

The background of the slide is a photograph of an offshore oil rig at sunset. The rig's complex steel structure, including a tall derrick and various platforms, is silhouetted against a sky transitioning from deep blue at the top to a bright orange glow near the horizon. A large crane arm extends from the right side of the rig towards the top right corner. The overall scene conveys an industrial and engineering context.

Oil and gas impairment and capital strategy insights

Wednesday, July 15, 2020, 10:00 a.m. CDT



Building a better
working world

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Today's agenda

Impairments and fair value disclosures

Strategy and transactions

Today's speakers



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Today's moderator



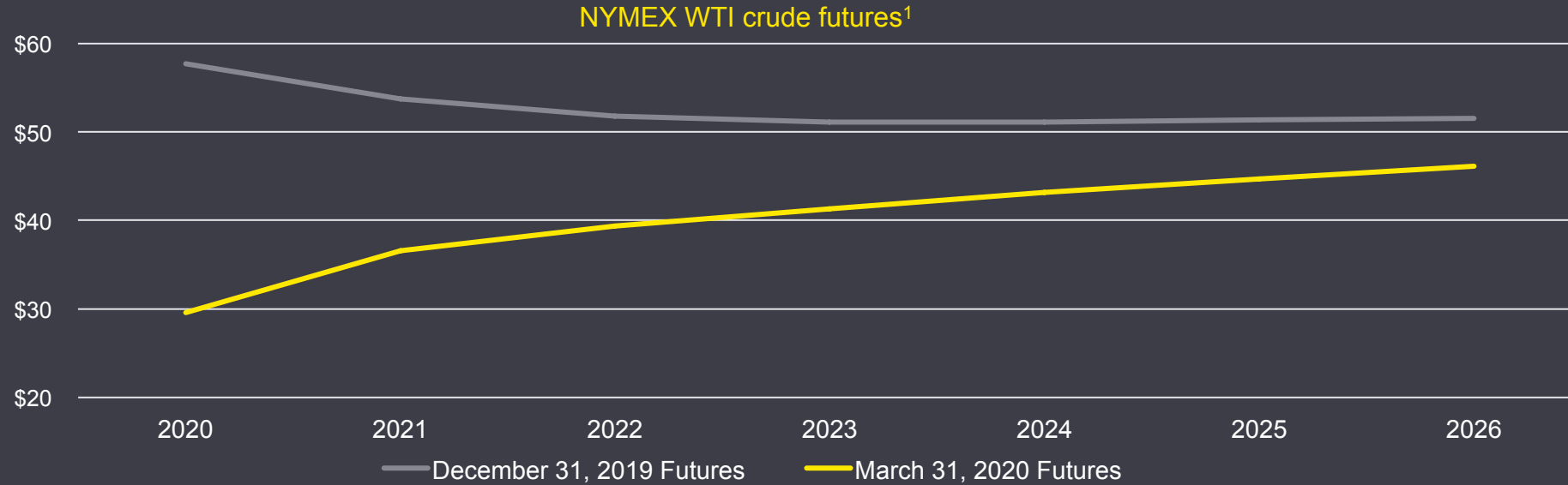
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Impairments and fair value disclosures

Forward and historic pricing

West Texas Intermediate



	WTI crude ²
Dec 31, 2019	\$61.14/bbl
March 31, 2020	\$20.51/bbl
\$ Change	(\$40.63)/bbl
% Change	-66%

¹ Source: S&P Capital IQ. Prior year prices have been escalated by 2.0% in periods where futures prices are not available

² Source: Energy Information Administration (EIA) (www.eia.gov)

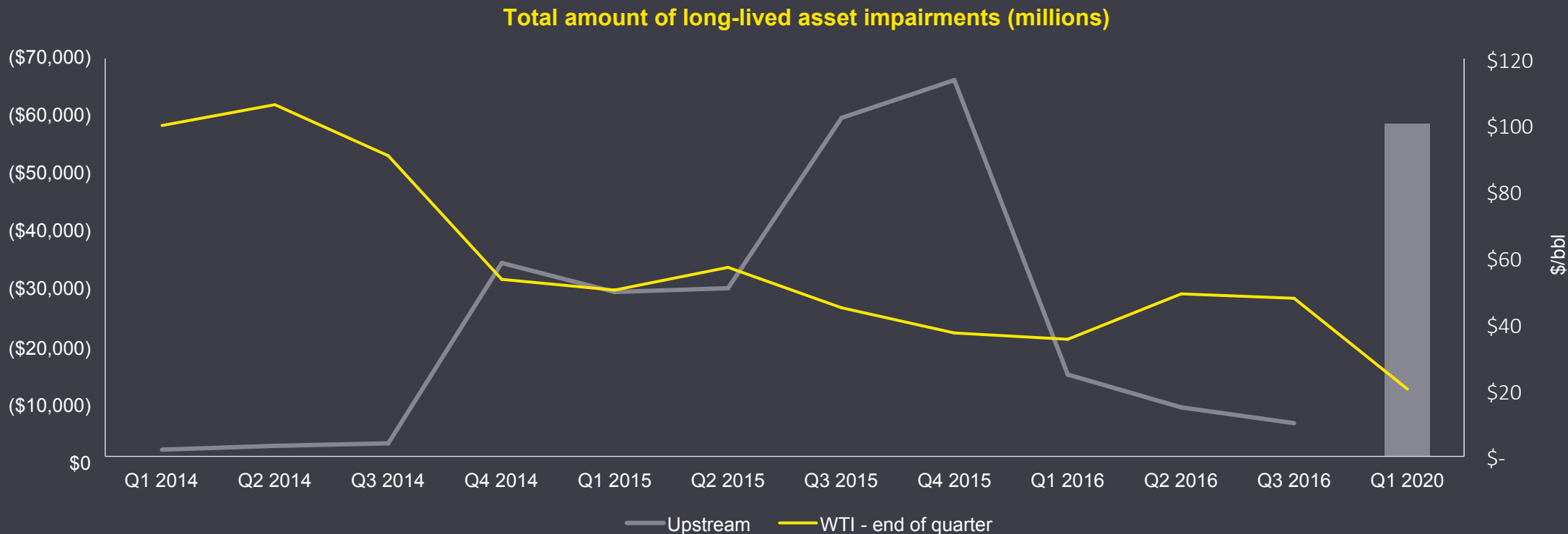
Impairment research

Background and assumptions

- Utilizing a third-party leading provider of data, research and analytics, EY captured information about oil and gas companies and recognition of impairments during Q1 2020 as compared to the last downturn
- Impairment includes all long-lived asset write-downs:
 - Oil and gas property impairment
 - Full cost ceiling test write downs
 - Dry hole charges (may not be listed as impairments on income statement)
 - Leasehold write-offs (may not be listed as impairments on income statement)
 - Certain other fixed assets

Impairment research

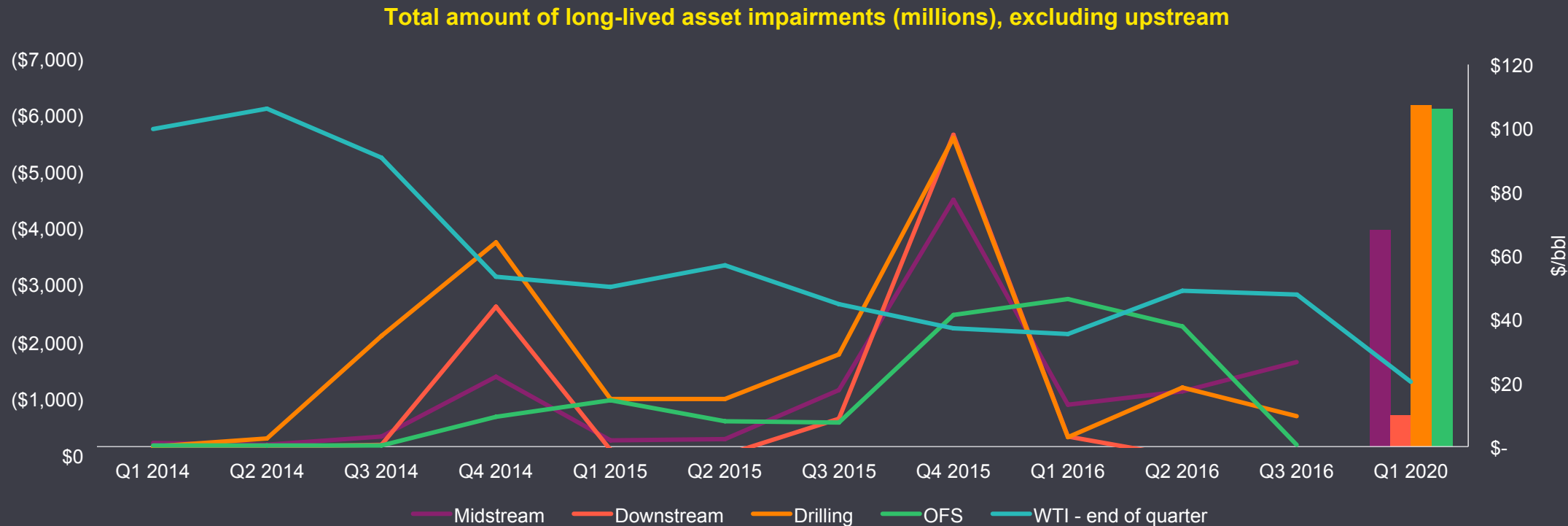
Trend: upstream impairments



- Sharp decline in prices and unfavorable shift in the views of forward prices led to impairment indicators in Q1 2020.
- Impairments recorded during Q1 2020 were near the peak of quarterly impairments during 2014 and 2015 downturn.

Impairment research

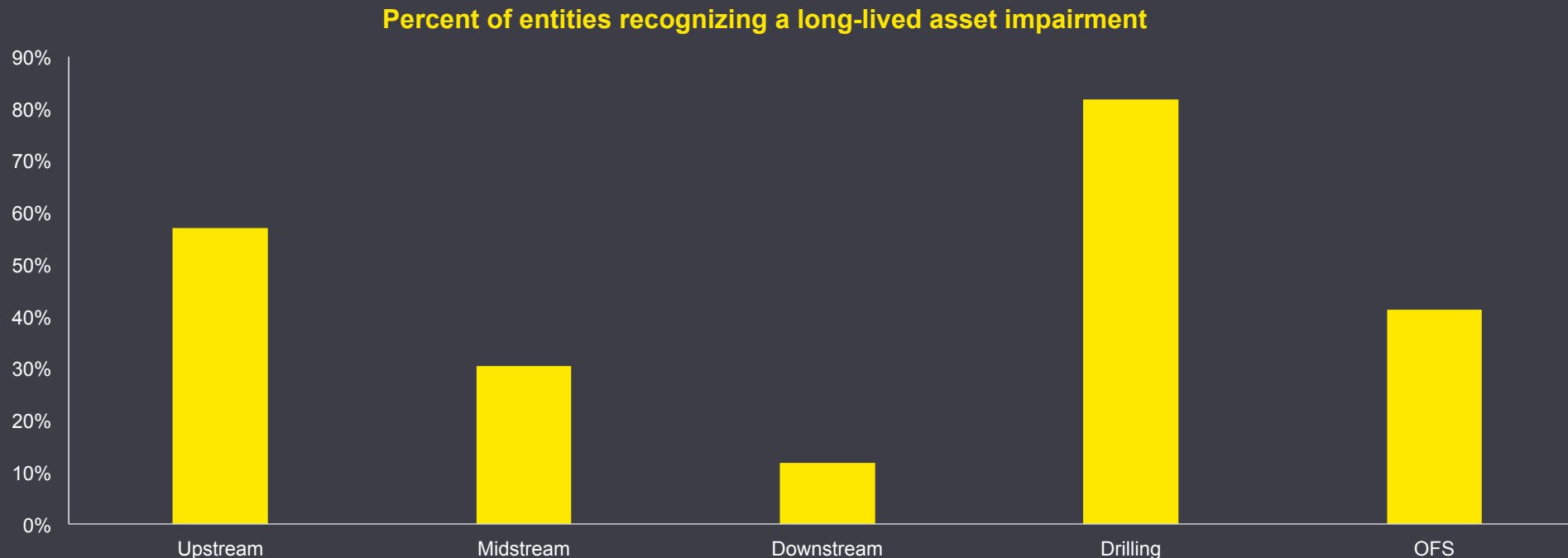
Trend: impairments by subsector (excluding upstream)



- **Drilling and OFS:** Q1 2020 impairments exceeded the peak of impairments during the most recent downturn.
- **Midstream:** Q1 2020 impairments approached the peak of the recent downturn, largely driven by an impairment charge of \$2.4b recorded by one entity.
- **Downstream:** Q1 2020 impairments lagged behind the other subsectors.

Impairment research

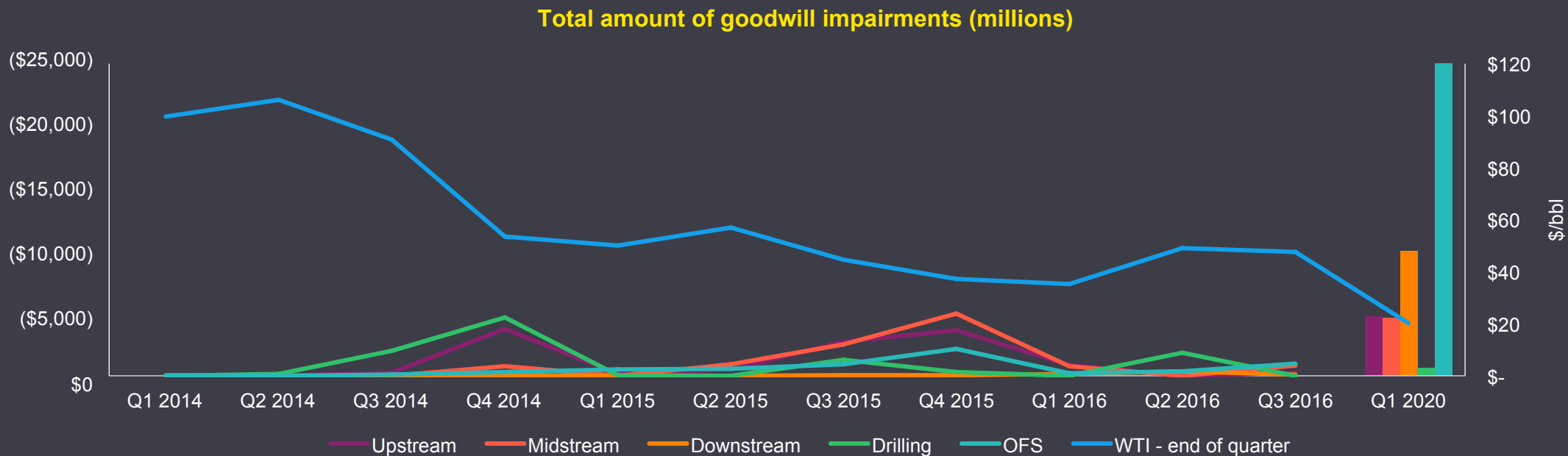
Trend: impairments by subsector — percent of entities



- **Upstream:** Sharp decline in prices and unfavorable shift in the views of forward prices led to impairment indicators in Q1 2020.
- **Drillers:** The resulting pressure from reductions in drilling plans and pricing pressure from upstream entities led to increased impairments for drillers.
- **Midstream:** The effects of the current downturn on midstream entities are mixed depending on the structure of their contracts.

Impairment research

Trend: goodwill impairments by subsector



- **OFS:** Q1 2020 impairments significantly exceeded the peak recorded during the last downturn, primarily driven by an impairment of approx. \$14.8b recorded by one entity.
- **Downstream:** Q1 2020 impairments exceeded the peak recorded during the last downturn, primarily driven by a small number of significant impairments.
- **Upstream:** Q1 2020 impairments exceeded the peak recorded during the last downturn, primarily driven by two impairments in excess of \$1b, and other smaller impairments.

Fair value disclosures

Background and assumptions

- ASU 2018-13: Fair Value Measurement (Topic 820) — Disclosure Framework — Changes to the Disclosure Requirements for Fair Value Measurement
 - Requires disclosure of the range and weighted average used to develop significant unobservable inputs for recurring and nonrecurring Level 3 fair value measurements, and how the weighted average was calculated, with certain exceptions
- We selected 25 of the largest proved property impairments recorded by upstream SEC registrants that apply US GAAP and analyzed the disclosures made for the first time under the new ASU
- Focus on pricing and discount rate assumptions

Fair value disclosures

Forward pricing assumptions

Pricing curve based on quantitative disclosures

USD/bbl	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
High	29.59	36.55	39.38	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Low	28.22	36.55	39.38	41.35	43.13	43.13	43.13	43.13	43.13	43.13
Average	29.44	36.55	39.38	42.31	43.89	45.04	46.07	46.96	47.59	48.04
WTI — NYMEX*	29.59	36.55	39.38	41.35	43.13	44.73	46.11	47.25	47.86	48.10
Banker/broker avg**	38.4	46.3	50.4	53.7	55.5	N/A	N/A	N/A	N/A	N/A
Consultant avg**	37.2	46.5	62.6	65.2	67.0	N/A	N/A	N/A	N/A	N/A

- ~60% of companies provided quantitative pricing information
- Companies that disclosed forward pricing generally used NYMEX for early years
- While some companies disclosed an escalation factor, terminal pricing for many was not clear

* Source: S&P Capital IQ as of 31 March 2020. Prior year prices have been escalated by 2.0% in periods where futures prices are not available.

** Pricing per April 2020 EY Price Point publication

Fair value disclosures

Discount rates

Discount rate disclosures	
Percentage that made quantitative disclosure	71%
High rate disclosed	17%
Low rate disclosed	7.9%
Average rate disclosed	11%

- Of the companies that disclosed the discount rate used, 73% disclosed a rate of either 10% or 11%

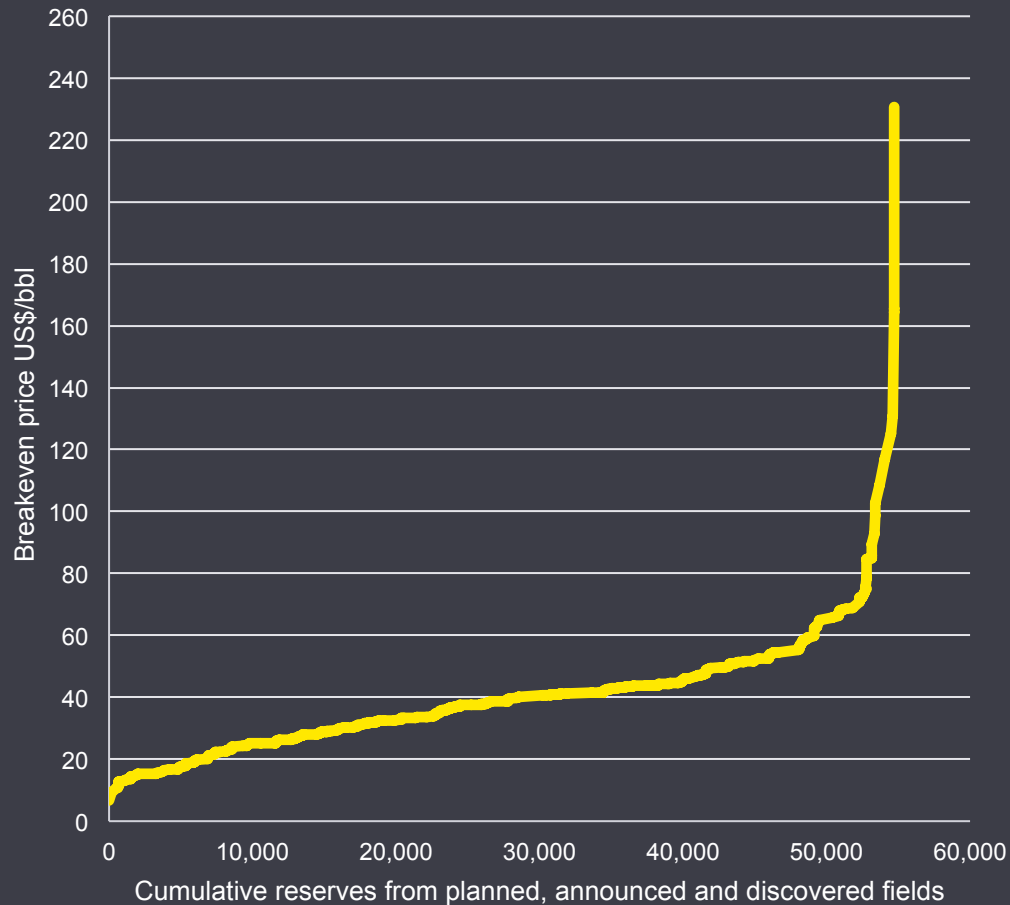
Year-end reserve determination

12-month price ¹	WTI Crude
2019 SEC pricing	\$55.85/bbl
2020 est. SEC pricing	\$37.98/bbl
\$ Change	(\$17.87)/bbl
% Change	-32%

- Implications of proved reserves determination
 - Reserve reporting
 - Depreciation, depletion and amortization
 - Impairments
 - Successful efforts — not limited to SEC proved reserve
 - Full cost — based on SEC proved reserves

¹ Source: EY Analysis of data from EIA (www.eia.gov) for historic periods and NYMEX futures from S&P Capital IQ for future periods; simple 12-month average using beginning of month spot price for historic periods (used for determining proved reserves and for the full cost ceiling test)

Breakeven of discoveries



Source: GlobalData

The difference between \$40/bbl oil and \$60/bbl oil is about 20 billion bbl of reserves.

That's roughly equal to the oil reserves of Brazil (12.6 billion bbl) , Norway (6.4 billion bbl) and the United Kingdom (2.1 billion bbl) added together.

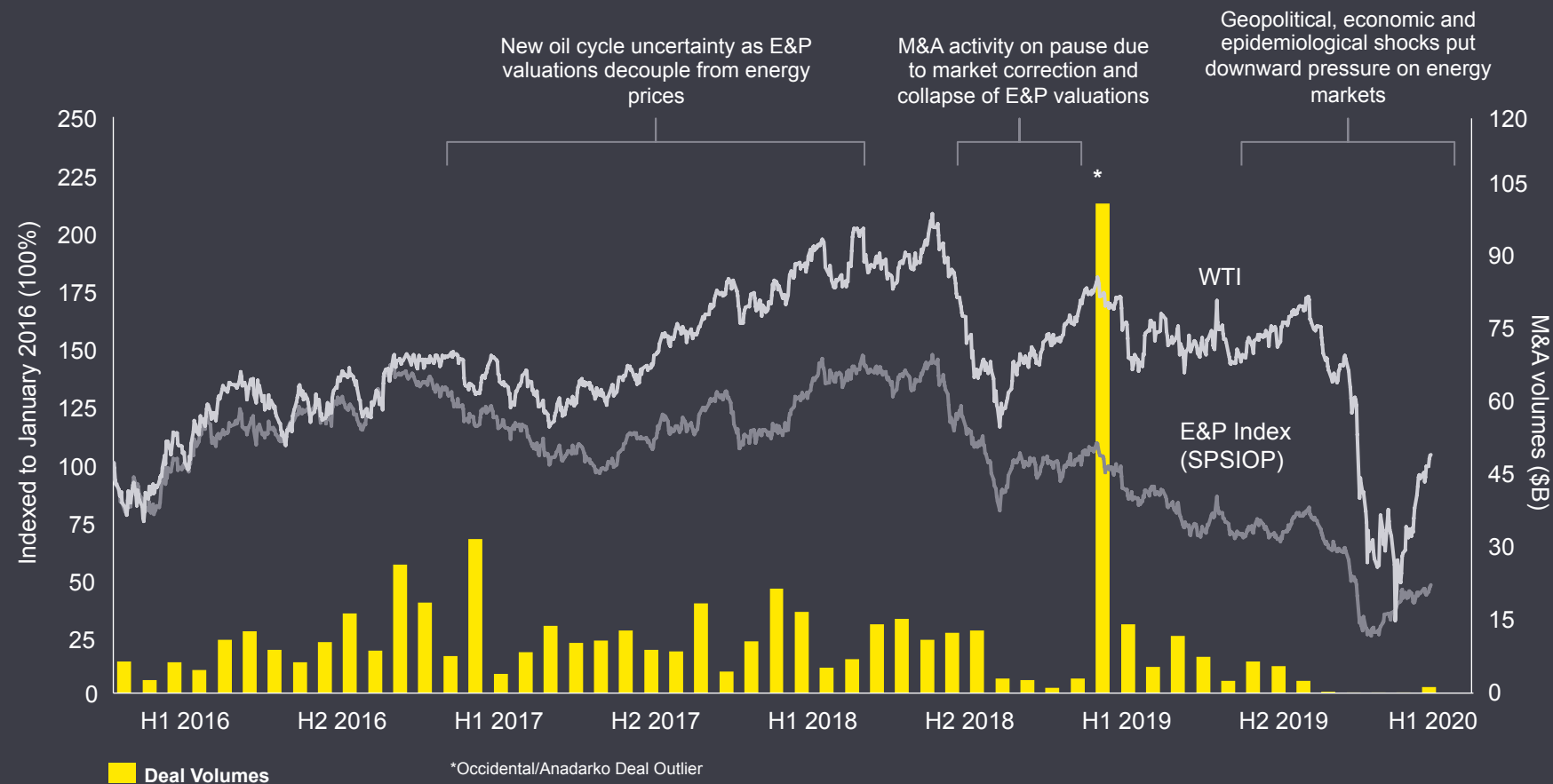
Source: OPEC



Strategy and transactions

E&P US M&A activity

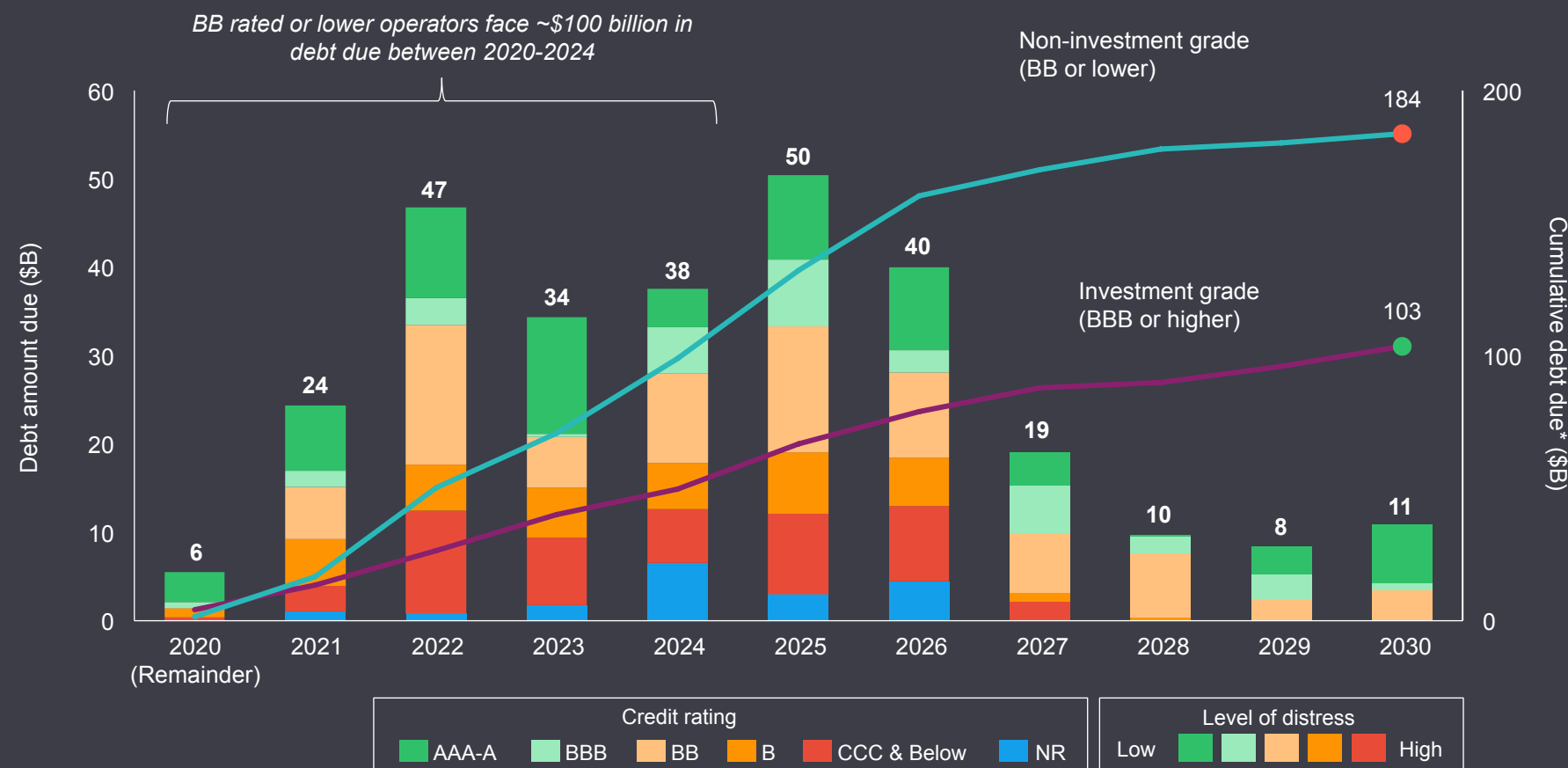
E&P valuations once decoupling from commodity prices are currently correlating downward



Source: Public Market Data; EY Research

E&P US outstanding debt overview

From 2020-2025, the cumulative growth of non-investment grade debt due outpaces investment grade, suggesting distressed operators will need to find liquidity avenues in a challenging capital market environment.

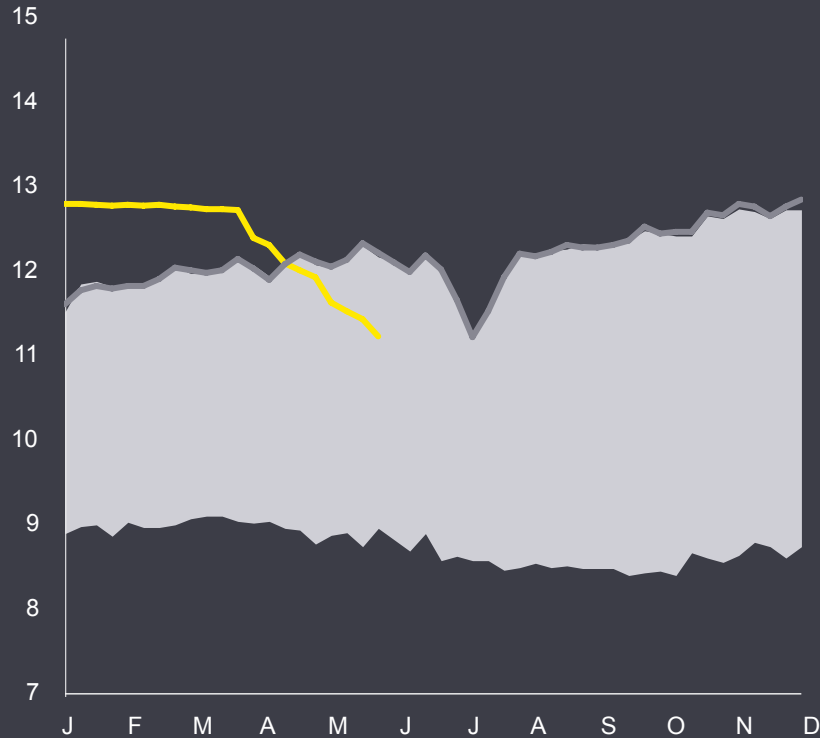


Source: Public Market Data; EY Research

E&P US oil production & inventories

Rig count decline has resulted in decreasing production, subsequently reducing pressure on rising inventory level

US crude oil production, MMbbl/d
2019-2020

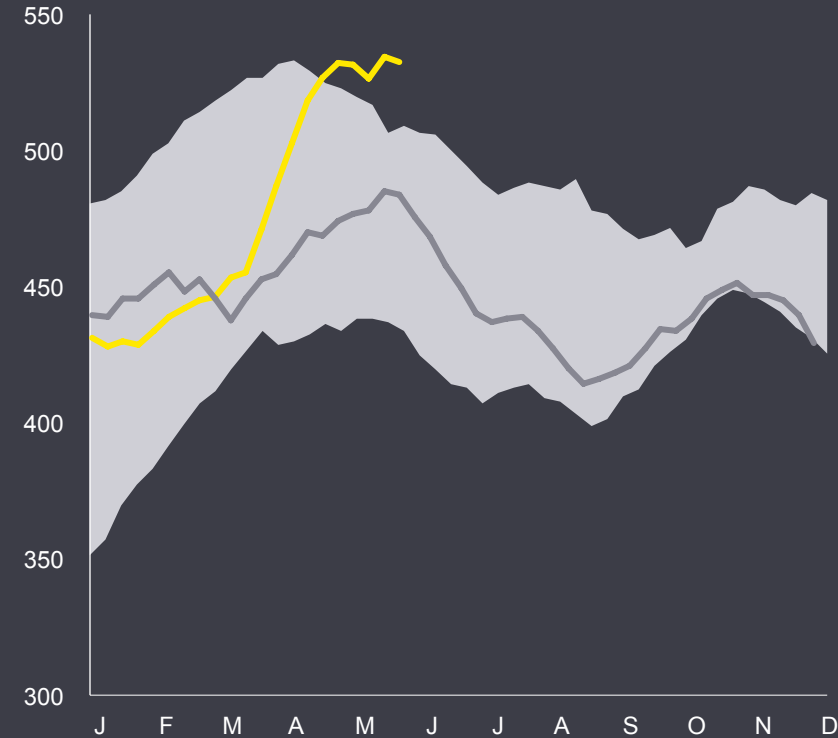


The overall US crude production has fallen by 1.5MMbbl per day since March, driven by the reductions in the Permian Basin.

■ Five-year range — 2020 — 2019

Source: EIA, UBS

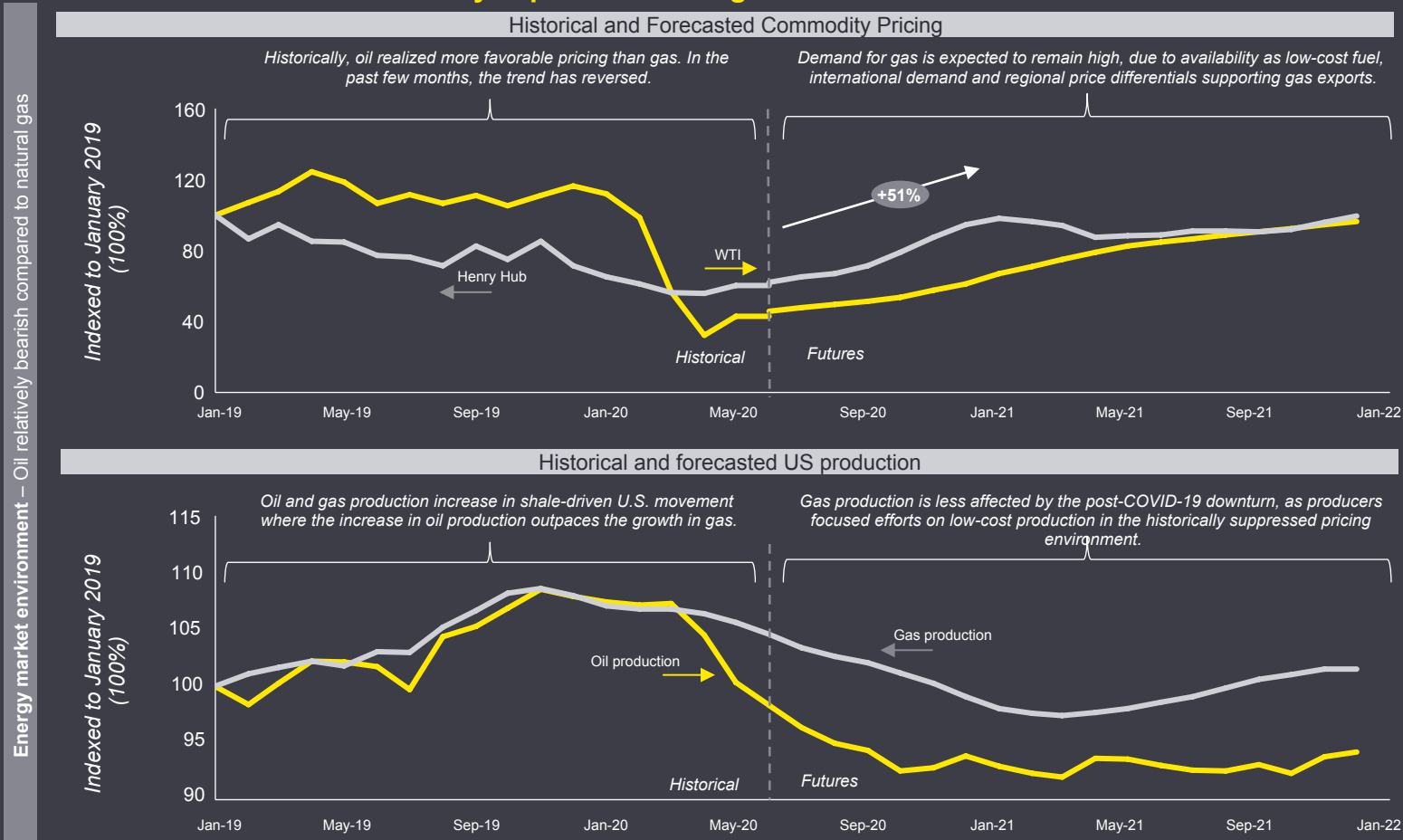
Total US crude oil inventories, MMbbl
2019-2020



Crude inventories have slightly declined over the last two weeks as states open up but remain above the five-year range.

E&P US market dynamics: commodity snapshot

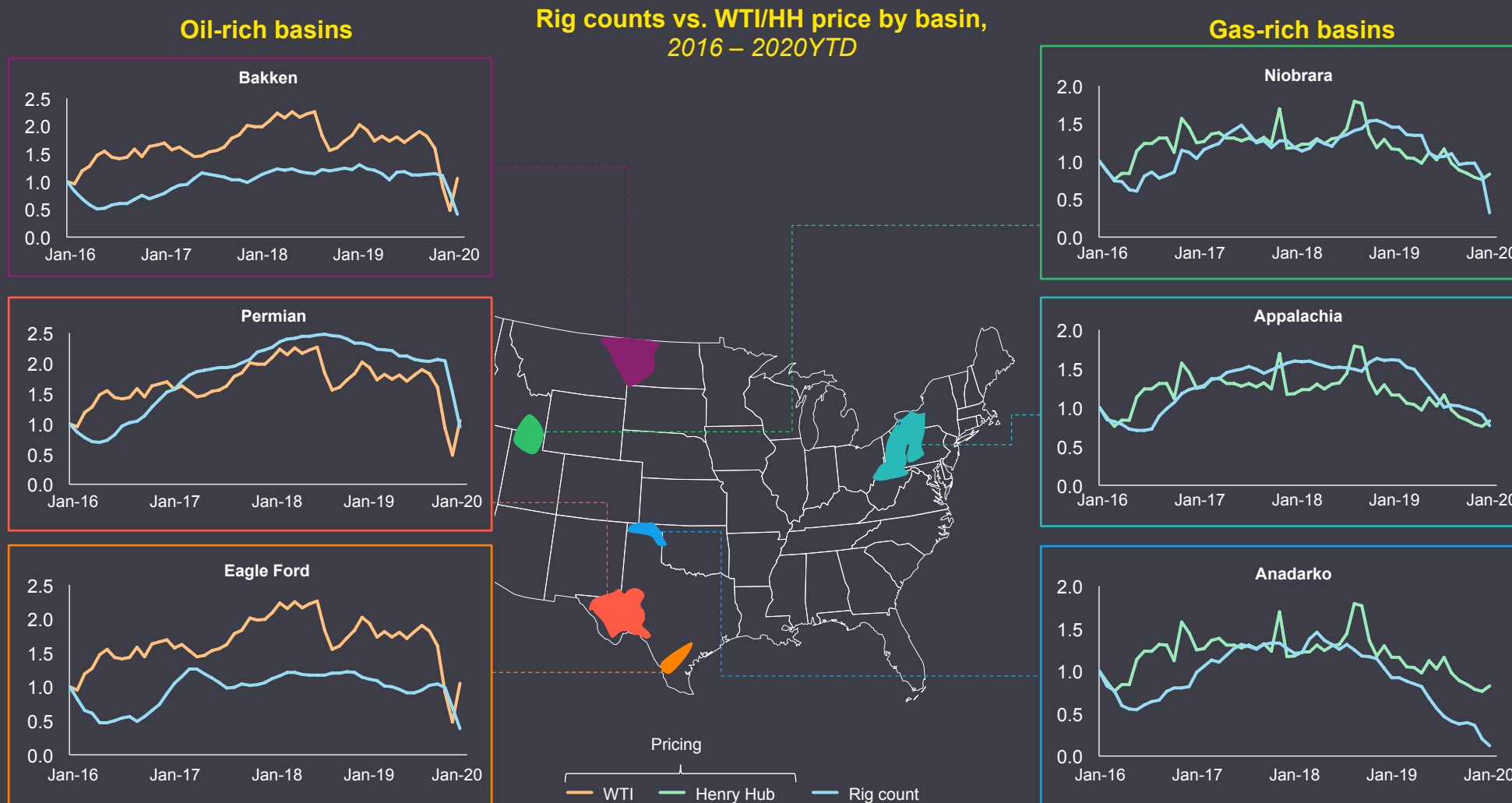
Natural gas has a higher probability of recovery than oil. Operators with exposure to oil will likely experience stronger economic head winds



Source: EIA.gov; Public Market Data; EY Research

E&P: rig counts by US basins

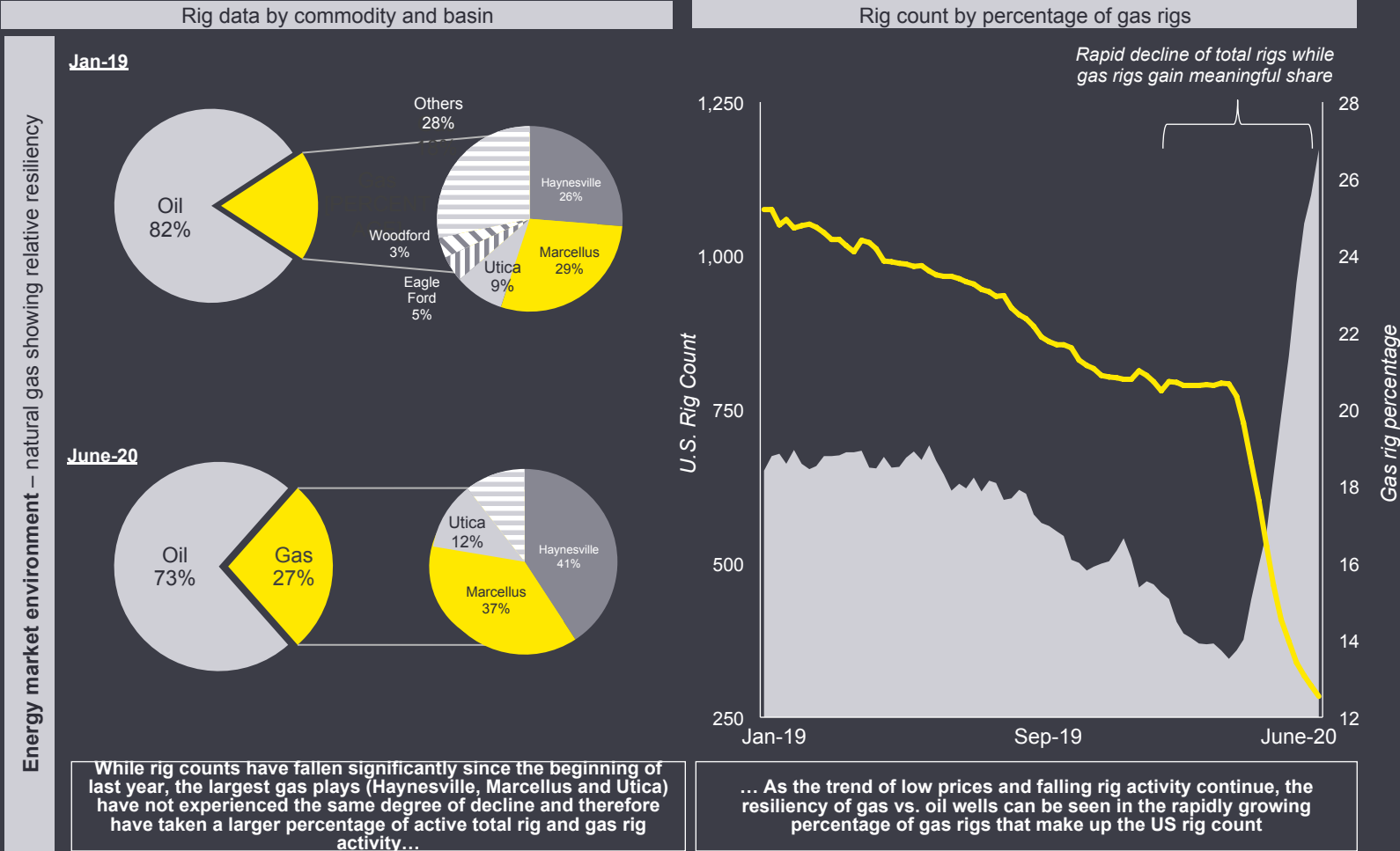
Oil price crash has impacted operators indiscriminately



Source: Baker Hughes Rig Report; EIA; EY-Parthenon Analysis

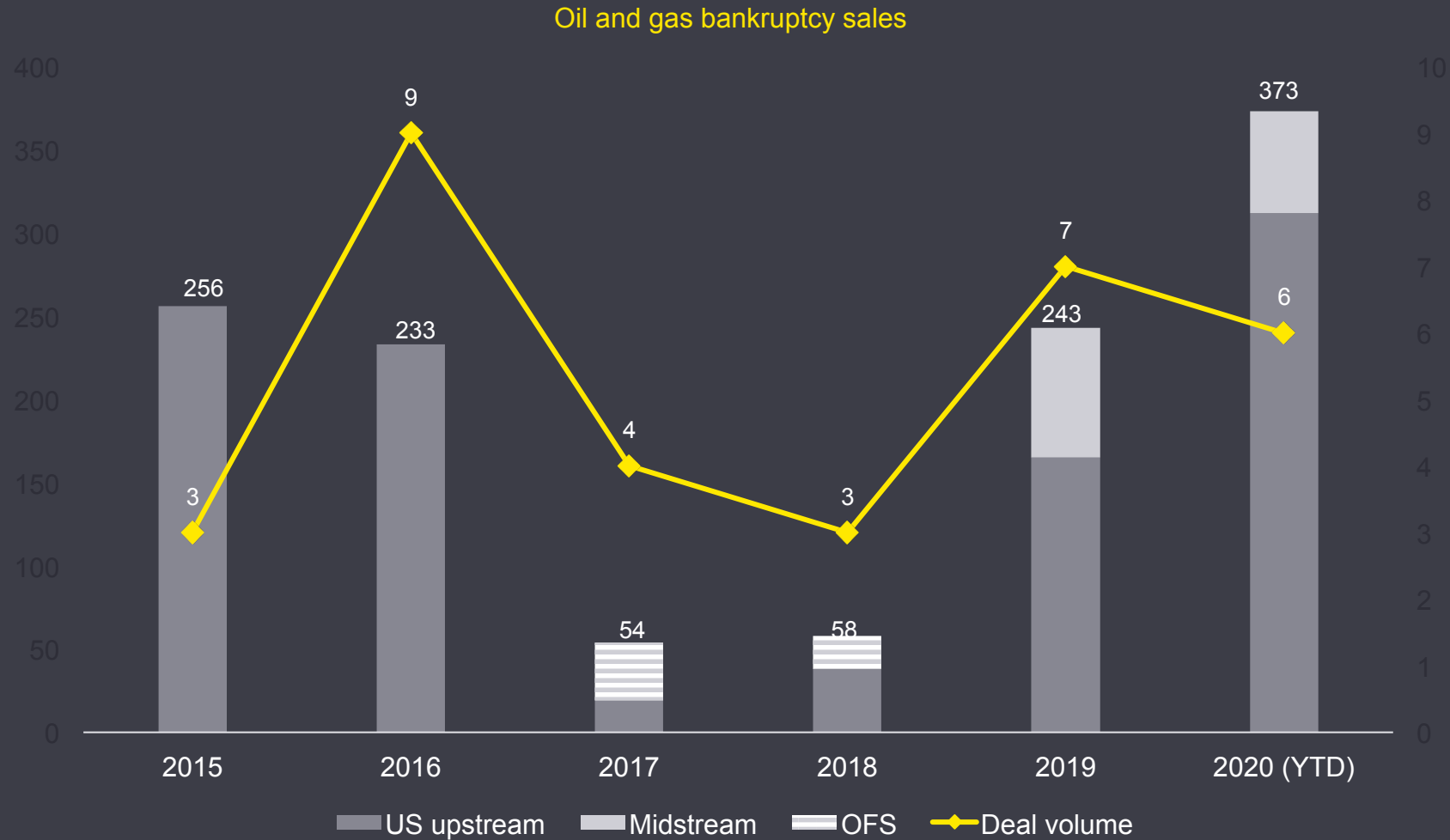
E&P US market dynamics: rigs snapshot

As rig counts continue to drop, gas appears to have stronger economic drivers further supporting gas exposure over oil



Source: Baker Hughes; EY Research

Bankruptcies are driving M&A in the O&G industry



Sources: Enverus, EY Analysis
Note: The stacked bars represent deal values in US\$ millions



questions?

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Additional resources



April 2020

EY price point April 2020

Global oil and gas market outlook

Appendix

WTI oil price estimates

This data is effective as of 20 March 2020.

Bank/broker	2020 (US\$/bbl)	2021 (US\$/bbl)	2022 (US\$/bbl)	2023 (US\$/bbl)	2024 (US\$/bbl)
High	55.0	59.5	61.2	58.1	59.3
Average	38.4	46.3	50.4	53.7	55.5
Median	38.0	47.5	50.0	55.0	56.3
Low	29.0	31.0	32.0	44.0	50.0

Source: Bloomberg, banks/brokers reports

Consultant	2020 (US\$/bbl)	2021 (US\$/bbl)	2022 (US\$/bbl)	2023 (US\$/bbl)	2024 (US\$/bbl)
High	38.2	50.4	67.0	68.3	70.0
Average	37.2	46.5	62.6	65.2	67.0
Median	37.2	46.5	65.8	67.7	69.2
Low	36.2	42.7	52.0	57.1	59.4

Source: Consultants' websites, Oxford Economics

Note: Due to the impact of COVID-19 and the lack of production cuts from OPEC+, the consultants' price analysis for the years 2020 and 2021 only includes forecasts that were updated subsequent to 8 March 2020. For the long-term forecast (2022 onward), all the consultants' estimates released since 1 January 2020 have been considered. Additionally, given the aforementioned market conditions, the analysis only considers bank/broker estimates that were published subsequent to 8 March 2020.



July 2020



EY Price Point: global oil and gas market outlook

Q3 | July 2020

Q3 overview

As we close the second quarter of 2020, in most of Europe and Asia, the first (and hopefully last) wave of the COVID-19 crisis appears to be abating. In the parts of the US where the virus hit early, the profile has largely matched Europe's, while in other parts, the urge to reopen businesses has trumped the desire to contain the virus and uncertainty looms. In the developing world, the crisis has just begun, but without the economic headroom and resources necessary to contain it. As the crisis unfolded, the effect on oil and gas demand has been predictable but difficult to gauge precisely and therefore difficult to manage.

Oil prices have crept up steadily as production has been curtailed through coordinated action (OPEC+) and because of economic reality (unconventional oil in North America). That trend has been subject to momentary spasms when bad news hit the market. It would be understandable if traders were nervous, and it seems that they are. Although nowhere near where it was at the peak of the crisis, option implied volatility is still at historically high levels. Gas markets, without the benefit of coordination on the supply side, continue to deal with the market implications of storage at or near capacity. Interfuel competition in power generation has always provided something of a floor, but those lows have been, and will continue to be, tested.



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Q3 theme

The theme for this quarter is **precarious**. While oil markets have recovered somewhat, that recovery is built on a foundation of choices made by market participants and developments on the epidemiological and economic fronts that could stall or reverse quickly. In previous oil market downturns, the amount of production adjustment needed to bring the market into balance was measured in the low single-digit millions of barrels.

In this downturn, the disruption was an order of magnitude higher and, as we closed the previous quarter, the supply-demand balance was so completely disrupted that it was difficult to distribute the fiscal sacrifices among OPEC+ members. Now, time has passed, oil producers have experienced the fallout from the early stages of the crisis, OPEC+ has responded to unprecedented falling demand with additional production cuts, and prices have stabilized.

However, that stability is fragile. As mobility has increased and demand is trending toward more normalized levels, there will be an urge to respond with more production. Matching production with demand restoration will be a challenging process.

Until this year, conversations about peak oil demand were framed in decades. Between the possibility of a sluggish economic recovery, permanent changes in mobility patterns and the continuing improvement of oil alternatives, the lens on those conversations has turned. There are many who have wondered whether peak oil demand has already come and gone.



- Can the lifestyles and ways of doing business that underpinned the world economy (and oil demand) prior to COVID-19 ever return?
- How long will OPEC+ maintain drastic production cuts in the face of overwhelming inventories, uncertain demand and the need to support government budgets?
- Has peak oil demand already happened?



Q3 trends

Unpredictable economic growth and a delicate supply-demand balance

As the COVID-19 pandemic has unfolded, the market has struggled to find balance between supply and demand. Going forward, no one can be sure how quickly the global economy will recover, whether that recovery will be complete and how producers will respond to structurally lower demand and prices.

Impairments and bankruptcies

As we entered this year, some oil producers (particularly shale operators) were already at financial crossroads. The crash in oil prices accelerated the process of evaluating options and revaluing assets and restructure debts.

Falling rig counts

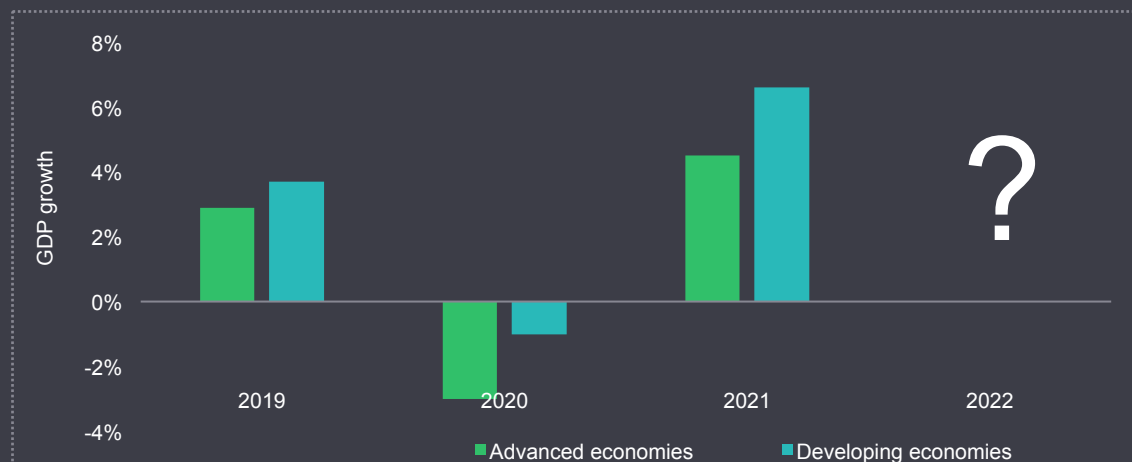
Predictably, falling oil prices have resulted in E&P budget cuts and scaled-back drilling activity. Rig counts are at the lowest level in 15 years. The service sector never really recovered from the last downturn, has little left to give on pricing and will likely continue to struggle financially.

Refining margins and mobility

Oil demand (as well as crude prices and refining margins) have been severely impacted by COVID-19 restrictions on mobility. There are signs of recovery, but the timing could be impacted by a second wave of infections and the response of governments and citizens.

Market fundamentals

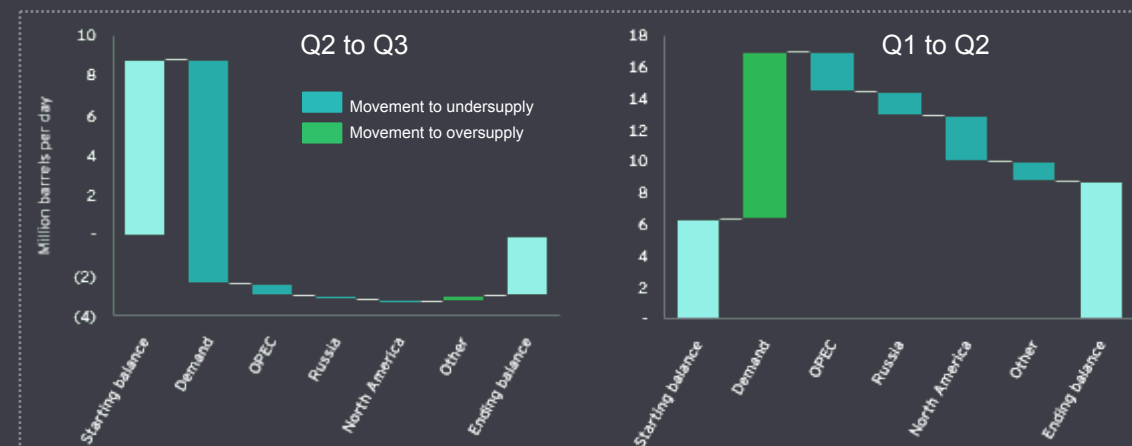
Economic growth on a seesaw



Source: International Monetary Fund.

- Oil and gas demand is tied to economic activity and growth. Although there has always been a long-term trend toward a lower intensity of energy demand as the economy grows, in the short run, GDP has always been the best predictor of oil demand.
- Economists are predicting that 2020 will be a recession year. Business closures and mobility restrictions have shut down entire parts of the economy, and only those that substitute for industries that depend on face-to-face contact have held steady. Developed economies that are more energy-intensive will be more affected.
- 2021 is expected to be a recovery year. Pent-up demand will be released, but there is a risk (even a likelihood) there will be bumps in the road. The threat of a second COVID-19 wave looms. Beyond 2021, long-term structural change is likely, and new ways of working and living have emerged. It will take time for capital and workers to migrate, and mobility will likely be impacted for some time.

Supply and demand struggle to meet each other

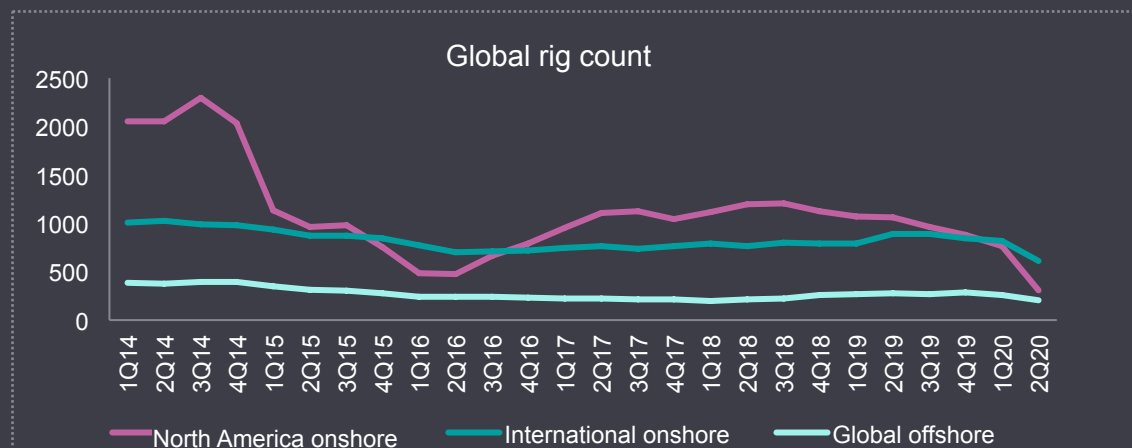


Source: U.S. EIA.

- The swings in oil demand and the response of producers in the first half of this year have been unprecedented. In a normal quarter, demand growth and production increments from region to region are generally less than one million barrels per day. In the global financial crisis, global oil demand never fell by more than 1.4 million barrels per day in one quarter. Between 1Q20 and 2Q20, oil demand fell by about 10 million barrels per day.
- Production response was sluggish at first but has since restored order in the market. Much of the response was coordinated (OPEC+), but curtailment of North American shale was the biggest part of production cuts between Q1 and Q2.
- Going forward, demand is expected to rebound between Q2 and Q3. Assuming that production doesn't rebound quickly, the market should begin to clear the inventories that accumulated in the early stages of the COVID-19 crisis.

Market fundamentals

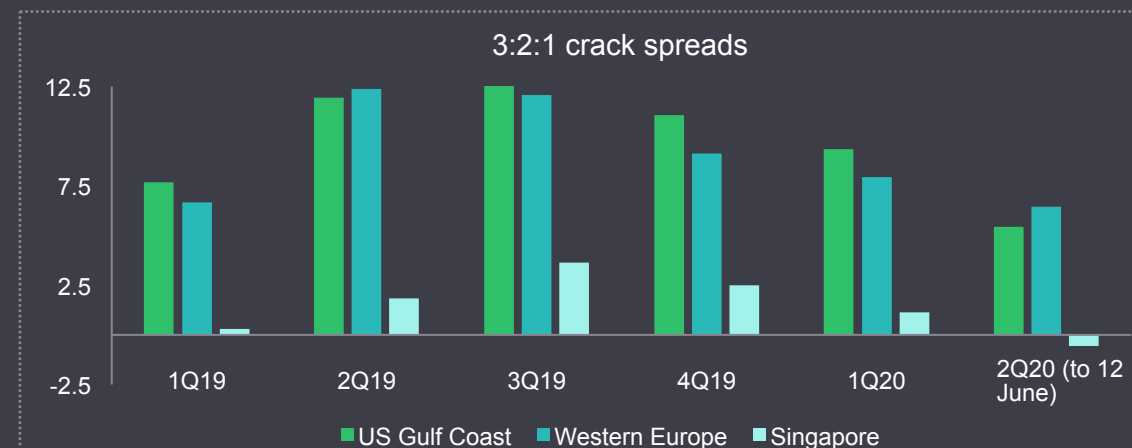
Rig count touching historic lows



Source: Baker Hughes Rig Count.

- Oil prices rebounded after the 2014 downturn, but capital expenditures never recovered from the peak and are now falling again, with an expectation of a further decline. Upstream spending in 2020 will likely be almost 55% below the 2014 peak.
- About US\$80 billion has been cut from expected 2020 E&P spending. North America is the hardest hit, and capital budgets are dropping by approximately 40%, while international budgets are falling by 25%.
- Large capex cuts are clearly reflected in the rig market. By May 2020, global onshore and offshore rig counts reached their lowest levels in 15 years.
- While offshore operations focused initially on crew safety and the movement of personnel, equipment and material, activity has largely come to a halt. New rig tenders are deferred/canceled, and some exploration blocks/programs have been relinquished.

Crack spreads significantly below previous year levels

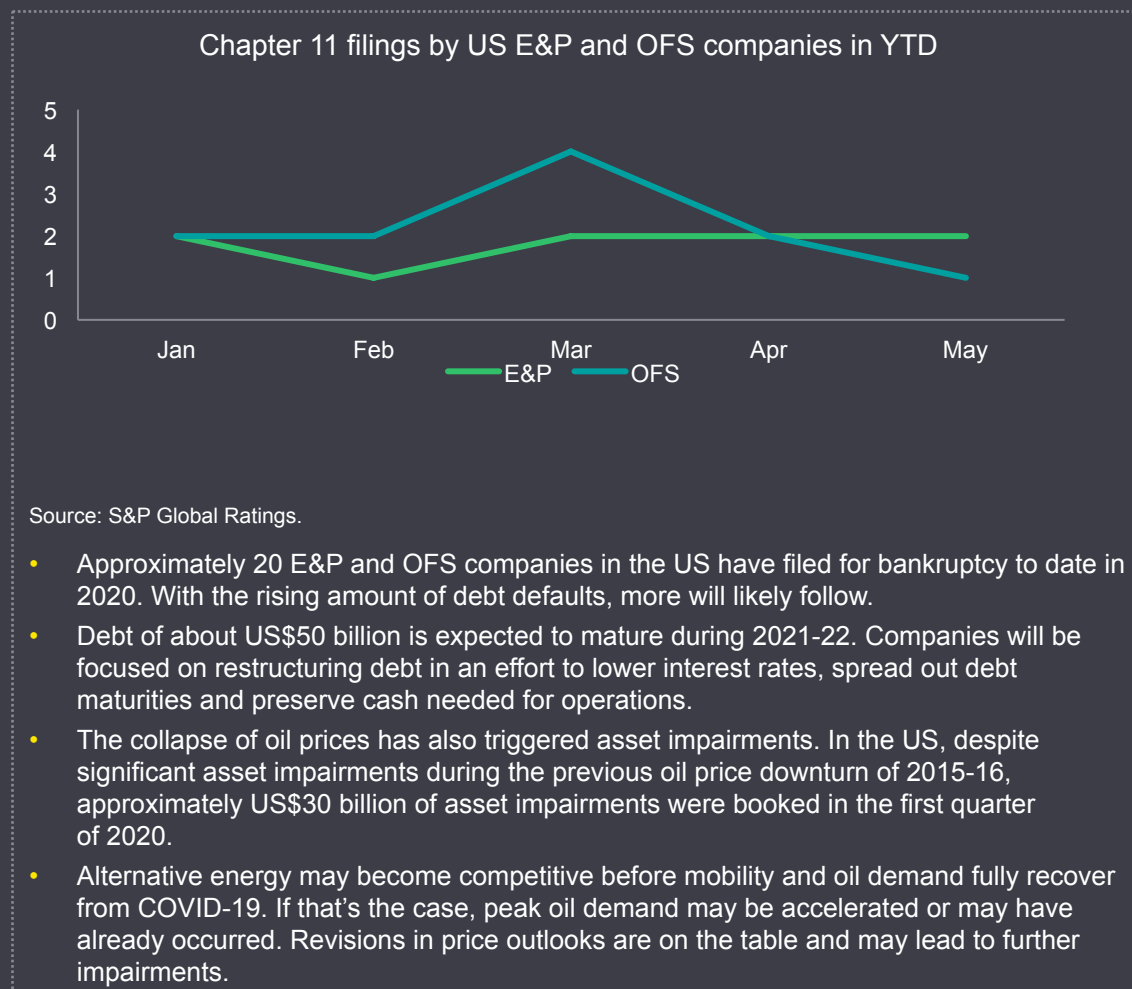


Source: J.P. Morgan.

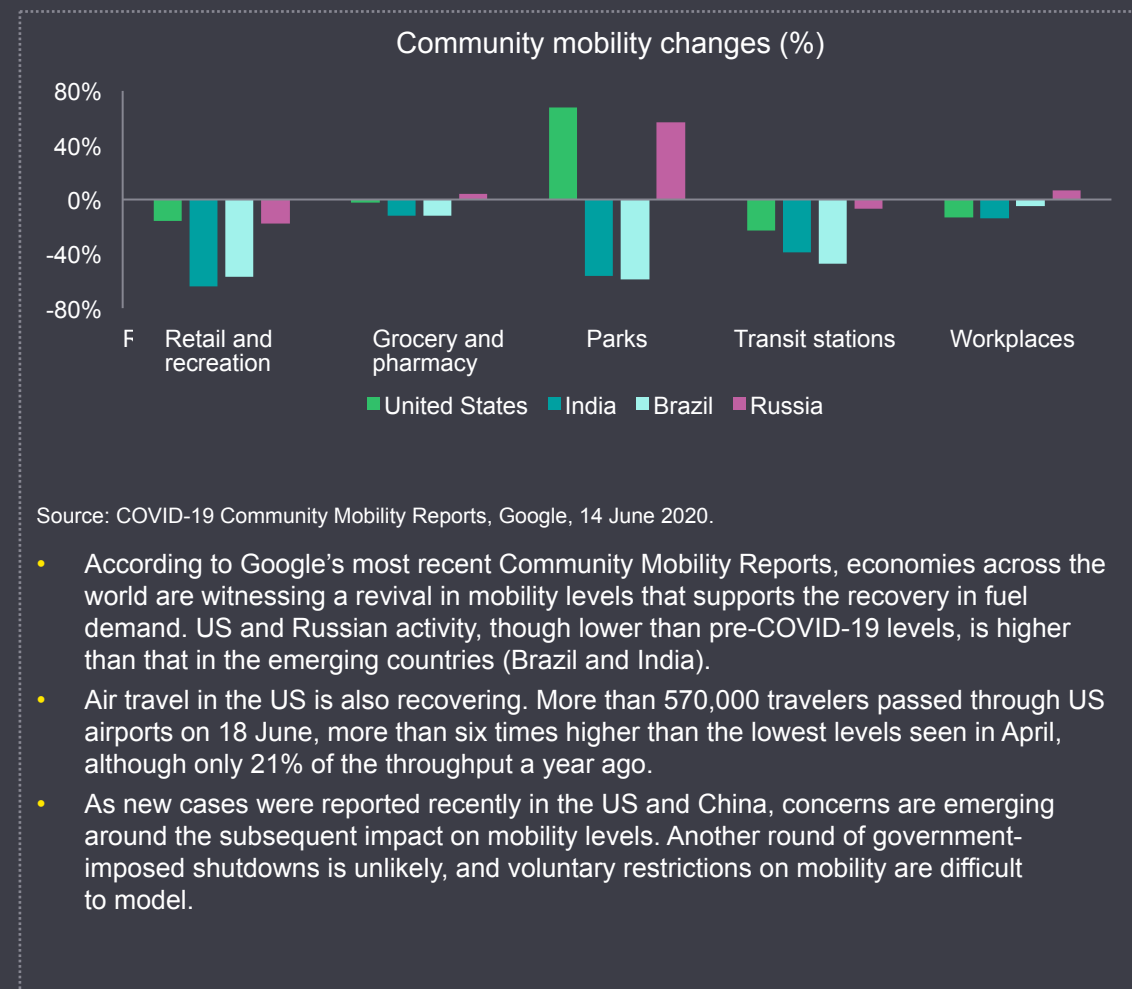
- In the last (supply-driven) downturn, oil majors could take some solace in the performance of their refining businesses. In this (demand-driven) downturn, refining spreads have fallen from already unsustainable levels. In 2Q20, US and Europe crack spreads fell to nearly 50% of their year-ago levels, while Singapore crack spreads turned negative and dropped to a record low of -US\$1.07/bbl.
- Globally, refiners are still operating at nearly 70% utilization levels, but inventories are continuing to build. Fuel demand is recovering gradually, but margins are likely to remain muted until at least the end of 2020.
- Refiners continue to face an uncertain market environment. Upstream production restraint, coupled with depressed crude oil prices, will put continued pressure on refining margins. Additionally, the threat of a second wave of COVID-19 increases the potential for another decrease in fuel demand.

Market fundamentals

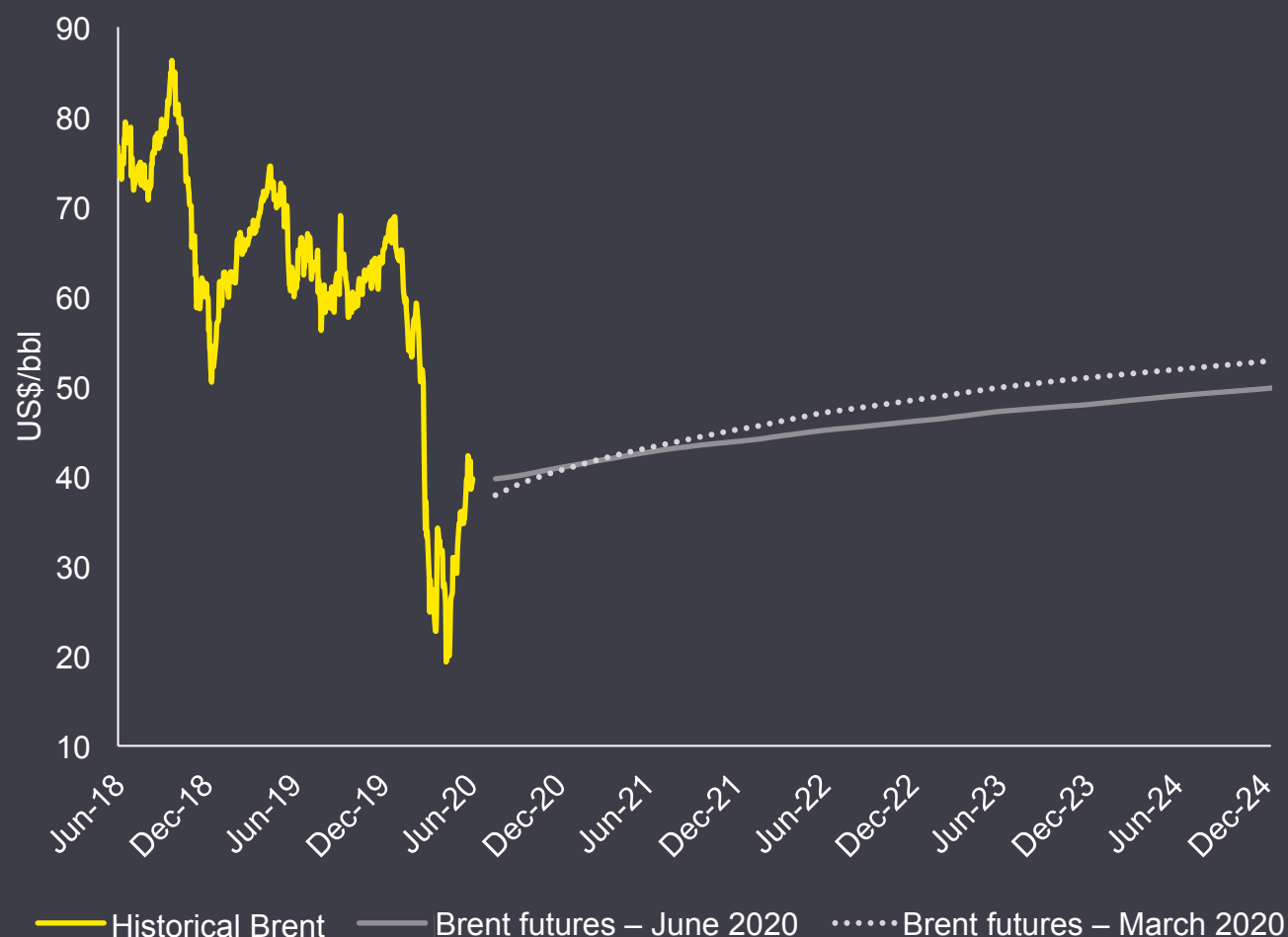
Impairments and bankruptcies in the US



Mobility slowly reviving



Brent futures



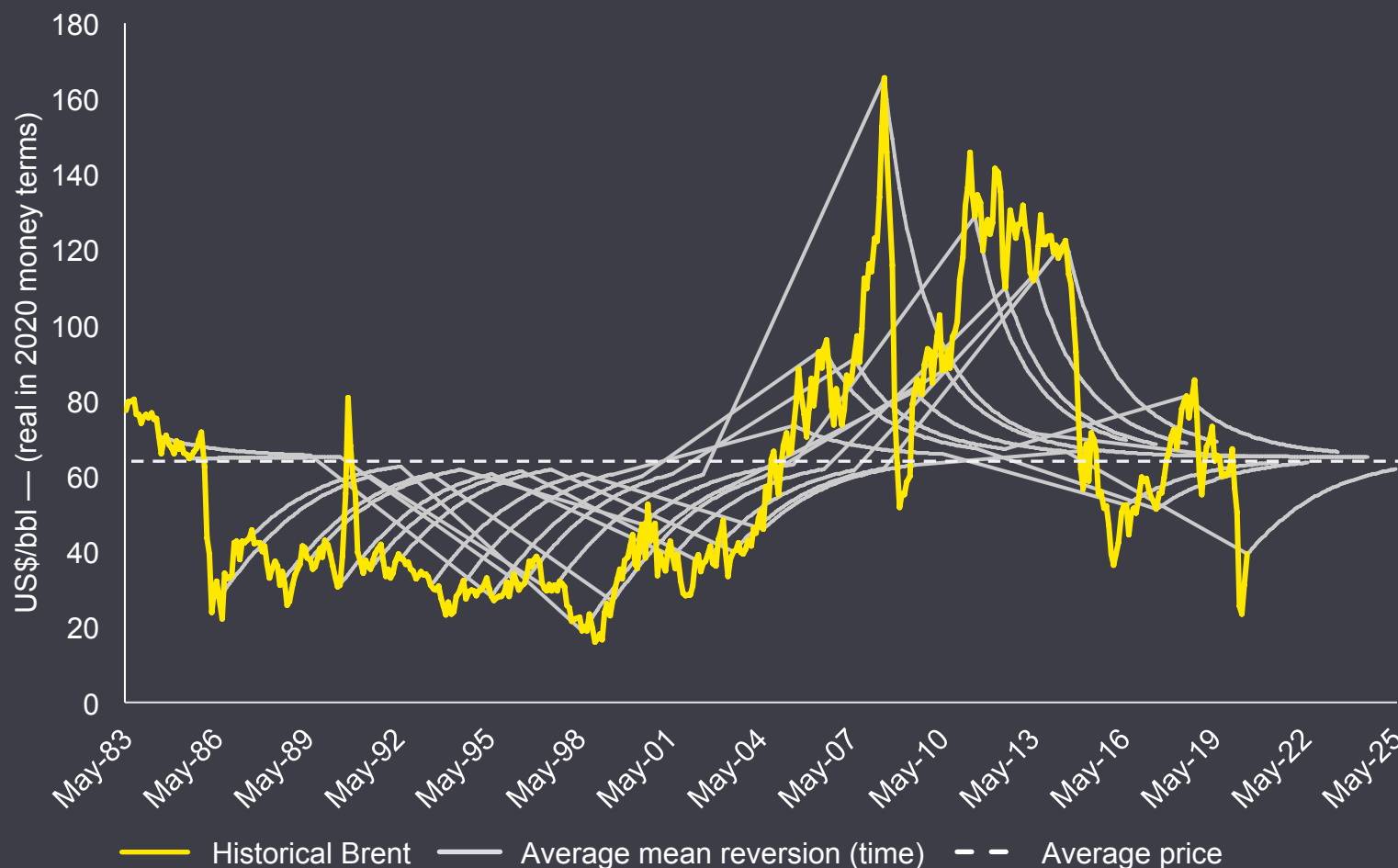
Brent realized prices increased over the last quarter, driven by the production curtailment from OPEC+, as well as many North American producers. Demand is also slowly increasing as economies continue to reopen.

Despite the gradual increase in Brent futures over time, the market has been hypersensitive to negative news, which can lead to periods of increased price volatility.

Futures data is effective as of 15 June 2020.

Source: Bloomberg.

Brent — mean reversion



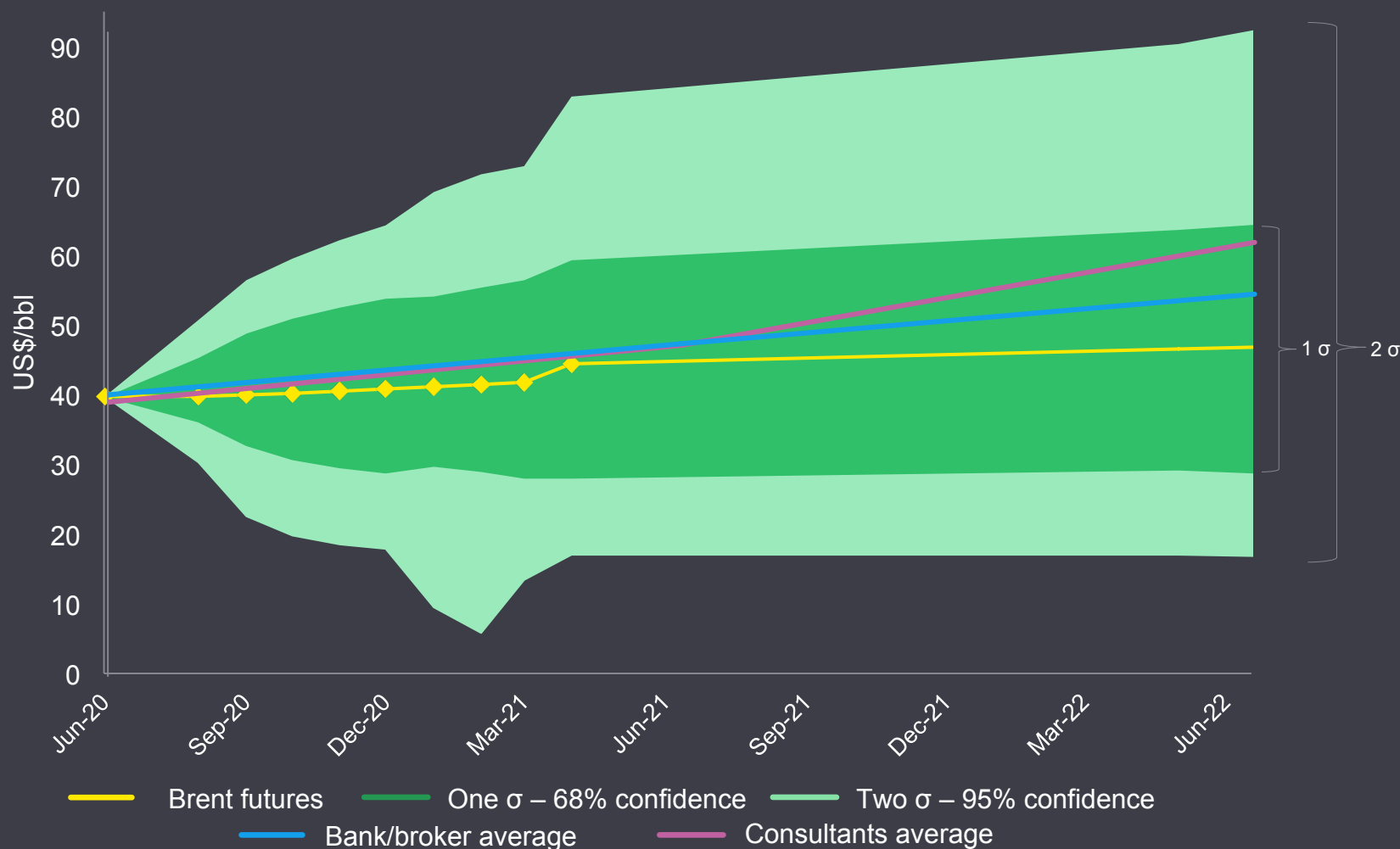
Commodity prices generally revert toward a long-term price equilibrium under the economic theory of supply and demand. This reversion to the equilibrium (mean reversion) can be statistically tested and characterized in terms of the average time period for oil to revert toward a long-term equilibrium price.

The adjacent chart shows the long-term real Brent price since 1983 and suggests it takes, on average, 2.5 years to revert from its current level halfway back toward the long-term average. Subsequently, the mean reversion continues, although at a slower pace. Under current conditions, the Brent price is expected to breach US\$60/bbl in 2024.

This data is effective as of 15 June 2020.

Source: Bloomberg and EY analysis.

Brent – implied future range



Traded Brent options give an indication of how market participants view the future distribution of oil prices. This statistical analysis shows the possibility of future oil prices being reached, rather than representing an estimate of a future price range.

The analysis implies there is a 68% probability that the Brent oil price per barrel will be between US\$29 and US\$64 in June 2022. This further supports the short-term achievability of the consultant and bank/broker estimates presented in the subsequent section of this publication.

This data is effective as of 15 June 2020.

Source: Bloomberg and EY analysis.
 σ = standard deviation (one σ = US\$29 – US\$64; two σ = US\$17 – US\$90).

Oil price outlook

For both benchmarks, consultants (on average) forecast higher oil prices throughout the forecast period.

Consultants focus primarily on the analysis of a long-term sustainable oil price, whereas banks and brokers balance their views on the basis of current market conditions.

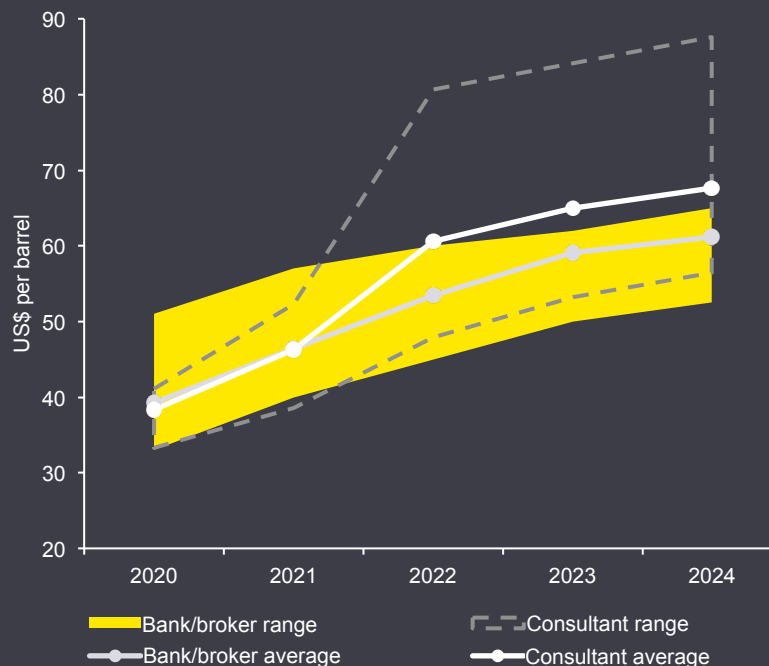
Consultant ranges include estimates of recognized market consultants. Where consultant estimates are updated only annually (for example, the EIA and the IEA), such estimates are included within the range of estimates from 2022 onward to prevent near-term ranges being impacted by estimates that are not considered to reflect current market dynamics. Brent price estimates derived under the IEA's "Stated Policies" and "Sustainable Development" scenarios (inflation adjusted to reflect nominal pricing) are reflected within the consultant ranges from 2022 onward.

Consultant forecasts result in averages of US\$67.6/bbl and US\$59.8/bbl for Brent and WTI respectively in 2024.

This data is effective as of 15 June 2020.

Brent

Bank/broker and consultant price estimates, ranges and averages

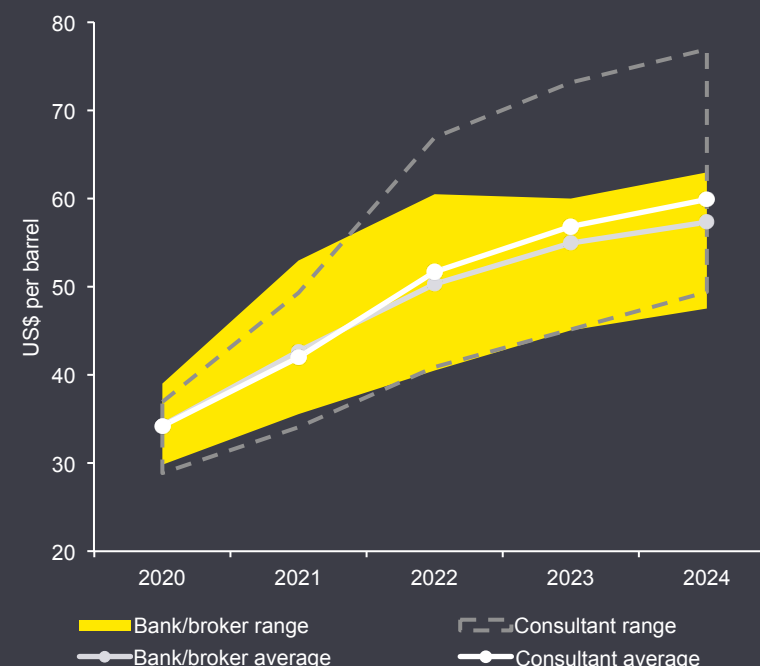


Brent: US\$67.6

Average price per bbl forecast in 2024 — consultants

WTI

Bank/broker and consultant price estimates, ranges and averages



WTI: US\$59.8

Average price per bbl forecast in 2024 — consultants

Source: Bloomberg; bank/broker reports; consultants' websites and reports.

Note: the wide range of long-term price estimates reflects the degree of uncertainty within the market. Both the lower and upper end of the range provided is supported by the estimates of credible market participants. Given the width of the range, the average of estimates should be used as a starting point for the assessment or generation of estimates.

Gas price outlook

Consultants predominantly forecast (on average) higher Henry Hub gas prices than banks and brokers. The trend is reversed for NBP.

Consultants focus primarily on the analysis of a long-term sustainable gas price, whereas banks/brokers balance their views on the basis of current market conditions.

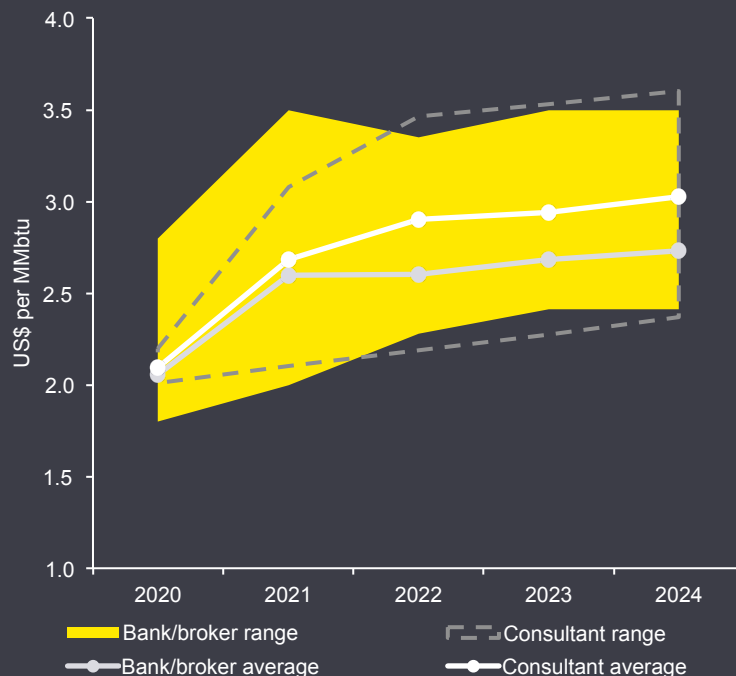
Consultant ranges include estimates of recognized market consultants. Where consultant estimates are updated only annually (for example, the EIA and the IEA), such estimates are included within the range of estimates from 2022 onward to prevent near-term ranges being impacted by estimates that are not considered to reflect current market dynamics. Henry Hub price estimates derived under the IEA's "Stated Policies" and "Sustainable Development" scenarios (inflation adjusted to reflect nominal pricing) are reflected within the consultant ranges from 2022 onward.

NBP price estimates are scarce with only five and four forecasts released by banks/brokers and consultants respectively.

This data is effective as of 15 June 2020.

Henry Hub

Bank/broker and consultant price estimates, ranges and averages

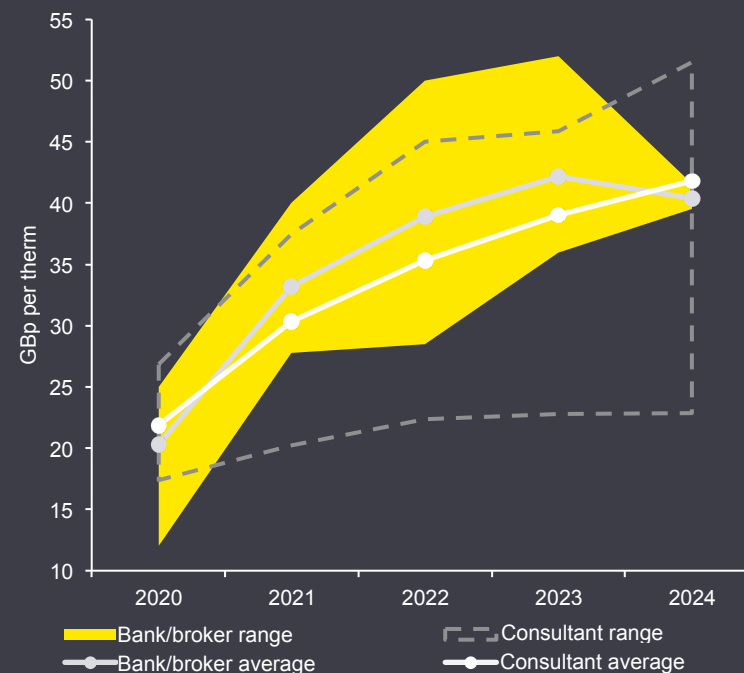


Henry Hub:US\$3.0

Average price per MMBtu forecast in 2024 — consultants

UK NBP

Bank/broker and consultant price estimates, ranges and averages



UK NBP:GBp41.8

Average price per therm forecast in 2024 — consultants

Source: Bloomberg; bank/broker reports; consultants' websites and reports.

Note: the wide range of long-term price estimates reflects the degree of uncertainty within the market. Both the lower and upper end of the range provided is supported by the estimates of credible market participants. Given the width of the range, the average of estimates should be used as a starting point for the assessment or generation of estimates.

Appendix

Brent oil price estimates

This data is effective as of 15 June 2020.

Bank/broker	2020 (US\$/bbl)	2021 (US\$/bbl)	2022 (US\$/bbl)	2023 (US\$/bbl)	2024 (US\$/bbl)
High	51.0	57.0	60.0	62.0	65.0
Average	39.3	46.5	53.4	59.1	61.1
Median	39.2	45.6	55.0	60.0	62.4
Low	33.0	40.0	45.0	50.0	52.5

Source: Bloomberg; bank/broker reports.

Consultant	2020 (US\$/bbl)	2021 (US\$/bbl)	2022 (US\$/bbl)	2023 (US\$/bbl)	2024 (US\$/bbl)
High	41.1	52.3	80.7	84.1	87.6
Average	38.3	46.3	60.6	65.0	67.6
Median	38.6	46.4	55.1	61.6	62.8
Low	33.3	38.6	47.9	53.2	56.5

Source: consultants' websites and reports; Oxford Economics.

Note: consultant ranges include estimates of recognized market consultants. Where consultant estimates are updated only annually (for example, the EIA and the IEA), such estimates are included within the range of estimates from 2022 onward to prevent near-term ranges being impacted by estimates that are not considered to reflect current market dynamics. Price estimates derived under the IEA's "Stated Policies" and "Sustainable Development" scenarios (inflation adjusted to reflect nominal pricing) are reflected within the consultant ranges from 2022 onward.

Appendix

WTI oil price estimates

This data is effective as of 15 June 2020.

Bank/broker	2020 (US\$/bbl)	2021 (US\$/bbl)	2022 (US\$/bbl)	2023 (US\$/bbl)	2024 (US\$/bbl)
High	39.0	53.0	60.5	60.0	63.0
Average	34.2	42.7	50.3	55.0	57.3
Median	34.7	41.5	50.0	57.0	59.3
Low	29.8	35.5	40.5	45.0	47.5

Source: Bloomberg; banks/brokers reports.

Consultant	2020 (US\$/bbl)	2021 (US\$/bbl)	2022 (US\$/bbl)	2023 (US\$/bbl)	2024 (US\$/bbl)
High	36.9	49.3	66.9	73.2	76.9
Average	34.2	42.0	51.7	56.8	59.8
Median	35.1	42.0	52.0	57.0	58.1
Low	28.9	34.1	40.9	45.1	49.4

Source: consultants' websites and reports; Oxford Economics.

Note: consultant ranges include estimates of recognized market consultants. Where consultant estimates are updated only annually (for example, the EIA), such estimates are included within the range of estimates from 2022 onward to prevent near-term ranges being impacted by estimates that are not considered to reflect current market dynamics.

Appendix

Henry Hub gas price estimates

This data is effective as of 15 June 2020.

Bank/broker	2020 (US\$/MMBtu)	2021 (US\$/MMBtu)	2022 (US\$/MMBtu)	2023 (US\$/MMBtu)	2024 (US\$/MMBtu)
High	2.8	3.5	3.4	3.5	3.5
Average	2.1	2.6	2.6	2.7	2.7
Median	2.0	2.5	2.5	2.6	2.7
Low	1.8	2.0	2.3	2.4	2.4

Source: Bloomberg; banks/brokers reports.

* Where brokers have reported figures in US\$/mcf, we have used a conversion ratio of 1.037 for mcf conversion to MMBtu.

Consultant	2020 (US\$/MMBtu)	2021 (US\$/MMBtu)	2022 (US\$/MMBtu)	2023 (US\$/MMBtu)	2024 (US\$/MMBtu)
High	2.2	3.1	3.5	3.5	3.6
Average	2.1	2.7	2.9	2.9	3.0
Median	2.1	2.8	3.0	3.0	3.1
Low	2.0	2.1	2.2	2.3	2.4

Source: consultants' websites and reports; Oxford Economics.

Note: consultant ranges include estimates of recognized market consultants. Where consultant estimates are updated only annually (for example, the EIA and the IEA), such estimates are included within the range of estimates from 2022 onward to prevent near-term ranges being impacted by estimates that are not considered to reflect current market dynamics. Price estimates derived under the IEA's "Stated Policies" and "Sustainable Development" scenarios (inflation adjusted to reflect nominal pricing) are reflected within the consultant ranges from 2022 onward.

Appendix

NBP gas price estimates

This data is effective as of 15 June 2020.

Bank/broker	2020 (GBp/therm)	2021 (GBp/therm)	2022 (GBp/therm)	2023 (GBp/therm)	2024 (GBp/therm)
High	25.0	40.0	50.0	52.0	41.6
Average	20.3	33.2	38.9	42.2	40.4
Median	21.6	32.5	38.5	40.4	40.0
Low	12.0	27.8	28.5	36.0	39.5

Source: Bloomberg; banks/brokers reports.

* Where brokers have reported figures in US\$/mcf, we have used a conversion ratio of 1.037 for mcf conversion to MMBtu and the brokers' forecasted FX rates.

Consultant	2020 (GBp/therm)	2021 (GBp/therm)	2022 (GBp/therm)	2023 (GBp/therm)	2024 (GBp/therm)
High	26.9	37.5	45.0	45.9	51.5
Average	21.9	30.4	35.3	39.0	41.8
Median	21.4	33.3	37.0	43.7	46.5
Low	17.4	20.2	22.3	22.8	22.9

Source: consultants' websites and reports; Oxford Economics.

* Where consultants have reported figures in US\$/MMBtu, we have used the particular consultants' forecast FX rate for the purpose of our conversion.

Note: consultant ranges include estimates of recognized market consultants. Where consultant estimates are updated only annually, such estimates are included within the range of estimates from 2022 onward to prevent near-term ranges being impacted by estimates that are not considered to reflect current market dynamics.

Key contacts

Important notice

Price outlook data included in this publication is effective as of 15 June 2020. Given the rapidly evolving nature of the market and views of market participants, analysis can quickly become outdated. It should be noted that EY analysis is not for the purpose of providing an independent view of the outlook for oil and gas prices. Instead, we are collating the views of market participants.

Price outlook data should not be applied mechanistically. Instead, careful consideration should be given to the purpose of any value assessment, with price forecasts assessed in the context of the other key assumptions, such as resources and reserves classification, production rates, discount rates and cost escalation rates, together with an appreciation of the key sensitivities in any such analysis.



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