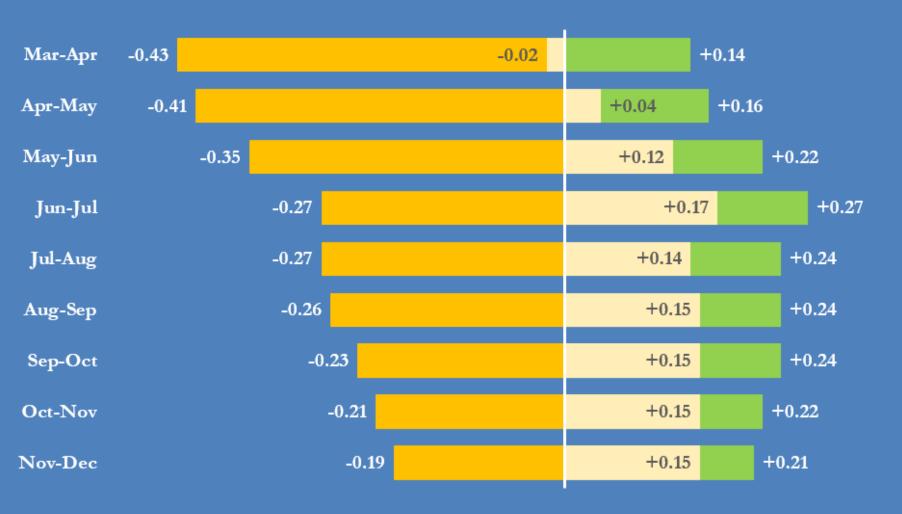
Saudi Arabia cuts oil production unilaterally Selected indicators

JOHN KEMP REUTERS

6 Jan 2021

## Brent inter-month calendar spreads for 2021 U.S.\$ per barrel, contango (-) or backwardation (+)



- Brent calendar spreads on Jan 6 (intra-day)
- Brent calendar spreads on Oct 30
- Brent calendar spreads on Dec 31

Source: ICE Futures Europe

@JKempEnergy

Saudi Arabia output restraint and Brent spread, 1985-2021 Calendar spread from month 1 to month 7, U.S.\$ per barrel, contango (-) or backwardation (+)

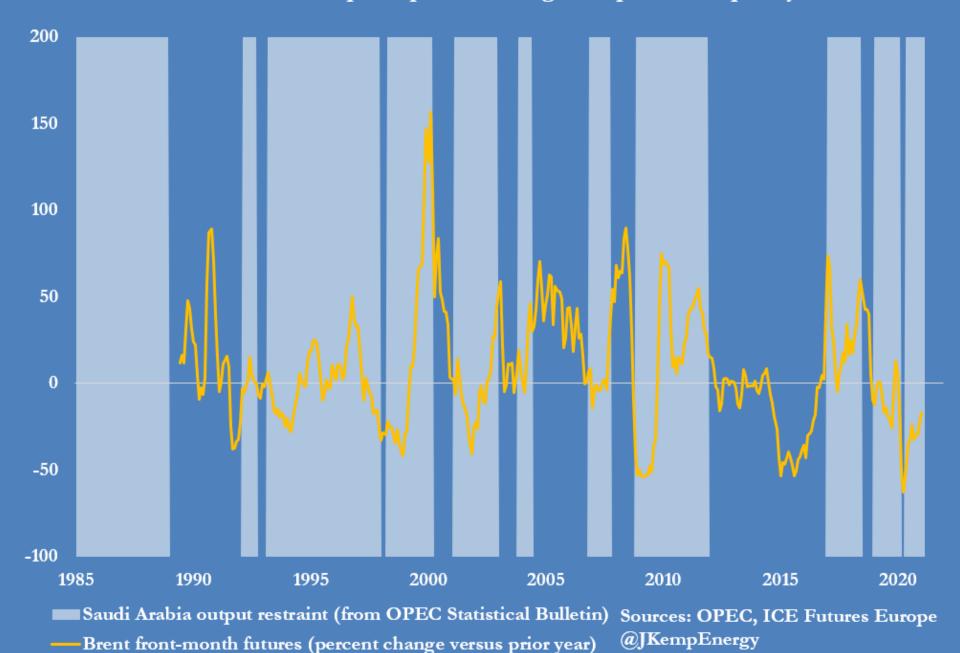


Saudi Arabia output restraint (from OPEC Statistical Bulletin)

Brent calendar spread (U.S.\$ per bbl M1-M7)

Sources: OPEC, ICE Futures Europe @JKempEnergy

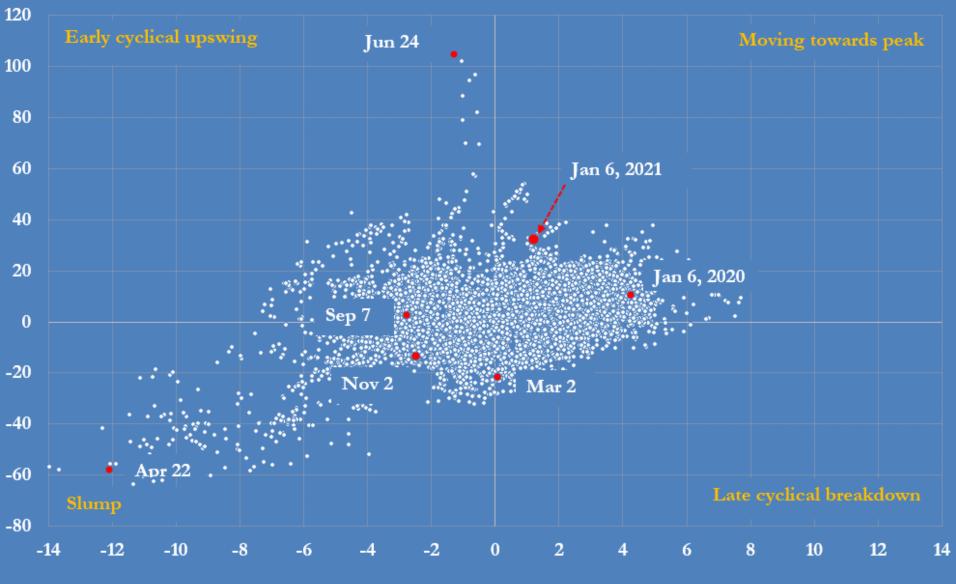
Saudi Arabia output restraint and Brent prices, 1985-2021 Front-month futures price, percent change compared with prior year



Brent spot prices and calendar spread, 1993-2021

X-axis: six-month calendar spread (M1-M7) (U.S\$ per barrel)

Y-axis: percent change in spot price over previous two months (five-day avg)



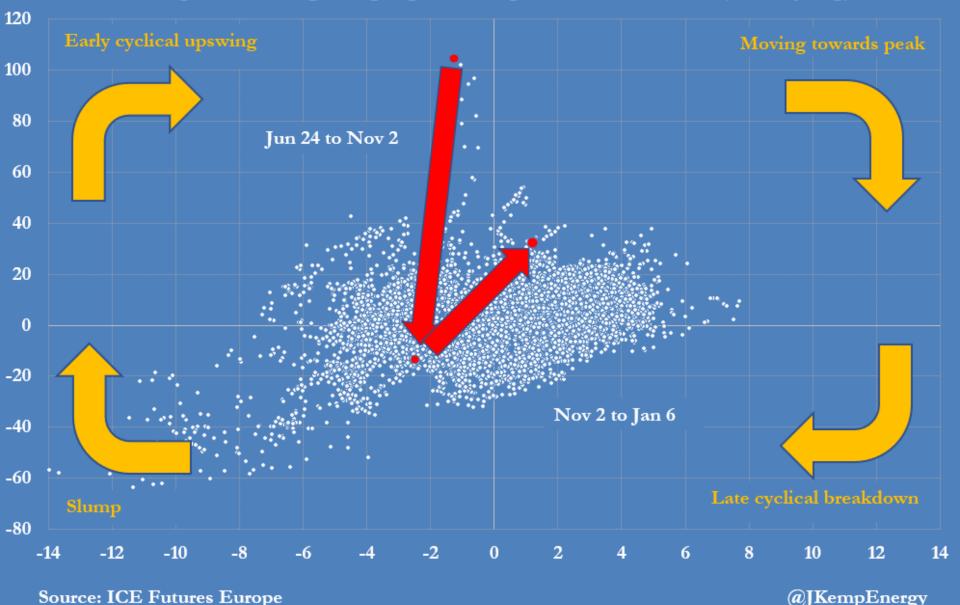
Source: ICE Futures Europe

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Brent spot prices and calendar spread, 1993-2021

X-axis: six-month calendar spread (M1-M7) (U.S\$ per barrel)

Y-axis: percent change in spot price over previous two months (five-day avg)



## Brent spot prices and calendar spreads, 2019-2021

Left-axis: front-month futures (percent change from two months prior)
Right-axis: six-month calendar spread (U.S.\$ per barrel)



- -L-Axis: Brent front-month futures (percent change over prior two months)
- -R-Axis: Brent calendar spread (M1-M7) (\$U.S.\$/bbl)

Source: ICE Futures Europe

## Global petroleum market cycle - prices and inventories

CYCLICAL POSITION	SPOT PRICES	CALENDAR SPREAD	INVENTORIES	OPEC RESPONSE
Early cyclical upswing	Increasing Accelerating rate	Contango → Backwardation	High Falling	OPEC compliance weakens
Moving towards peak	Increasing Decelerating rate	Backwardation Widening	Moderate Falling	OPEC agreement dissolves
Peak	Level stabilising Extreme daily volatility	Backwardation Narrowing	Low Steadying	OPEC under pressure to raise output
Late cyclical breakdown	Decreasing Slowly	Backwardation → Contango	Moderate Rising	OPEC postpones decision on cuts
Slump	Decreasing Rapidly	Contango Widening	High Rising	OPEC agrees to cut production
Trough	Level stabilising Extreme daily volatility	Contango Narrowing	High Steadying	OPEC focuses on compliance

## Global petroleum market cycle - production and consumption

CYCLICAL POSITION	OPEC PRODUCTION	NON-OPEC OUTPUT	CONSUMPTION
Early cyclical upswing	Output restraint Compliance weakens	Falling Decelerating rate	Growing above trend  Low prices spur consumption
Moving towards peak	Restraint relaxed Compliance dissolves	Rising Accelerating rate	Growing above trend Economic expansion spurs use
Peak	No restraint Maximum output	Rising Rapidly (boom)	Growing below trend High prices inhibit consumption
Late cyclical breakdown	No restraint Pump at will	Rising Decelerating rate	Growing below trend High prices inhibit use
Slump	Fiscal crisis Cuts agreed	Falling Accelerating rate	Growing below trend Oil producers in recession
Trough	Cuts implemented Compliance high	Falling Rapidly (bust)	Growing above trend Low prices spur consumption