 and Jan 19

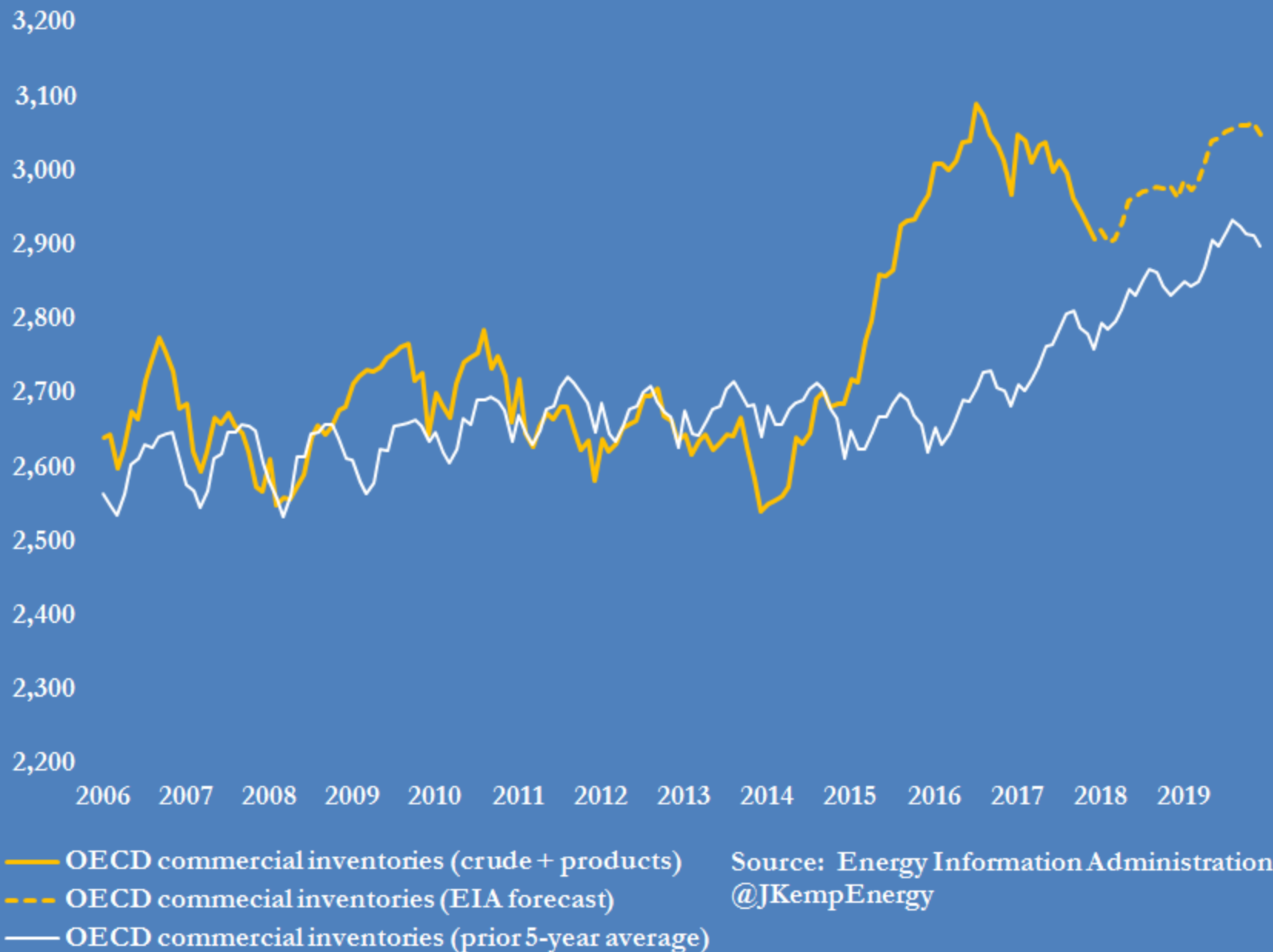
000 bbl



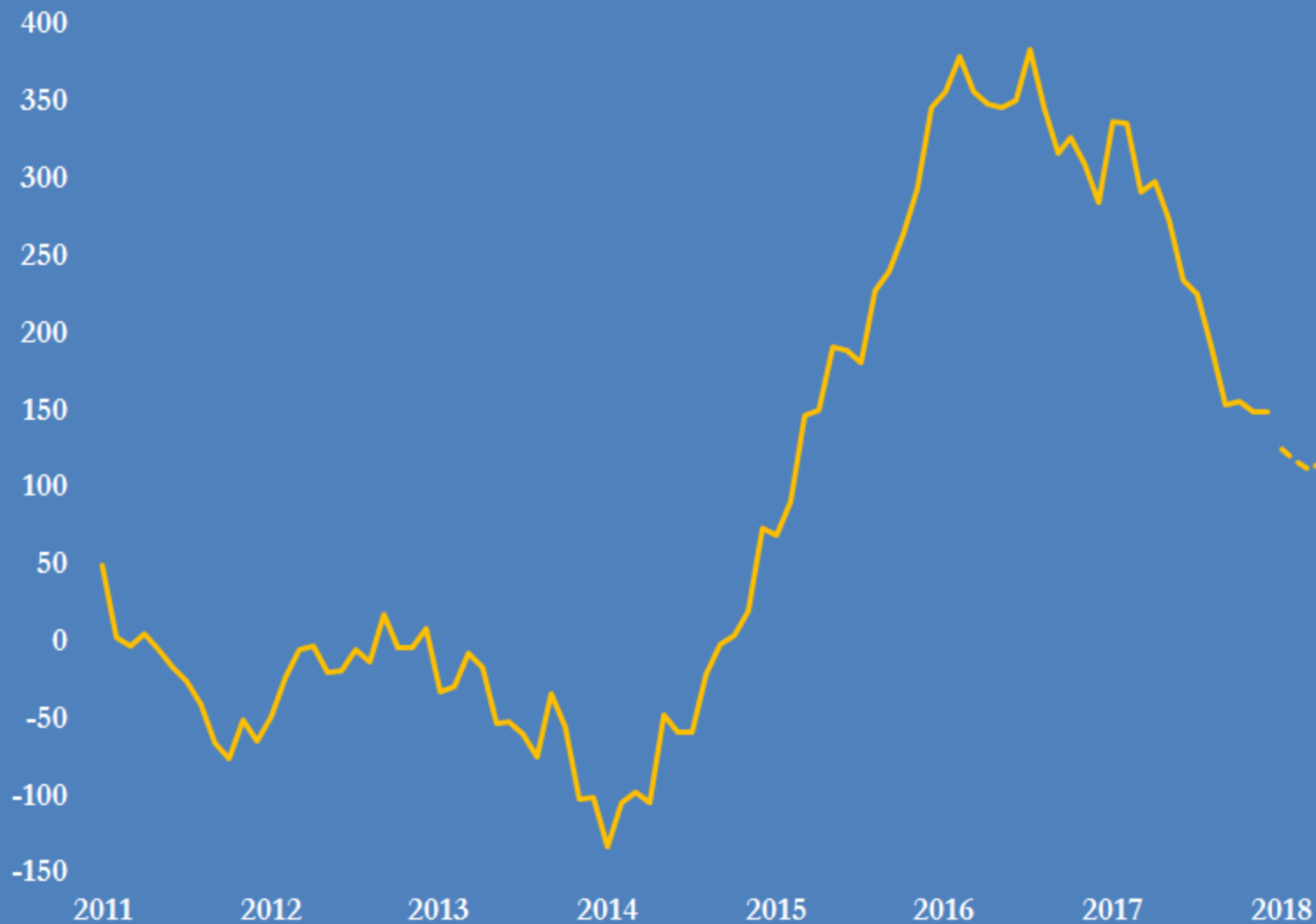
Source: U.S. Energy Information Administration

@JKempEnergy

OECD commercial crude and products inventories actual and forecast compared with 5-year average, million bbl



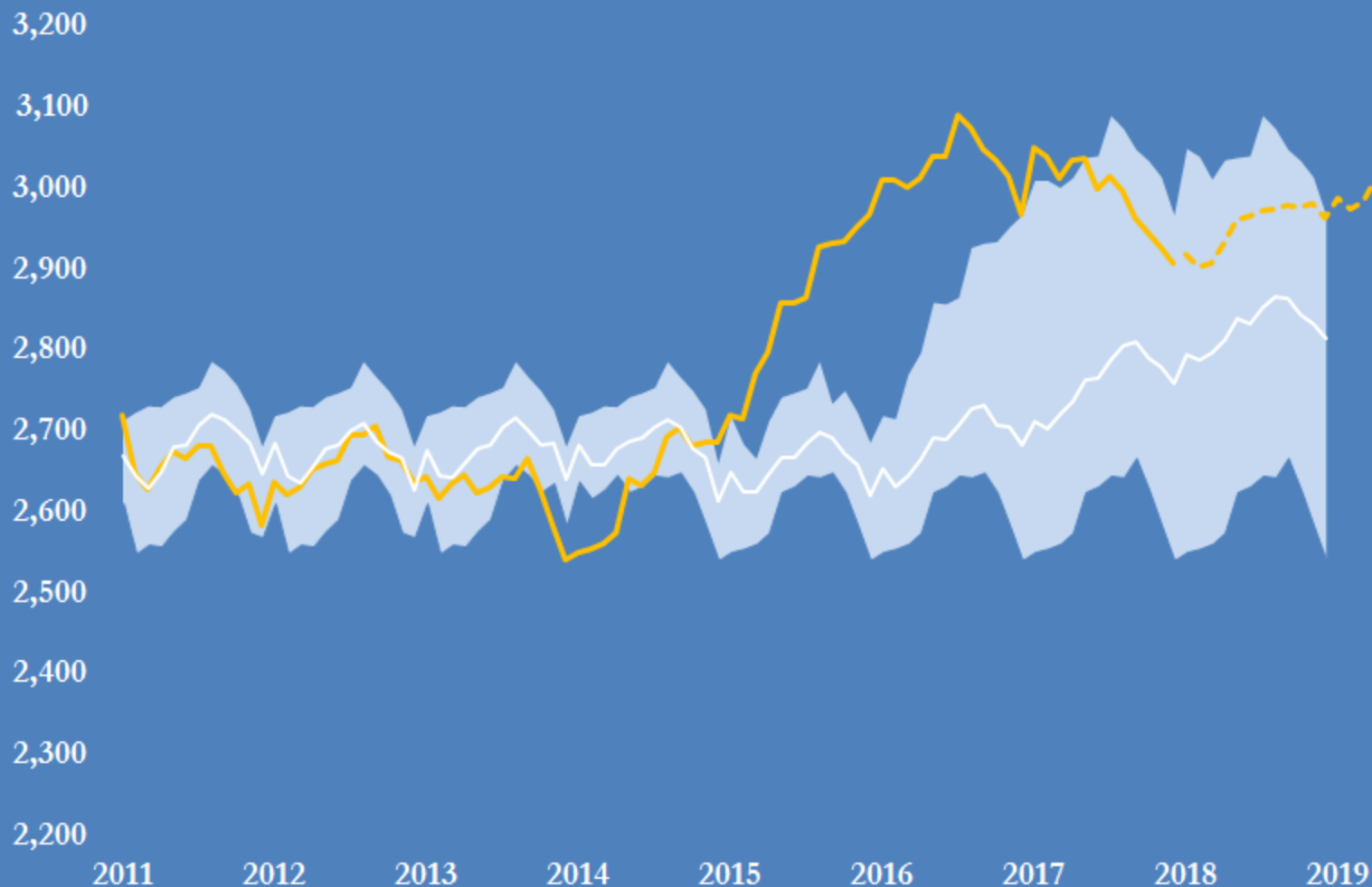
OECD commercial crude and products inventories surplus or deficit to five-year average, million bbl



— OECD commercial inventories (crude + products)
- - - OECD commercial inventories (EIA forecast)

Source: Energy Information Administration
@JKempEnergy

OECD commercial crude and products inventories actual and forecast compared with 5-year average, million bbl



- Five-Year Range (Max-Min)
- OECD commercial inventories (crude + products)
- - - OECD commercial inventories (EIA forecast)
- OECD commercial inventories (prior 5-year average)

Source: EIA
@JKempEnergy