Big Oils

Five key questions on oil equities from investors

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Following conversations with >100 investors since the beginning of this oil price downturn, we highlight the top five questions we have received and how we would answer them in these uncertain times: (1) **What can we learn from previous oil downcycles?** Big Oils' performance diverges from crude prices after the first leg down, but a sustained recovery only comes with an improvement in the physical oil market, which we expect to start in Q3. (2) **Are Big Oils' dividends safe or could they be re-based?** We believe dividends are secure from a fundamental perspective (and note that they were maintained in previous downcycles), although credit metrics appear challenged at spot prices. (3) **Does this crisis accelerate or decelerate the low-carbon transition?** We believe it accelerates the move away from volume growth in oil & gas, while investments in low-carbon technologies are likely to be maintained. (4) **What level of oil price does the industry need in the long term?** $40-50/bl for Big Oils' budgets (including dividends), $50-60/bl for greenfield projects' full-cycle economics, and up to $80/bl for OPEC to fund its budgets. (5) **What does the OPEC deal mean for oil equities?** As discussed by our Commodities team, the cut may be 'too little, too late' in the depth of the crisis (Q2), but should support a strong oil price recovery in H2, in line with previous oil downturns; this should provide good medium-term upside to oil equities.

(1) What can we learn from previous oil downcycles?

Global Big Oils have recovered from the trough, disconnecting from oil prices, consistent with previous commodity downturns...

The deterioration in global macro demand for oil & gas commodities following the coronavirus (COVID-19) outbreak, despite the recent news of a historic production cut agreement reached by OPEC+ and other countries, has raised the prospect of a repeat of the harsh 2014-15 industry dynamics, with the Brent oil price falling to c.20-year troughs, -57% ytd. Despite the downward momentum for the commodity, the European Big Oil equities have, following the abrupt and sharp downward move, recovered from the trough. We note that this is consistent with previous historical downturns, such as the oil price downturn in 2014-16, the financial crisis in 2008-09 and the 1997-2000 oil price downturn. During those periods, Big Oil equities had initially moved abruptly lower, in line with the Brent oil price move, before eventually disconnecting and broadly stabilizing, as shown in Exhibits 2-5.

Throughout this analysis, we refer to European Big Oils, which are the large-cap integrated oil & gas companies in our European coverage, namely BP, TOTAL, RDShell, ENI, Equinor, Repsol, OMV and Galp, and US Big Oils, which are the large-cap integrated oil & gas companies in the US, namely ExxonMobil and Chevron. Global Big Oils refers to the combined group of EU and US integrated oil & gas companies.

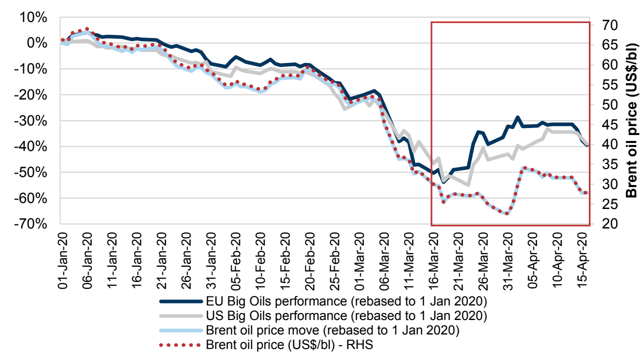
Exhibit 1: Despite the recent disconnect between the Global Big Oils equities and Brent, the equities remain down c.40% ytd, having already reached the troughs observed historically for even larger downward oil price moves. Similarly, E&Ps and Oil services both seem to have troughed at levels broadly in line with previous downturns.

	Macro commodity downturns			European oil & gas equities performance			US oil & gas equities performance		
	Historical year	Brent oil price	Brent oil price	Big Oils	E&Ps	Oil Services	Big Oils	E&Ps	Oil Services
	Downturn period	US$/bl	peak-to-trough change (%)	peak-to-trough change (%)	peak-to-trough change (%)	peak-to-trough change (%)	peak-to-trough change (%)	peak-to-trough change (%)	peak-to-trough change (%)
peak	1997	20.8	-51%	-15%	-57%	-60%	-3%	-53%	-54%
trough	1999	10.3							
peak	2000	34.6	-50%	-17%	-10%	-28%	-13%	-45%	-46%
trough	2001	17.3							
peak	2008	145.7	-71%	-28%	-40%	-65%	-22%	-66%	-66%
trough	2009	41.6							
peak	2014	114.0	-75%	-41%	-57%	-72%	-34%	-52%	-53%
trough	2016	29.0							
Jan	2020	66.3	-57%	-38%	-53%	-49%	-39%	-47%	-61%
19/04/2020, ytd	2020	28.2							

Source: Thomson Reuters Datastream, Goldman Sachs Global Investment Research

Exhibit 2: Big Oils have recovered strongly from the trough, now disconnecting from Brent, but this is consistent with their behaviour in past downturns...

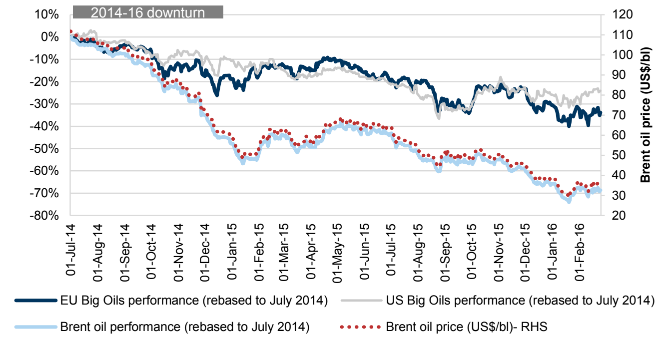
Brent oil price and Big Oils equity performance (market cap weighted) ytd (rebased as of Jan 2020)



Source: Thomson Reuters Datastream, Goldman Sachs Global Investment Research

Exhibit 3: ...with a similar trend observed in 2014-16, when Big Oils equities initially underperformed in line with Brent before disconnecting and broadly stabilizing

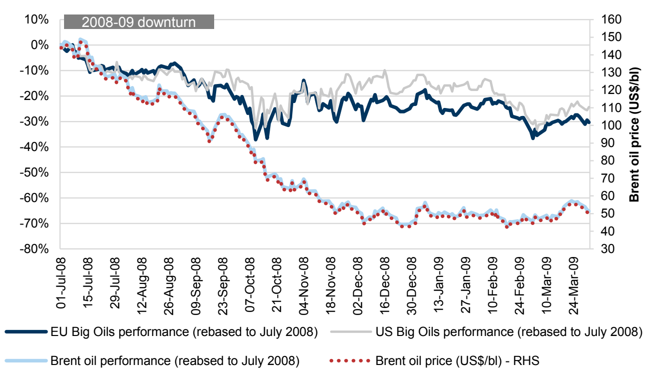
Brent oil price and Big Oils equity performance (market cap weighted average) in 2014-16 (rebased as of July 2014)



Source: Thomson Reuters Datastream, Goldman Sachs Global Investment Research

Exhibit 4: The disconnect in 2008-09 was even more profound, with Big Oil equities down c.35% from peak to trough vs. the Brent oil price falling by c.70% on a peak to trough basis....

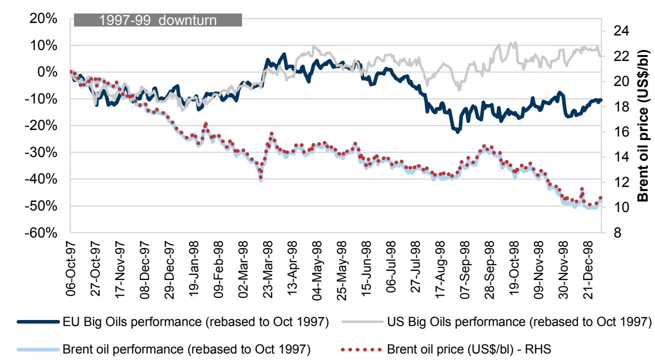
Brent oil price and Big Oils equity performance (market cap weighted average) in 2008-09 (rebased as of July 2008)



Source: Thomson Reuters Datastream, Goldman Sachs Global Investment Research

Exhibit 5: ...and an even larger disconnect again was apparent during the 1997-99 oil price downturn

Brent oil price and Big Oils equity performance (market cap weighted average) in 1997-99 (rebased as of Oct 1997)

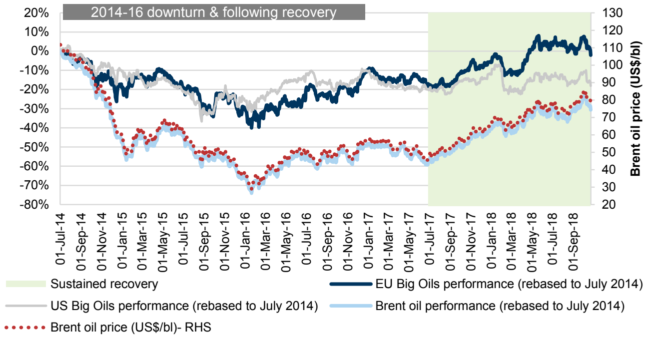


Source: Thomson Reuters Datastream, Goldman Sachs Global Investment Research

...but a sustained recovery in oil equities has historically relied on the timing of an oil price recovery

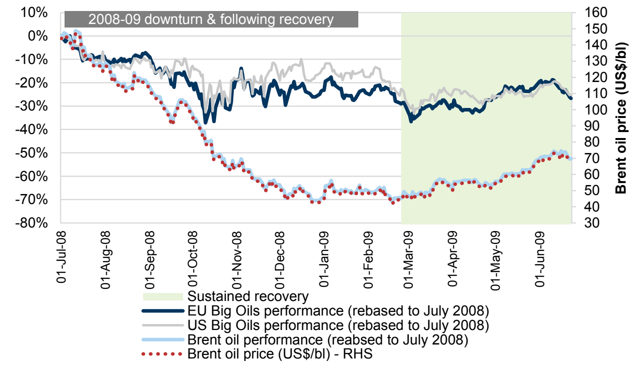
Looking at previous commodity downturns (2008-09 and 2014-16), the timing of the beginning of a sustained recovery in oil & gas equities broadly tracked the recovery in oil prices (with a smaller percentage increase given that equities had started from a higher base than the commodity at the trough). The timing from trough to a sustained recovery has differed depending on the length of the economic or commodity downturn, from one and a half years (trough to start of sustained recovery) in 2014-16, to c. 6 months during the financial crisis of 2008-09, as shown in Exhibits 6-7.

Exhibit 6: During the previous commodity downturn, the timing of the start of a sustained recovery in oil & gas equities broadly tracked the Brent commodity...



Source: Thomson Reuters Datastream, Goldman Sachs Global Investment Research

Exhibit 7: ...with a similar trend observed during the recovery of oil prices following the financial crisis (2008-09)



Source: Thomson Reuters Datastream, Goldman Sachs Global Investment Research

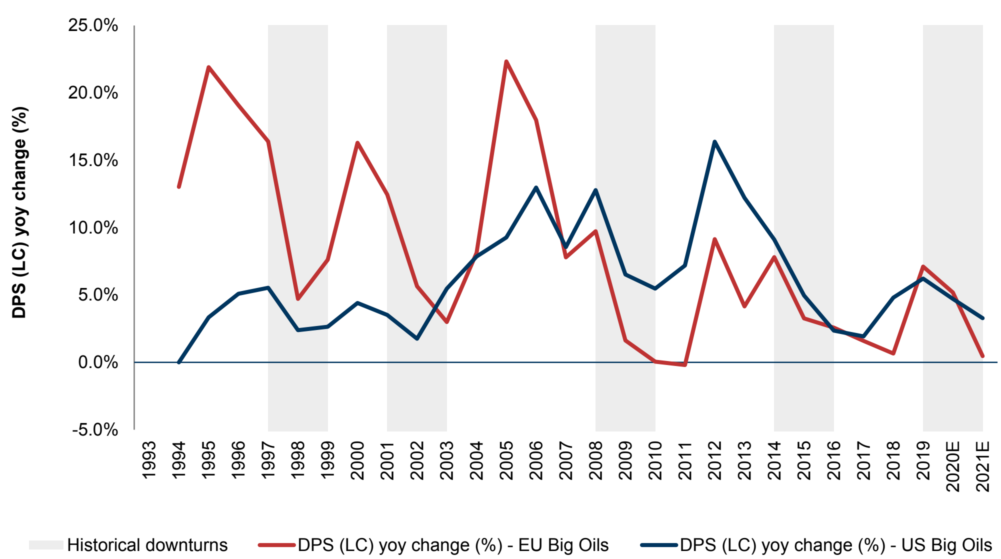
(2) Are Big Oils dividends safe or could they be re-based?

In past oil downturns, Big Oils on aggregate did not respond to challenging macro conditions through material dividend cuts...

As outlined in our dividend primer report, *Big Oils: Dividends - to cut or not to cut?*, looking at the dividends declared (DPS) for Big Oils through history, on aggregate, the group of large-cap companies has not cut dividends during times of macro commodity downturns (market cap weighted average). This is true for both European and US Big Oils. On a company-by-company basis, the large-cap Big Oils (supermajors) such as BP, TOTAL, RDShell, ExxonMobil and Chevron have not cut their dividends in 30 years, even during economic downturns such as those seen in 1997-2000, 2001-03, 2008-10, and the oil price downcycle in 2014-16 (excluding BP's Macondo impact in 2010). We expect dividends to be secure on a fundamental basis in the current downturn as well, with improved balance sheet resilience and strong capital discipline further supporting cash flow generation and dividend preservation.

Exhibit 8: On aggregate, Big Oils have historically not responded to macro commodity downturns by cutting dividends.

DPS (LC) yoy change (%) through history for EU and US Big Oils (*excluding the one-off impact of Macondo in 2010-11 for BP dividends)



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 9: On aggregate, both EU and US large-cap Big Oils have maintained dividends over periods of oil price downturn, while smaller-cap integrated oil & gas companies have shown more variability

Brent (US$/bl)	13.1	18.0	28.8	24.9	25.0	28.7	98.2	62.2	80.3	99.4	53.6	45.7
Brent oil price yoy change (%)	-32%	38%	60%	-14%	1%	15%	36%	-37%	29%	-8%	-46%	-15%
DPS yoy % change (LC)	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2008**	**2009**	**2010**	**2014**	**2015**	**2016**
BP*	9%	3%	12%	11%	5%	0%	31%	21%	-87%	2%	10%	13%
RDShell	4%	6%	9%	2%	4%	-2%	4%	11%	5%	5%	20%	0%
TOTAL	2%	18%	40%	15%	8%	15%	10%	0%	0%	3%	0%	0%
ENI	0%	20%	17%	79%	0%	0%	0%	-23%	0%	2%	-29%	0%
Equinor						2%	-7%	-15%	-17%	4%	3%	-1%
OMV	18%	11%	7%	79%	0%	-19%	19%	-20%	0%	4%	0%	-20%
Repsol	9%	-5%	19%	-58%	48%	29%	5%	-19%	24%	100%	-60%	0%
Galp								-16%	-26%	20%	20%	20%
Exxon Mobil	1%	3%	4%	3%	1%	7%	13%	7%	5%	10%	7%	3%
Chevron	7%	2%	5%	4%	4%	2%	12%	5%	7%	8%	2%	0%
EU Big Oils (mkt cap weighted average)	**5%**	**8%**	**16%**	**12%**	**6%**	**3%**	**10%**	**2%**	**0%**	**8%**	**3%**	**3%**
US Big Oils (mkt cap weighted average)	**2%**	**3%**	**4%**	**4%**	**2%**	**5%**	**13%**	**7%**	**5%**	**9%**	**5%**	**2%**

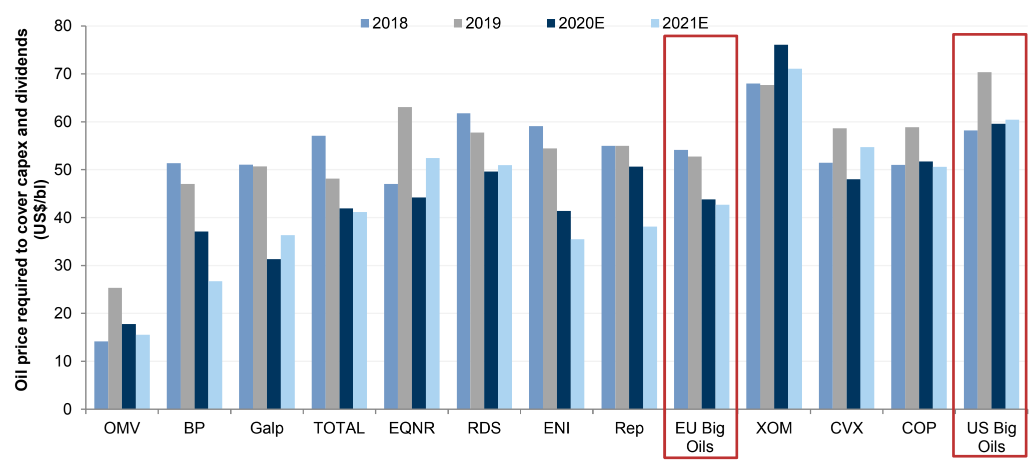
** The material cut in dividend for BP in 2010 was due to Macondo incident rather than a macro commodity downtrun*

Source: Company data, Goldman Sachs Global Investment Research

...and this time, Big Oils are in a better position to navigate the downturn, with oil cash breakevens >50% below the peak and balance sheets more robust...

Big Oils have exhibited strong balance sheet resilience over the past years, continuing to focus on de-leveraging, even after completing a few material acquisitions. Since entering a new 'Age of Restraint' in 2015, Integrated Oils have consistently reduced costs and capital commitments, creating a more resilient business model. On our estimates, the **Brent oil price required to cover capex and dividend commitments** (breakeven oil price) **for Big Oils overall has fallen 40-60% since 2014**, particularly for the European integrated majors, which currently have, on aggregate, a **Brent oil breakeven price to cover capex and dividends of c.US$44/bl.**

Exhibit 10: The required Brent oil breakeven price to cover EU Big Oil's capex and dividend commitments has reduced over the past few years, currently below US$45/bl on average for the group
EU & US Big Oils' Brent oil breakeven price to cover capex and dividends (US$/bl)



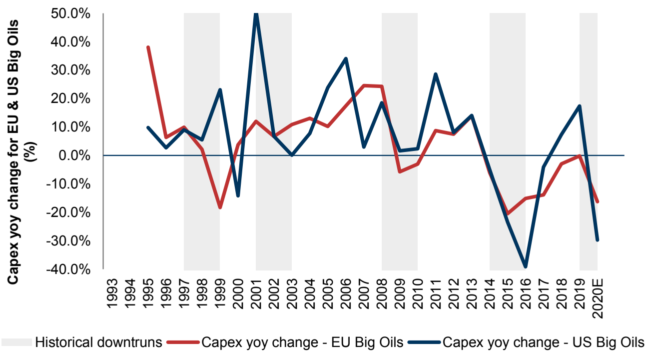
Source: Company data, Goldman Sachs Global Investment Research

...further supported by the recent capex reduction announcements from the group

Our analysis indicates that Big Oils have historically responded to macro commodity downturns with capital expenditure reductions, particularly in the US. During the last oil price downcycle of 2014-17, EU Big Oils' capex decreased by c.35% on aggregate during the three-year period, while for US Big Oils it fell by c.50%. We view the industry as being in a very different place now than it was during the previous downcycle, with capital expenditure for Big Oils on aggregate being half what it was in 2014; however, we highlight the flexibility and optionality that capex reductions still offer for Big Oils if the current commodity price environment persists for a longer period, providing some cash flow relief and support for dividend distributions. While historically, capex cuts have mostly materialized in the one year-plus following an abrupt downturn in the commodity price, **this time around, Big Oils have responded quicker to the commodity price move, having on aggregate already announced c.20-30% of capex reductions yoy** (vs 2019 capex levels)**.** We see this as proof of the capex optionality that Big Oils have to navigate the downturn while offering support to dividend distributions.

Exhibit 11: Big Oils have historically responded with reductions in capex, but this year they have responded to the abrupt oil price fall much quicker than in the past

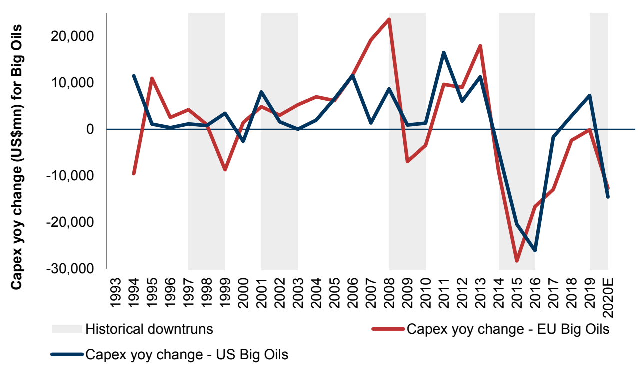
Capex yoy change for EU and US Big Oils through time, highlighting periods of historical macro commodity downturns



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 12: We expect a total of c.US$28 bn of capex reduction yoy across both EU & US Big Oils in 2020

Capex yoy change (US$mn) for EU & US Big Oils over time, highlighting periods of historical macro commodity downturns



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 13: Big Oils will on aggregate reduce capex by 20%-30% yoy in 2020, on our estimates

Capex yoy change for Global Big Oils in previous historical commodity downturns and our estimates for 2020

Capex yoy % change	1998	1999	2000	2001	2002	2003	2008	2009	2010	2014	2015	2016	2020E
BP	-9%	-29%	53%	16%	1%	2%	13%	-8%	-2%	-7%	-18%	-2%	-20%
RDShell	8%	-41%	-18%	51%	25%	2%	18%	2%	-6%	-19%	-23%	-7%	-17%
TOTAL	-4%	-10%	-10%	11%	-4%	5%	25%	-7%	-15%	-7%	-5%	-28%	-10%
ENI	22%	1%	-14%	18%	28%	31%	47%	-11%	-4%	12%	-34%	-19%	-23%
Equinor	2%	1%	-26%	-10%	18%	36%	23%	7%	6%	0%	-30%	-21%	-15%
OMV	44%	-15%	-12%	-38%	51%	36%	49%	-23%	1%	8%	-29%	-34%	-18%
Repsol	3%	47%	54%	-29%	-46%	22%	17%	-24%	9%	19%	0%	-14%	-4%
Galp							88%	-1%	63%	21%	-10%	-2%	-14%
Exxon Mobil	10%	37%	-18%	9%	22%	2%	18%	16%	11%	-9%	-22%	-35%	-32%
Chevron	0%	13%	-16%	166%	-22%	-26%	18%	1%	-1%	-7%	-17%	-39%	-22%
ConocoPhillips	0%	-18%	20%	53%	42%	41%	20%	-19%	-12%	10%	-41%	-52%	-36%
EU Big Oils	**2%**	**-18%**	**4%**	**12%**	**7%**	**11%**	**24%**	**-6%**	**-3%**	**-6%**	**-20%**	**-15%**	**-19%**
US Big Oils	**5%**	**23%**	**-14%**	**51%**	**7%**	**0%**	**19%**	**2%**	**2%**	**-5%**	**-23%**	**-39%**	**-30%**

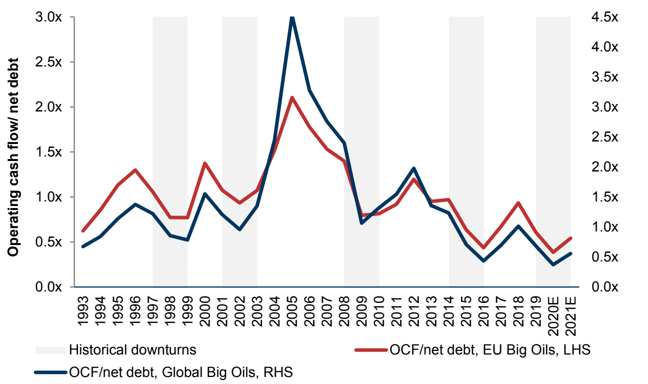
Source: Company data, Goldman Sachs Global Investment Research

Credit quality for the group: Improved balance sheet resilience but core debt payback ratios look stretched at long-term oil prices <US$40/bl

Big Oils on aggregate are entering the current downturn with more resilient balance sheets and stronger liquidity than in 2014. Despite this, near-term credit metrics look challenging. On our estimates, the OCF/net debt ratio (including leases, long-term pension and asset retirement liabilities and 50% of hybrid bonds) on aggregate for both European integrated majors and Global (European and US) majors falls slightly below 40% under our base Brent oil price assumption (US$35.4/bl for 2020E), while net debt/EBITDA metrics are likely to be above the 2.0x level typically associated with investment grade. While the near-term metrics look stretched, it is our impression, based on the sensitivity analysis provided below, that rating agencies would still use US$50-55/bl in the long term, which, all else equal, would lead the Big Oils credit metrics back into single-A credit territory.

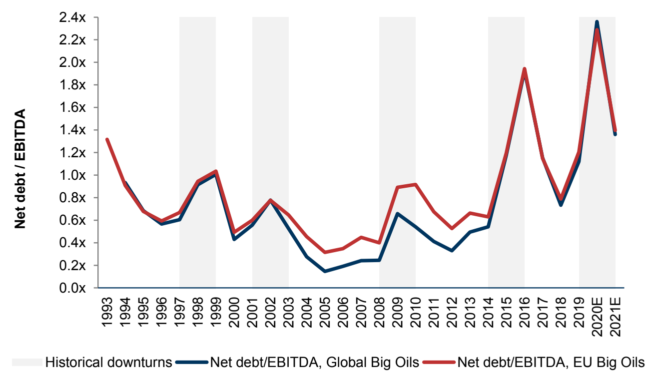
As we discussed in our report *Big Oils: Assessing resilience*, OCF/net debt and net debt/EBITDA are two of the core debt payback ratios used by credit agencies such as S&P to determine credit quality, with indicative thresholds of >30% OCF/net debt and <2.0x net debt/EBITDA typically consistent with the low end of investment grade boundaries. We acknowledge that credit rating agencies consider a wide range of qualitative and quantitative criteria when determining the credit quality of securities that are not limited to these ratios, and typically involve a number of additional adjustments. We do not attempt to replicate the credit ratings agencies' analysis, but we aim to provide a simplified framework to assess how the sector stacks up on these key ratios. In this analysis, we calculate cash flow from operations pre-OWC movements and post financial charges and tax. Gross debt is calculated on the basis of total gross long-term debt and current portion of long-term debt in each year, adjusted for hybrid instruments for which we account 50% in debt and 50% in equity, including leases for the EU majors (consistent with IFRS 16). We denote this definition of debt with a single * in the below tables. We have also considered a broader definition of debt including deferred pension liabilities and decommissioning liabilities – and added operating leases for the US majors (denoted with **).

Exhibit 14: OCF/net debt remains above 0.4x on aggregate for the group on our estimates, broadly in line with the 2014-16 downturn...
OCF/net debt* for EU and Global Big Oils (EU & US) through time



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 15: ...with the net debt to EBITDA ratio slightly exceeding 2x on aggregate for the group
Net debt/ EBITDA* for EU and Global (EU & US) Big Oils



Source: Company data, Goldman Sachs Global Investment Research

Exhibit 16: Sensitivity analysis showing the OCF/net debt ratio under different Brent oil price scenarios

Sensitivity analysis for integrated majors

Brent oil price (US$/bl)	20.0	30.0	40.0	50.0	60.0
FX (US$/EUR)	0.89	0.89	0.89	0.89	0.89

Brent oil price (US$/bl)	20.0	30.0	40.0	50.0	60.0
FX (US$/EUR)	0.89	0.89	0.89	0.89	0.89

OCF/ Net debt * (incl. hybrids)	2020	2020	2020	2020	2020
RDShell	0.19	0.27	0.36	0.47	0.60
ENI	0.29	0.40	0.53	0.67	0.86
Total	0.27	0.37	0.49	0.62	0.78
BP	0.28	0.34	0.41	0.49	0.58
Equinor	0.26	0.41	0.60	0.85	1.19
Repsol	0.27	0.33	0.41	0.49	0.58
Galp	0.36	0.45	0.55	0.66	0.79
OMV	0.30	0.35	0.40	0.45	0.50
EU Big Oils	**0.25**	**0.33**	**0.43**	**0.55**	**0.68**
ExxonMobil	0.08	0.16	0.26	0.38	0.50
Chevron	0.22	0.40	0.66	1.03	1.49
ConocoPhillips	0.05	0.27	0.61	1.20	2.20
Global Big Oils	**0.21**	**0.31**	**0.42**	**0.56**	**0.72**

OCF/ Net debt * (incl. hybrids)	2021	2021	2021	2021	2021
RDShell	0.14	0.22	0.31	0.44	0.60
ENI	0.29	0.42	0.59	0.85	1.27
Total	0.24	0.34	0.48	0.67	0.95
BP	0.31	0.39	0.49	0.62	0.78
Equinor	0.13	0.25	0.42	0.71	1.25
Repsol	0.29	0.37	0.46	0.57	0.72
Galp	0.34	0.43	0.56	0.72	0.93
OMV	0.37	0.43	0.49	0.56	0.64
EU Big Oils	**0.22**	**0.31**	**0.42**	**0.58**	**0.79**
ExxonMobil	0.12	0.20	0.29	0.43	0.60
Chevron	0.17	0.32	0.55	0.96	1.80
ConocoPhillips	0.12	0.33	0.75	2.02	-
Global Big Oils	**0.19**	**0.29**	**0.42**	**0.60**	**0.64**

OCF/ Net debt ** (incl. hybrids, pensions etc)	2020	2020	2020	2020	2020
RDShell	0.15	0.21	0.27	0.35	0.43
ENI	0.21	0.28	0.35	0.44	0.54
Total	0.20	0.26	0.33	0.42	0.51
BP	0.22	0.26	0.31	0.37	0.43
Equinor	0.15	0.22	0.31	0.40	0.51
Repsol	0.22	0.28	0.34	0.40	0.47
Galp	0.30	0.37	0.44	0.53	0.63
OMV	0.20	0.22	0.25	0.28	0.31
EU Big Oils	**0.18**	**0.24**	**0.31**	**0.38**	**0.46**
ExxonMobil	0.05	0.10	0.16	0.22	0.28
Chevron	0.13	0.23	0.35	0.50	0.64
ConocoPhillips	0.03	0.15	0.30	0.49	0.71
Global Big Oils	**0.15**	**0.21**	**0.28**	**0.36**	**0.45**

OCF/ Net debt ** (hybrids, pensions etc)	2021	2021	2021	2021	2021
RDShell	0.12	0.17	0.24	0.32	0.43
ENI	0.21	0.29	0.39	0.51	0.68
Total	0.18	0.24	0.33	0.44	0.57
BP	0.24	0.30	0.37	0.44	0.54
Equinor	0.08	0.15	0.23	0.34	0.48
Repsol	0.25	0.32	0.39	0.47	0.58
Galp	0.29	0.36	0.46	0.57	0.72
OMV	0.25	0.28	0.31	0.35	0.39
EU Big Oils	**0.17**	**0.23**	**0.30**	**0.39**	**0.51**
ExxonMobil	0.08	0.13	0.19	0.26	0.34
Chevron	0.12	0.21	0.33	0.49	0.73
ConocoPhillips	0.08	0.20	0.37	0.67	1.23
Global Big Oils	**0.14**	**0.20**	**0.28**	**0.38**	**0.51**

** Net debt is adjusted for hybrid debt which is assumed to be split 50/50 between debt and equity, for EU majors is accounts for leases (IFRS16)*
*** Net debt is adjusted for hybrid debt which is assumed to be split 50/50 between debt and equity, but also adjusted to include deferred pension liabilities and decomissioning and leases*

Net debt */ EBITDA	2020	2020	2020	2020	2020
RDShell	5.1	3.4	2.4	1.8	1.4
ENI	4.5	2.7	1.8	1.3	1.0
Total	3.8	2.6	1.9	1.5	1.1
BP	3.1	2.5	2.0	1.7	1.4
Equinor	2.9	1.8	1.2	0.9	0.6
Repsol	3.3	2.6	2.1	1.8	1.5
Galp	3.1	2.1	1.6	1.2	0.9
OMV	3.3	2.7	2.2	1.8	1.6
EU Big Oils	**3.8**	**2.7**	**2.0**	**1.6**	**1.2**
ExxonMobil	10.7	5.0	3.1	2.1	1.6
Chevron	4.0	2.1	1.3	0.8	0.5
ConocoPhillips	-	7.1	1.9	0.9	0.4
Global Big Oils	**4.6**	**2.9**	**2.0**	**1.5**	**1.2**

Net debt */ EBITDA	2021	2021	2021	2021	2021
RDShell	4.9	3.3	2.4	1.7	1.3
ENI	3.0	2.0	1.3	0.9	0.6
Total	3.8	2.6	1.8	1.3	0.9
BP	2.5	2.0	1.6	1.3	1.0
Equinor	3.5	2.1	1.3	0.8	0.5
Repsol	2.6	2.1	1.7	1.4	1.1
Galp	3.3	2.2	1.6	1.1	0.8
OMV	2.5	2.1	1.7	1.4	1.2
EU Big Oils	**3.5**	**2.5**	**1.8**	**1.3**	**1.0**
ExxonMobil	5.9	3.7	2.5	1.8	1.2
Chevron	3.6	2.1	1.3	0.8	0.4
ConocoPhillips	-	2.9	1.2	0.4	0.0
Global Big Oils	**3.9**	**2.6**	**1.8**	**1.3**	**1.1**

Net debt **/ EBITDA	2020	2020	2020	2020	2020
RDShell	6.5	4.4	3.3	2.5	2.0
ENI	6.4	3.9	2.7	2.0	1.6
Total	5.2	3.7	2.8	2.2	1.8
BP	3.9	3.2	2.7	2.3	1.9
Equinor	5.0	3.3	2.4	1.8	1.4
Repsol	3.9	3.1	2.6	2.1	1.8
Galp	3.7	2.6	1.9	1.5	1.2
OMV	5.2	4.2	3.4	2.9	2.5
EU Big Oils	**5.2**	**3.7**	**2.8**	**2.3**	**1.8**
ExxonMobil	16.7	8.4	5.1	3.7	2.9
Chevron	6.5	5.2	2.4	1.7	1.5
ConocoPhillips	-	-	4.0	2.1	1.3
Global Big Oils	**6.5**	**5.3**	**3.1**	**2.4**	**2.0**

Net debt **/ EBITDA	2021	2021	2021	2021	2021
RDShell	6.1	4.2	3.1	2.3	1.8
ENI	4.2	2.8	2.0	1.5	1.1
Total	5.0	3.5	2.6	1.9	1.5
BP	3.2	2.6	2.1	1.7	1.4
Equinor	5.6	3.6	2.5	1.8	1.3
Repsol	3.0	2.5	2.0	1.6	1.4
Galp	3.9	2.7	1.9	1.4	1.1
OMV	3.7	3.1	2.7	2.3	2.0
EU Big Oils	**4.6**	**3.3**	**2.5**	**1.9**	**1.5**
ExxonMobil	8.4	5.5	3.9	2.9	2.2
Chevron	5.2	3.2	2.1	1.5	1.0
ConocoPhillips	-	4.8	2.4	1.3	0.7
Global Big Oils	**5.3**	**3.7**	**2.7**	**2.0**	**1.5**

Source: Company data, Goldman Sachs Global Investment Research

(3) Does this crisis accelerate or decelerate the low-carbon transition?

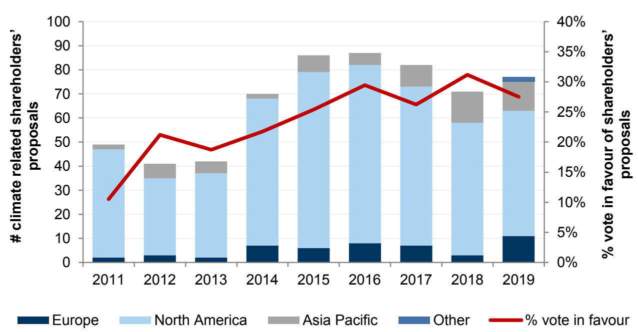
Climate change is shaping the future of the energy sector, with investors taking an increasingly active role, something we do not expect to reverse despite the clouded macroeconomic outlook

With emissions on a persistent upward trajectory over the past years, investors are emerging with a leading role in driving the climate change debate, pushing corporate management towards incorporating climate change into their business plans and strategy. The number of climate-related shareholder proposals has almost doubled since 2011 and the percentage of investors voting in favour has tripled over the same period. We expect a focus on the low-carbon transition to remain a key theme in the coming years, despite the current macroeconomic outlook.

This investor pressure, however, is not evenly distributed across sectors and has a clear bias towards energy producers vs. energy consumers. Data shows c.50% of proposals target the energy producers (oil & gas, utilities, coal), while only 30% of proposals target the sectors that account for most of the final energy consumption. In particular, transport, agriculture, basic materials and construction account for only 10% of total climate change shareholder proposals, while the focus on utility and oil & gas companies has been the highest and has substantially increased over the past few years.

Exhibit 17: Shareholders are pushing energy companies to embrace the energy transition...

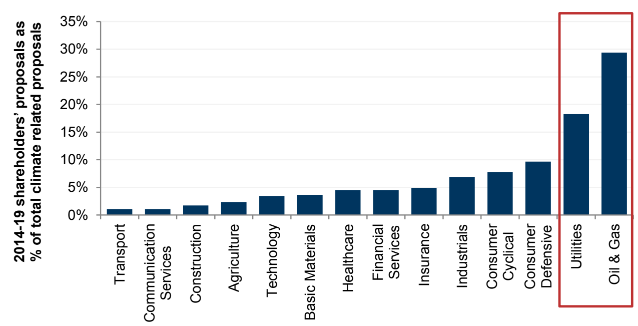
Number of climate-related shareholders' proposals vs. % vote in favour



Source: ProxyInsight, Goldman Sachs Global Investment Research

Exhibit 18: ...yet with a very targeted focus on the energy producers vs the energy consumers

% of climate-related shareholder proposals split by industry, 2014-19



Source: ProxyInsight, Goldman Sachs Global Investment Research

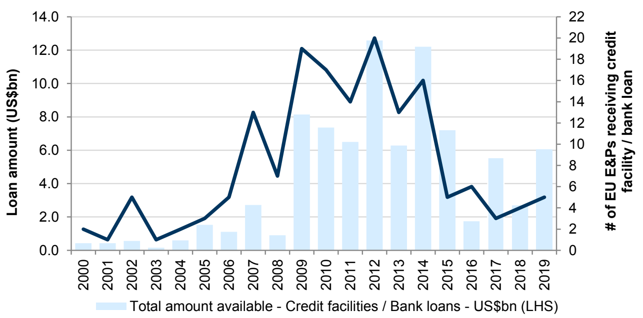
Decarbonization has structurally changed capital markets access for hydrocarbon producers

Capital availability for new oil developments has tightened significantly over the past five years, with the market increasingly focused on the low-carbon transition: (1) reserve-based lending to E&Ps for new oil & gas developments is down 90% from the peak, with financial institutions redirecting financing towards renewable developments. The banks that were most active in reserve-based lending have substantially reduced their exposure to oil & gas and are mostly looking to discontinue hydrocarbon financing over the long term. High-yield credit to the US E&Ps, the financing of choice of smaller

US shale producers, has also dried up since the beginning of 2019; (2) NOCs are moving away from aggressive international expansion as they focus on higher-return domestic investments, gas and downstream value chains; and (3) Big Oils' carbon reduction ambitions reduce their ability to accelerate oil field developments.

Exhibit 19: E&Ps relying on credit facilities saw their funding availability shrink materially...

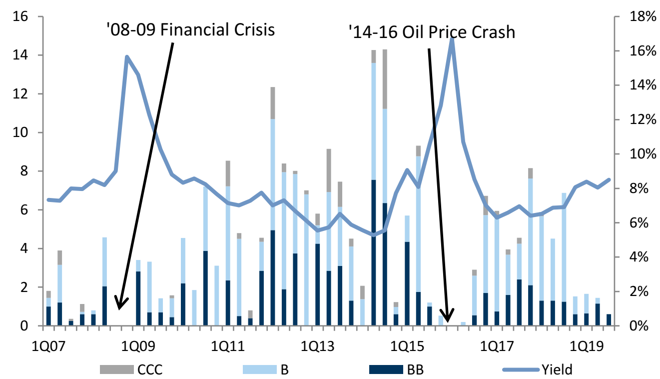
EU E&Ps total amount raised through credit facilities/bank loans, US$bn



Source: Bloomberg, Goldman Sachs Global Investment Research

Exhibit 20: ...and so have US E&Ps, with HY credit issuance at historically low levels

Credit issuance per quarter by HY US E&Ps by rating (LHS US$ bln) and yield in % (RHS)



Source: Bloomberg, Dealogic, Goldman Sachs Global Investment Research

Exhibit 21: Big Oils' carbon reduction ambitions reduce their ability to accelerate oil field developments, with the group currently spending c.50% of their capex on the low-carbon transition, including all initiatives (gas, LNG, power, retail, petrochemicals, biofuels, sequestration, renewables)

Low carbon transition capital expenditure				
	%	US$bn	US$bn	%
	Annual renewables Gse capex % of 2019 Gse capex	Company capex guidance on low carbon & clean energies	GSe capex expected on low carbon transition (incl. gas, power, retail, petchems, biofuels, clean energies)	Company total capex on low carbon transition as % of GSe 2019-21E capex
RDShell	1.9%	$1-2 bn to 2020, $2-3bn pa for 2021-25	$10-14 bn pa 2019-20, $13-17 bn pa 2021-25	54%
TOTAL	5.3%	$1-2 bn pa to 2020	$7 bn pa to 2021	49%
BP	3.2%	$0.5bn pa	$7 pa to 2021	45%
Equinor	7.1%	US$0.5-1 bn pa 2020-21, US$2-3 bn for 2022-23	$4.5 bn pa to 2021	43%
ENI	6.9%	c.€4bn for 2020-23 of which €2.3 bn on renewables	.€4-5 bn pa to 2021	52%
Repsol	6.0%	€2.5bn (2018-20)	€2.0bn pa to 2021	51%
OMV	0.2%	N/A	€1.0 bn pa to 2021	40%
Galp	15.5%	5% capex by 2020, 10-15% capex in renewables new business 2020+	€0.4 bn to 2021	48%
			Median	**48%**

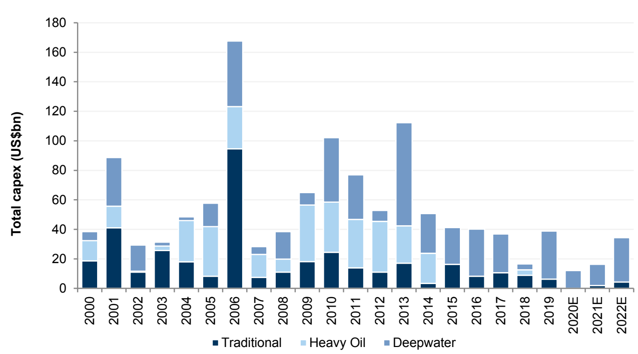
Source: Company data, Goldman Sachs Global Investment Research

There is a risk of decarbonization-led structural underinvestment for the sector if demand under normalized conditions does not transform at the same pace, setting the scene for a tighter oil market

While we expect 2020 to be a difficult year, with a combination of demand destruction and oversupply weighing on the commodity, through 2021-25 we believe the current structural underinvestment in the oil & gas sector sets the scene for a tight market under normalized conditions. This is a direct result of decarbonization pressure transforming spending and ultimately the supply of oil without an equivalent response of low-carbon alternatives coming from the demand side. We see a combination of: (1) a thinner pipeline of mega-long-cycle developments (on the back of under-investment since the previous downcycle, with a drop in 2021, six years after the end of the 2009-14 investment mega-cycle); and (2) a deceleration in US shale growth (owing to higher declines from a larger production base, a reduction in profitable drilling locations, tightening financing conditions and slowing productivity improvements) leaving room for a potential tighter oil market in the 2020s. According to our analysis, the resource life of our updated Top Projects database (recoverable resources/production) falls to only about 30 years in 2020E, from 50 years in 2014.

Exhibit 22: The under-investment that followed the 2014 downturn is evident in the material reduction in the number of long-cycle developments sanctioned in oil...

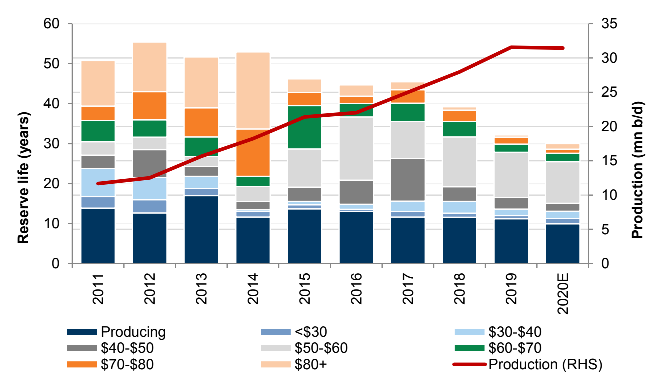
Total capex sanctioned by year (US$ bn) for oil projects, split by winzone



Source: Goldman Sachs Global Investment Research

Exhibit 23: ...with Top Projects oil reserve life falling by c.20 years since 2014

Top Projects' reserve life, by year of report and breakeven



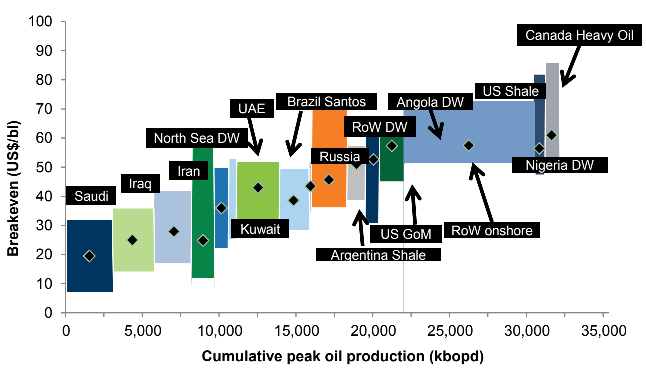
Source: Goldman Sachs Global Investment Research

(4) What level of oil price does the industry need in the long term?

While OPEC remains the low-cost E&P producer, it has lost its competitiveness at the fiscal breakeven level

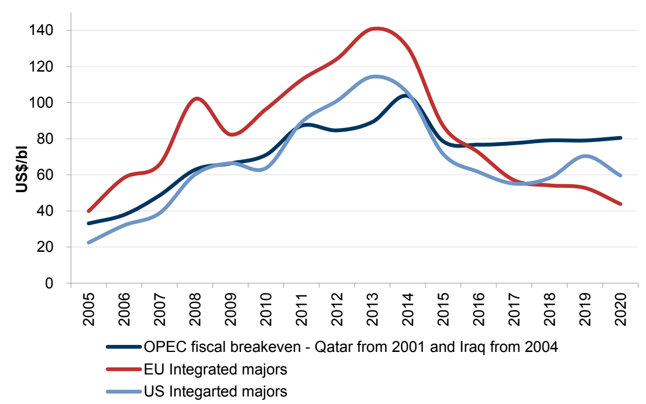
The breakeven oil price required (on a full cycle basis) varies by region and type of development. OPEC has historically been the low-cost producer, with new projects in Saudi Arabia, Iraq and Iran breaking even at prices as low as <US$20/bl on an E&P basis. Exhibit 24 shows that the GCC countries have the lowest breakevens in the industry. Nonetheless, while on an E&P basis OPEC's breakevens are the lowest in the industry, the OPEC countries' budget breakevens are now among the highest in the industry, reversing the competitive advantage of the 2010-14 period. As seen in Exhibit 25, OPEC in aggregate requires a c.US$80/bl oil price to balance its budget in 2020E, US$20-40/bl higher than the integrated international Big Oils (calculated on the basis of the oil price required to cover capex and dividend commitments, as opposed to balancing national budgets for OPEC countries). In this respect, OPEC's relative position has deteriorated over the last few years: in 2010-14, OPEC had both the lowest E&P and the lowest cash breakevens in the industry, with a US$10-40/bl advantage vs. the listed players in the industry.

Exhibit 24: OPEC sits at the bottom of the cost curve on an E&P basis…
Cumulative peak oil production with range of breakeven for new developments



Source: Goldman Sachs Global Investment Research

Exhibit 25: …but has lost its competitiveness at a fiscal level, with Big Oils' corporate breakevens falling by 40-60% from peak and now standing c.US$20-40/bl lower than OPEC
EU & US Big Oils' required Brent oil breakeven price to cover capex and dividends (US$/bl)

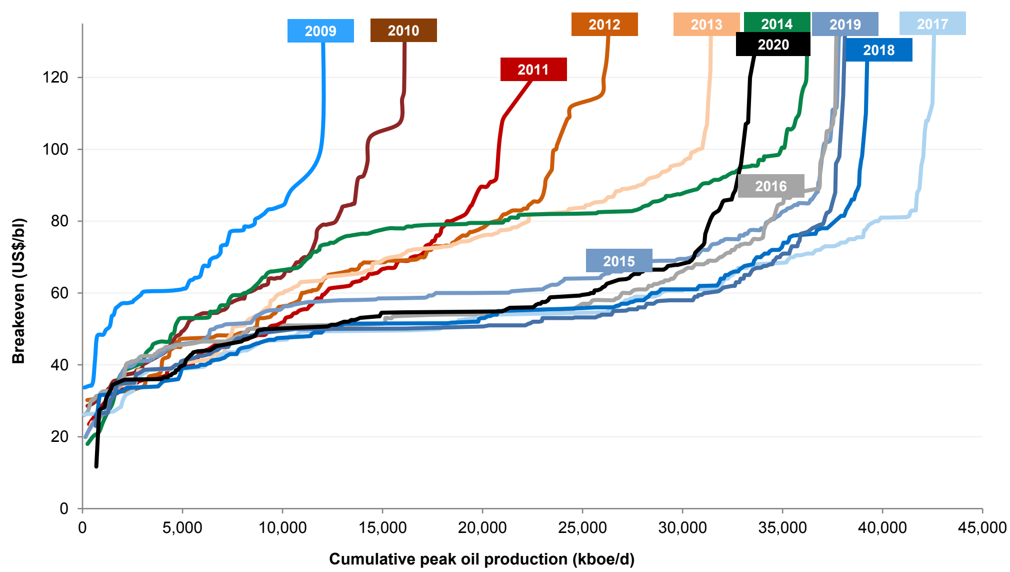


Source: IMF, Company data, Goldman Sachs Global Investment Research

The Top Project cost curve is shrinking for the third consecutive year, with the majority of greenfield projects breaking even at an oil price of c.US$50-60/bl

Our Top Projects cost curve for oil developments shows that following a decade of resource expansion, we now face the third consecutive year of resource contraction, driven by limited exploration budgets and a third year of downward revisions in shale oil reserves. We estimate cost support at US$56/bl for the marginal quartile and US$67/ bl for the marginal decile.

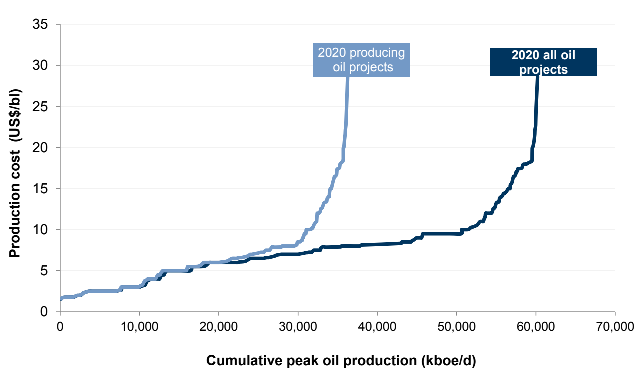
Exhibit 26: The oil cost curve continues to shrink, with cost support at c.US$55/bl for the marginal quartile, on our estimates
Top Projects cost curve of pre-plateau oil projects through the years



Source: Goldman Sachs Global Investment Research

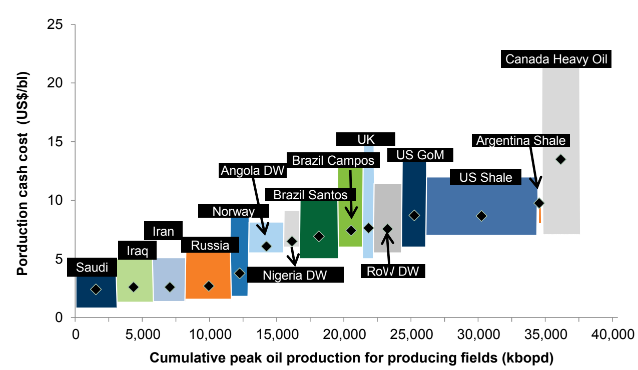
Looking at the production cash cost for currently producing oil fields in our Top Projects database, the majority of oil producing fields have cash production costs below US$15/bl, as shown in Exhibit 27. The Gulf members of OPEC occupy the lowest end of the spectrum, while Canadian and shale oil fields occupy the upper end of the production cash cost spectrum, as shown in Exhibit 28. This is consistent with the regions that are more likely to be susceptible to shut-ins in a challenging macro commodity environment.

Exhibit 27: Our Top Projects production cash cost curve for oil projects shows that the majority of projects have cash production costs below US$15/bl.....
Top Projects cash production cost curve for producing oil fields and for all oil fields in the database (US$/bl)



Source: Goldman Sachs Global Investment Research

Exhibit 28: ...with the higher end of the production cash cost spectrum occupied by Canadian heavy oil and shale oil projects
Production cash cost vs cumulative peak oil production for currently producing oil fields (kbopd)



Source: Goldman Sachs Global Investment Research

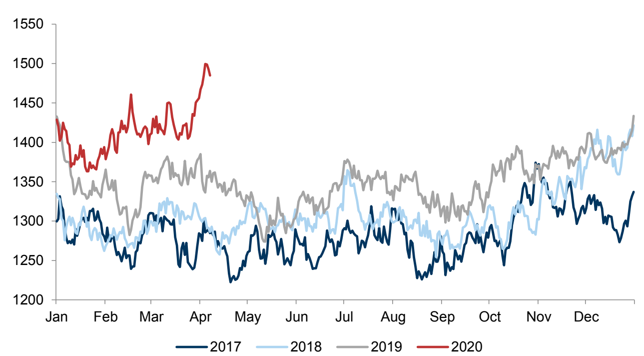
(5) What does the OPEC deal mean for oil equities?

A historic yet insufficient cut that is unlikely to translate into meaningful outperformance for the equities in the near term...

OPEC+ members have agreed to cut production by a record large 9.7 mb/d from May 1st, the highest agreed production cut in history for the group. According to our Commodities team, taking into account updated core-OPEC production guidance from April, this 9.7 mb/d "headline" deal represents a 12.4 mb/d cut from claimed April OPEC+ production (given the Saudi, UAE, Kuwait ongoing surge) but an only 7.2 mb/d cut from 1Q20 average production levels. According to our Commodities team, even optimistically assuming full compliance from core-OPEC and 50% compliance by all other participants already in May (vs. 35% achieved in Jan/Feb-19 despite the new cut being 8x larger), the OPEC+ voluntary cut would only lead to an actual 4.3 mb/d reduction in production from 1Q20 levels.

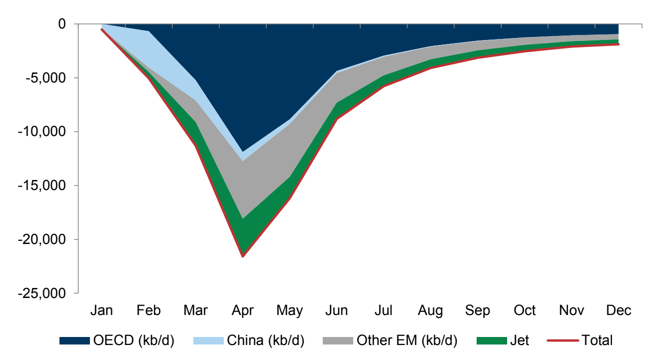
In other words, given the difficulty for most producers outside of core-OPEC to implement large cuts, the agreement leaves the voluntary cuts as **still too little and too late;** ultimately, in our Commodities team's view, this simply reflects that no voluntary cuts could be large enough to offset the 19 mb/d average April-May demand loss due to the coronavirus.

Exhibit 29: Rapidly rising oil inventories have encouraged more producers to join the global effort for a coordinated global production cut...
Crude and products on water (mb)



Source: Kepler, Goldman Sachs Global Investment Research

Exhibit 30: ...yet the demand shock from the outbreak of COVID-19 implies that even such a historic cut remains insufficient, and too little too late, according to our Commodities team
kb/d demand impact from Covid19



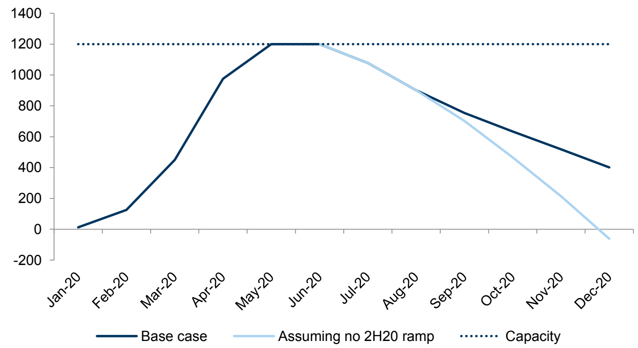
Source: Goldman Sachs Global Investment Research, IEA, OAG

...but could, however, make the potential rebound stronger once demand starts to normalize

According to our Commodities team, what the tentative OPEC+ deal couldn't achieve in size, it attempted to do in duration, with comments of output reductions of 8 mb/d from June to December and 6 mb/d until April 2022 (implying an extremely tight market over time). While these numbers remain highly uncertain as OPEC+ will meet again in June, they reinforce the view that the ongoing violent market rebalancing is increasingly likely to be followed by a sharp rebound in oil prices once demand starts to recover and some forced shut-in supply never comes back online. This leaves risks surrounding our

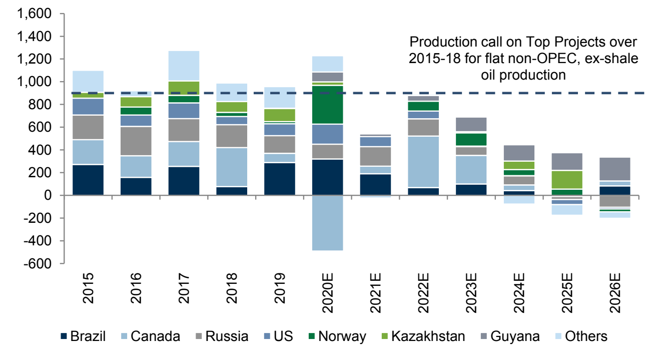
Commodities team's 2021 US$52.5/bbl Brent price forecasts skewed squarely to the upside. This is likely to drive outperformance in equities as well, as shown in section (1) of this report, with the timing of a recovery in oil equities tracking that in the underlying commodity. We believe that the structural underinvestment in the sector (as discussed in section (4)) is likely to sustain such a recovery, ultimately benefiting the equities.

Exhibit 31: A lagged unwind of the supply cuts would create risks that prices recover faster than anticipated...
Change in global oil stocks from Dec-19 (mb)



Source: Goldman Sachs Global Investment Research, IEA

Exhibit 32: ..supported longer term by the underinvestment in the sector that brings a potentially material oil growth decline from non-OPEC, ex-US
yoy oil production growth (kblpd) from non-OPEC, excluding shale projects



Source: Goldman Sachs Global Investment Research

Appendix

Exhibit 33: 12-month price targets, valuation methodology, rating and risks

	Currency	Target Price	Current Price	*Potential upside*	Rating	Methodology (applied to 2021E cash flow unless otherwise indicated)	Key risks
BP	p	**550.0**	304	*81%*	Buy*	*7.4x EV/DACF*	*Lower oil prices than we expect or exploration success, negative surprise to growth or capex*
BP ADR	US$	**41.0**	23	*75%*	Buy*	*7.4x EV/DACF*	*Lower oil prices than we expect or exploration success, negative surprise to growth or capex*
ENI	€	**13.0**	9	*51%*	Buy	*5.4x EV/DACF*	*Lower oil prices and refining margins; ramp up issues in Kashagan, downstream restructuring failure*
Galp	€	**12.0**	10	*25%*	Sell	*SOTP*	*Higher oil prices than we expect or exploration success(e)s, positive surprise to growth or capex*
OMV	€	**38.0**	27	*41%*	Neutral	*6.2x EV/DACF*	*Lower/Higher oil prices/refining margins than we expect or exploration success, worse/better than expected cost efficiency outcomes or value realised from proposed asset sale/swaps*
RD/Shell A	€	**22.0**	16	*38%*	Buy	*7.4x EV/DACF*	*Lower oil prices and refining margins, negative surprise to growth or capex*
RD/Shell B	p	**2,000**	1,343	*49%*	Buy	*7.4x EV/DACF*	*Lower oil prices and refining margins, negative surprise to growth or capex*
RD/Shell A ADR	US$	**49.0**	35	*38%*	Buy	*7.4x EV/DACF*	*Lower oil prices and refining margins, negative surprise to growth or capex*
RD/Shell B ADR	US$	**49.0**	34	*42%*	Buy	*7.4x EV/DACF*	*Lower oil prices and refining margins, negative surprise to growth or capex*
Repsol	€	**13.5**	8	*73%*	Buy	*5.8x EV/DACF*	*Lower oil prices or refining margins than we expect or negative surprise to growth or capex*
Equinor	NKr	**160.0**	130	*24%*	Neutral	*5.6x EV/DACF*	*Higher/Lower oil and gas prices than we expect or exploration success, better/worse than expected cost efficiency outcomes*
TOTAL	€	**48.0**	31	*55%*	Buy	*7.7x EV/DACF*	*Lower oil prices and refining margins; ramp up issues in projects under development*
Exxon Mobil	US$	**34.0**	43	*-21%*	Sell	*8.5x EV/DACF, 18.0x P/E, 6% FCF Yield*	*Higher commodity prices, better-than-anticipated project execution, and lower capital spending levels*
Chevron	US$	**89.0**	87	*2%*	Buy*	*9.0x EV/DACF, 19.0x P/E, 5.5% FCF Yield*	*Lower commodity prices, worse-than-anticipated project execution, and higher capital spending levels*
ConocoPhillips	US$	**38.0**	35	*8%*	Buy	*6.5x EV/DACF, DCF (10.25% Cost of Capital)*	*Lower commodity prices, worse-than-anticipated project execution, and higher capital spending levels*
Median				***40%***			

** Denotes Conviction List membership*

Source: Factset, Company data, Goldman Sachs Global Investment Research

Financial advisory disclosure

Goldman Sachs and/or one of its affiliates is acting as a financial advisor in connection with an announced strategic matter involving the following company or one of its affiliates: Galp Energia, Sgps S.a.

Disclosure Appendix

Reg AC

We, Michele Della Vigna, CFA and Zoe Stavrinou, hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report.

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Growth is based on a stock's forward-looking sales growth, EBITDA growth and EPS growth (for financial stocks, only EPS and sales growth), with a higher percentile indicating a higher growth company. **Financial Returns** is based on a stock's forward-looking ROE, ROCE and CROCI (for financial stocks, only ROE), with a higher percentile indicating a company with higher financial returns. **Multiple** is based on a stock's forward-looking P/E, P/B, price/dividend (P/D), EV/EBITDA, EV/FCF and EV/Debt Adjusted Cash Flow (DACF) (for financial stocks, only P/E, P/B and P/D), with a higher percentile indicating a stock trading at a higher multiple. The **Integrated** percentile is calculated as the average of the Growth percentile, Financial Returns percentile and (100% - Multiple percentile).

Financial Returns and Multiple use the Goldman Sachs analyst forecasts at the fiscal year-end at least three quarters in the future. Growth uses inputs for the fiscal year at least seven quarters in the future compared with the year at least three quarters in the future (on a per-share basis for all metrics).

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Quantum

Quantum is Goldman Sachs' proprietary database providing access to detailed financial statement histories, forecasts and ratios. It can be used for in-depth analysis of a single company, or to make comparisons between companies in different sectors and markets.

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Coverage group(s) of stocks by primary analyst(s)

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Goldman Sachs Investment Research global Equity coverage universe

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